



LAND USE SERVICES DEPARTMENT PLANNING COMMISSION STAFF REPORT

HEARING DATE: September 3, 2020

AGENDA ITEM # 4

Project Description

Vicinity Map

APN: 0262-241-16- Multiple Parcels
 APPLICANT: Vulcan Materials Company – Western Division
 COMMUNITY: Muscoy/San Bernardino
 LOCATION: The site is located in a non-sectioned portion of Township 1 North, Range 5 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) San Bernardino North, California (1980) 7.5-minute topographic quadrangle. The approximate site coordinates are at latitude 34.17° N and longitude 117.36° W.
 PROJECT NO: PROJ-2019-00073
 CO STAFF: Steven Valdez
 APP REP(S): James Gore, Vulcan Materials Company
 PROPOSAL: A General Plan land use designation/zoning change from MS/RS-1 (Muscoy Community Plan, Single Residential, 1-acre Minimum Parcel Size) to MS/IC (Muscoy Community Plan, Community Industrial), a Conditional Use Permit (CUP) to allow Surface Mining and a Reclamation Plan (2020M-01) (SMRP) for the proposed Area Q Quarry in accordance with the Surface Mining and Reclamation Act (SMARA) and San Bernardino County Development Code.



444 Hearing Notices Sent On: August 21, 2020

Report Prepared By: Steven Valdez

SITE INFORMATION

Project Size: 196 Acres
 Terrain: Primarily flat and comprised of mostly undeveloped, degraded, and disturbed land.
 Vegetation: Non-native grasses and degraded and disturbed natural plant communities.

TABLE 1 - SURROUNDING LAND DESCRIPTION:

AREA	EXISTING LAND USE	LAND USE ZONING DISTRICT
Site	Generally undeveloped, but has been subject to a variety of human-related disturbances.	Muscoy/Single Residential – 1-acre Minimum (MS/RS-1)
North	Industrial / Mining	Calmat/Cajon Creek Specific Plan (SP 90-01)
South	Residential / Community of Muscoy	Muscoy/Single Residential – 1-acre Minimum (MS/RS-1)
East	Industrial Developments	Industrial Heavy (IH)
West	Southern Pacific Railroad (SPRR) / Open Space / Cajon Creek Wash	Industrial Extractive (IE) / SPRR / Cajon Creek & Lytle Creek

	<u>Agency</u>	<u>Comment</u>
City Sphere of Influence	City of San Bernardino	No Comments Received
Water Service	Existing Offsite Wells (Area M Cajon Creek Quarry)	EHS Approved

STAFF RECOMMENDATION: That the Planning Commission recommend that the Board of Supervisors **APPROVE** the Water Supply Assessment, **CERTIFY** the Environmental Impact Report, **ADOPT** the Mitigation Monitoring and Reporting Program, **ADOPT** the recommended CEQA and Project findings, **ADOPT** the General Plan Amendment, **APPROVE** the Conditional Use Permit and Reclamation Plan, subject to the conditions of approval, and **DIRECT** the Clerk of the Board to file the Notice of Determination.¹

¹ In accordance with Section 86.12.040 of the Development Code, the Planning Commission action is a recommendation action to the Board of Supervisors and may only be appealed in the event of disapproval.

FIGURE 1 – REGIONAL LOCATION MAP

Vulcan Materials Company – Area Q Quarry Project

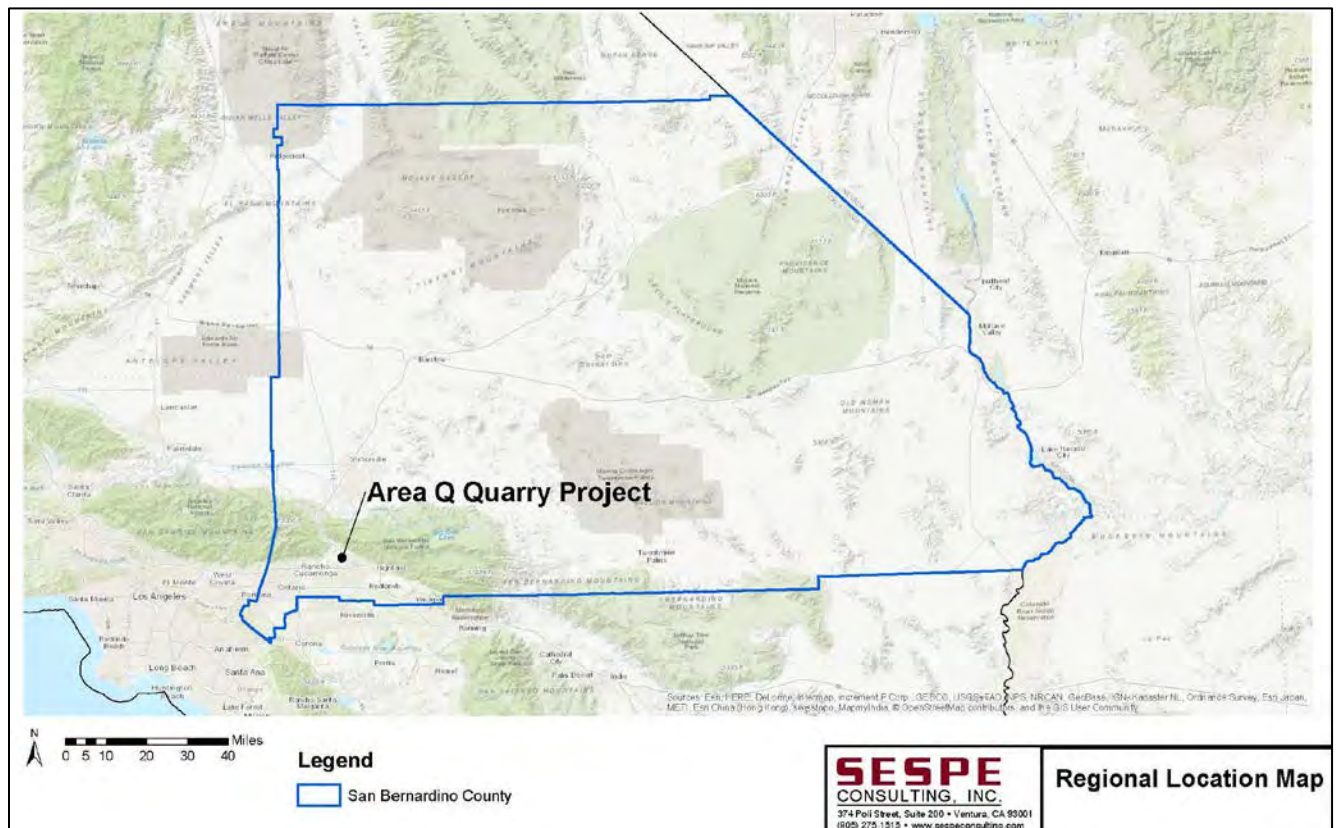


FIGURE 2 – SITE LOCATION MAP

Vulcan Materials Company – Area Q Quarry Project

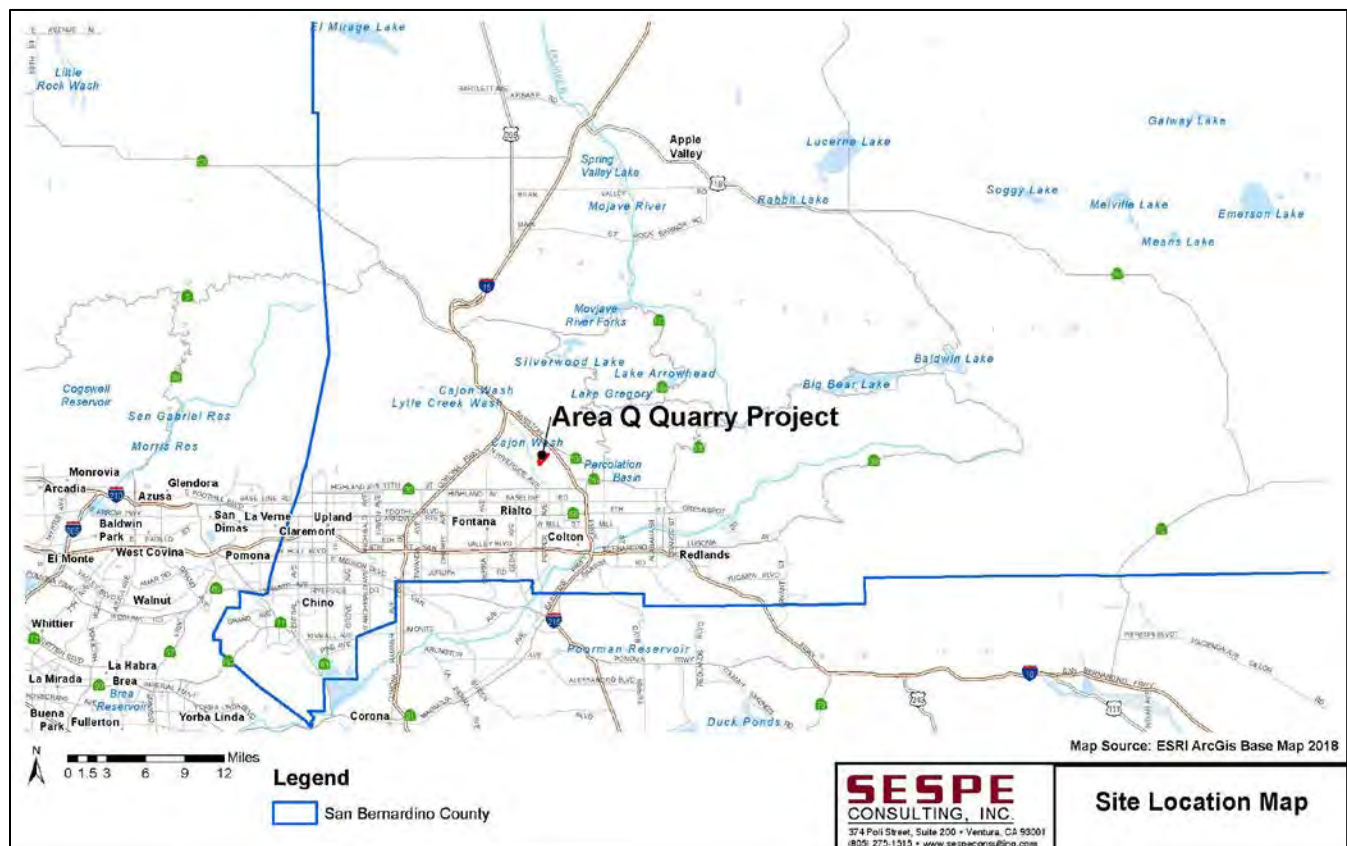


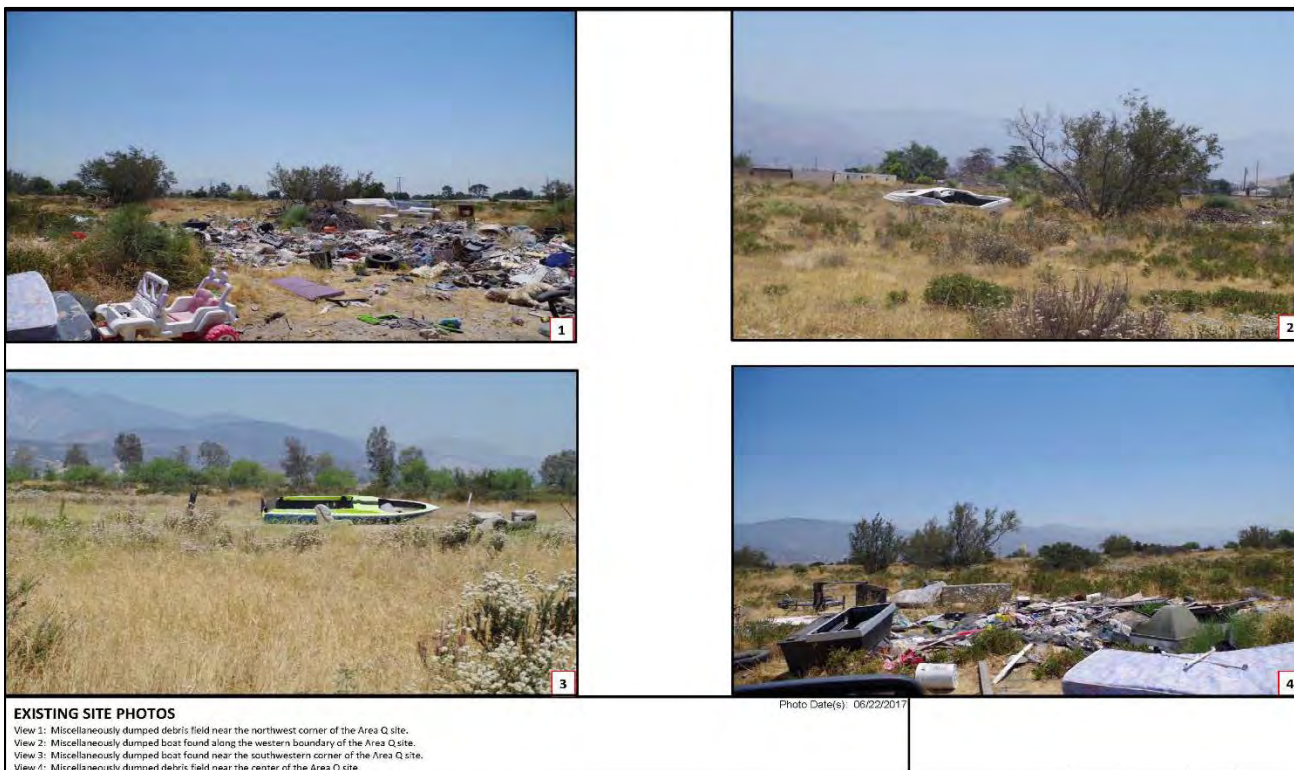
FIGURE 3 – VICINITY AERIAL MAP

Vulcan Materials Company – Area Q Quarry Project



EXISTING SITE PHOTOS

Vulcan Materials Company – Area Q Quarry Project



BACKGROUND

The Applicant, Vulcan Materials, Company – Western Division (Vulcan), currently operates the Cajon Creek Quarry adjacent to the proposed Area Q Quarry. Although the proposed Area Q Quarry is located within the unincorporated San Bernardino County, Vulcan's Cajon Creek Quarry is located within the City of San Bernardino (City) and operates under CUP No. 91-31/Specific Plan No. 90-1 and associated Reclamation Plan (CA Mine ID No. 91-36-0137), both approved by the City in 1993. Operations at Cajon Creek Quarry have been ongoing since 1995. The Cajon Creek Quarry is currently providing high-quality local aggregates (sand and gravel) to serve the regional market.

PROJECT DESCRIPTION:

Vulcan is requesting approval of a General Plan Land Use Designation/Zoning Change from MS/RS-1 (Muscoy Community Plan, Single Residential, 1-acre Minimum Parcel) to MS/IC (Muscoy Community Plan, Community Industrial) and a Mining Conditional Use Permit (CUP) for a proposed mining operation of the Area Q Quarry. A Surface Mining and Reclamation Plan (SMRP) is also proposed in accordance with the Surface Mining and Reclamation Act (SMARA) and the County's Development Code (Project).

The Project consists of the proposed relocation of the mining operations from Area L in the City to Area Q in the unincorporated County. The Project mining activities would take place within 187.6 acres of the 196.0-acre Area Q property (Area Q or Project site). Extraction of aggregate at Area Q would occur over a 182.1-acre area, with the balance of 5.5 acres dedicated to setbacks and construction of an approximately 10-foot high earthen berm along the southern site boundary (referred to as the southern berm). The Project would not involve any substantial changes to the existing mining operations other than relocating material extraction activity to the Project site. The aggregate mined from the Project site would be transferred via an extension of the existing conveyor system infrastructure in place at Area L. Material would then be shipped to Vulcan's existing processing facilities in the same manner as is currently being done with the aggregate extracted from Area L.

The operations at the Project site would be typical of surface aggregate mining operations and would be conducted in the same manner as is currently occurring at Vulcan's existing Cajon Creek Quarry Area L site. Blasting would not be required to conduct the mining operations. It is expected that a total of approximately 40 million tons of salable (net) sand and gravel would be extracted over approximately 30 years, depending on market demand. The extraction of all material over 30 years would be a gross amount of 42.1 million tons, which includes the removal of the overburden. There would also be approximately 100,000 tons of topsoil and subsoil removed and used on the Project site. Prior to mining, the site would be cleared, and the topsoil, subsoil and overburden would be removed. The topsoil and subsoil would be used to build the southern berm referenced above. Topsoil and subsoil used in berm construction would eventually be used as revegetation cover during post-mining reclamation. Once mining is complete, the Project site would be reclaimed to open space.

Project Location and Environmental Setting

The Area Q Quarry is located in unincorporated County, east of Cajon Creek and north of the residential community of Muscoy. The Area Q property is comprised of 24 parcels. While the Project site is located within the unincorporated area of the County, the adjacent portions of the Project site to the west, north and east are located within the City. The Project site is located within the City's Sphere of Influence (SOI). The Project site is surrounded by residential neighborhoods to the south, industrial facilities to the east/northeast, and open space/floodways (i.e., Cajon Creek Wash) to the west. Nearby roadways

include Interstate 215 (I-215) located approximately 0.4 miles to the northeast and California State Route 210 (SR-210) located approximately 1.9 miles to the south of the Project site.

Most of the Project site surface area is flat, previously disturbed ground, with few features or developments. The Project site is located on a gentle southeastern slope that extends from the base of the San Bernardino Mountains. The general direction of the surface slope appears to be to the southeast following the trend of the Cajon Wash. The Project site is generally undeveloped, but it has a number of homes and related structures in various states of condition, as well as areas of miscellaneous debris that has been illegally dumped. Prior to initiating mining, the existing homes, structures and debris would be demolished and/or removed from the site in accordance with local, state and federal regulations.

Mining Operations

Overview

As described previously, Vulcan is proposing to extract sand and gravel (aggregate) from a 182.1-acre portion (mining area) of the 196.0-acre Area Q Quarry. Mining presently occurs at the Area L north of the Project site, which commenced in 1995. Mining in Area Q would be initiated once mining within Area L is completed, which is anticipated to occur in 2023. Mining would be conducted in the same manner as currently being conducted at the Area L Quarry site. There would be no concurrent mining operations between Area L and the Project site because the mining at the Project site would not initiate until the mining in Area L is completed. It is the operator's intent that site preparation, including berm construction, would also not occur until mining is completed in Area L. If, however, the operator does engage in Project site preparation activities before mining is completed in Area L, Condition of Approval #109 requires mining activities in Area L be reduced in proportion to the site preparation activities to ensure that daily emissions levels remain the same. Aggregate would be mined from the Project site using mobile equipment (excavators, loaders, dozers, etc.). Aggregates mined from the Project site would be transferred from the excavated areas via an extension to the existing conveyance infrastructure in place at Area L. The exact location of the conveyor within the Project site may change as mining progresses through the site. Material mined would then be processed and shipped from Vulcan's existing permitted processing facilities. No mined material would be processed within the Project site. Additionally, no haul trucks would enter or leave the Project site by public roads, and the proposed operations would not result in an increase of haul trucks or employee vehicles on public roads (except for the use of contractor vehicles during the temporary -approximately 3 months- construction period needed to clear the site and construct the southern berm). The material will be moved off-site using the existing conveyor and ultimately hauled offsite using the existing road now used by the Area L Quarry operation.

Approximately 100,000 tons of topsoil and subsoil would be removed as a separated layer, approximately 2-feet thick, from the Project site. Enough topsoil and subsoil would be removed and placed within the southern berm to ensure it extends the full length of the site adjacent to the Devils Creek Diversion Channel. Once formed, the berm would be landscaped with species common to the area to provide visual screening between mining operations and public viewpoints located to the south as well as for noise attenuation. Landscaping would also be an effective means for preventing water and wind erosion. Site preparation (i.e., removal of structures/debris, removal of soil, and construction of the berm) is expected to take approximately 3 months to complete.

Once site preparation is completed and the topsoil/subsoil storage berm constructed, mining of the Project site would commence in the northeast corner of the site, reaching a final depth of 120-feet below ground surface (bgs). Mining would occur above groundwater; therefore, dewatering of the excavation area would not be required. Due to the nature of the aggregate reserves (sand and gravel), blasting

would not be required. Project site reclamation would be conducted concurrently during mining if possible, or after mining is complete. No excavation of material, topsoil or subsoil would take place within 25- to 50-feet of any adjacent public rights-of-way. Excavation would also be setback a minimum of 50-feet from Devils Creek Diversion Channel to the south; however, the southern berm would be constructed within this setback area.

Table 2 Summary of Project Mining and Reclamation Plans

Item/Activity	Project Description – Area Q
Area Q Property / Project Site (acres)	Approximately 196.0 acres.
Reclamation Area Including Setbacks (acres)	Approximately 187.6 acres.
Mining/Excavation Area (acres)	Approximately 182.1 acres.
Mining Method	Use of excavators, scrapers, dozers, loaders, etc. No blasting would be required.
Mining Depth	Approximately 120-feet bgs.
Processing	No processing would occur on the Project site.
Estimated Total Net (salable) Aggregate Volume	40 million tons.
Estimated Average Annual Extraction Rate	1.9 to 2.6 million tons/year, based on market demand.
Estimated Maximum Annual Extraction Rate	3.1 million tons/year, based on market demand.
Depth to Groundwater	217.5- to 282.9-feet bgs
Water Use (dust control)	Approximately 19.5 AF per year obtained from groundwater well in Area M.
Reclamation End Uses	Open space.
Project Life	Approximately 30 years depending on market demand.
Hours of Operation	Daily 12-hour period between time space of 6:00 a.m. and 10:00 p.m., Monday through Saturday.
Number of Employees	5-6 employees, based on seasonal demand, consistent with operations at Area L.
Material Transport Method	Conveyor system from Project site to existing conveyance infrastructure in place at southern edge of Area L (northern Project site boundary) where the materials would be processed by the same method currently being used for Cajon Creek Quarry. No haul trucks would enter or leave from public roads or streets.

State Classification/Designation

SMARA mandated the initiation a mineral land classification by the State Geologist in order to help identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

The State Geologist is responsible for preparing a geological inventory of selected mineral commodities within a defined study region. As set forth in Section 2761(b) of SMARA, the State Geologist shall classify land solely on the basis of geologic factors and without regard to existing land use. Areas subject to mineral land classification studies are divided by the State Geologist into various Mineral Resource Zone (MRZ) categories that reflect varying degrees of mineral resource potential. The publication of the first mineral land classification report for the San Bernardino P-C Region - Special Report 143, Part VII - *Mineral Land Classification of the Greater Los Angeles Area, Classification of Sand and Gravel Resource Areas, San Bernardino Production-Consumption Region* (Miller, 1984) led to the initial designation of mineral resources at the site as MRZ-2. This zone is applied to known mineral deposits based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is “high”.

In 1987, the SMGB designated the site’s aggregate resources to be of regional significance in the San Bernardino Production-Consumption (P-C) Region. An updated mineral land classification report published in 2008 by California Geological Survey (CGS), CGS Special Report 206 - *Update of Mineral Land Classification for Portland Cement Concrete-Grade Aggregate in the San Bernardino Production-Consumption Region, San Bernardino and Riverside Counties, California* (SR 206), continued to include the Project site (as part of Sector C on Plate 1; 2013), and updated the information on the available reserves within the San Bernardino P-C Region. The Project site was incorporated by reference into the California Code of Regulations §3550.8 as subsector C-5-c by SMGB in compliance with Article 4, Public Resources Section 2790 (March 2017).

The County’s proposed zoning change and Project approval will enable the proposed and future extraction of aggregate resources that are important to the County’s economy while minimizing impacts of this use on the public and the environment; assist in the management of a land use that affects an area of statewide and regional significance (designated area); and, emphasize the conservation and development of an important mineral deposit that has been classified by the State Geologist and designated by the SMGB.

Employees

The number of employees would be consistent with the number of employees needed to operate the Area L Quarry site and would fluctuate with seasonal demand. The average number of employees would be five to six, and it is anticipated that the same employees working at the existing Cajon Creek Quarry would work at the Area Q Quarry.

Hours of Operation

Hours of operation would occur between the hours of 6:00 a.m. to 10:00 p.m., as they currently are at Area L Quarry site. Operations would occur six days a week, Monday through Saturday, for approximately 300 days a year. As currently being done at the Area L site, mining could be conducted between 6:00 a.m. and 10:00 p.m.; however, within that time span operations would only be allowed for twelve hours in a single day. This twelve-hour operating schedule would be the same as the current schedule at Vulcan’s Cajon Creek Quarry. Actual daily mining hours within the 6:00 a.m. to 10:00 p.m. operating timeframe, including nighttime operating hours, would vary depending on market demand or other external constraints.

Estimated Production and Duration of Mining

It has been estimated through geologic and geotechnical analysis that 40 million tons of economically viable aggregates material exists at the Project site. The estimated average annual extraction (production) rate is 1.9 to 2.6 million tons/year, not to exceed a maximum of 40 million tons of economically viable aggregates mined throughout the duration of mining operation. The estimated maximum annual extraction rate of aggregate is approximately 3.1 million tons/year. These extraction

rates are consistent with the average and maximum extraction rates at Area L. Total and annual production depends on market conditions, geologic characteristics of the reserve, environmental conditions/weather, and the terms of the permit(s). Therefore, production necessarily fluctuates based on these conditions (which are outside of Vulcan's control).

Mining at the Project site would be initiated once mining within Area L is completed, which is anticipated to occur in 2023. It is estimated that mining operations at the Project site would cease by approximately the end of 2053, and reclamation of the full site would be completed by approximately 2055 with onsite monitoring until the year 2058.

Offsite Traffic and Project Trip Generation

Mined materials would be transported via a conveyor to Vulcan's existing Cajon Creek Quarry conveyor system located at the northern boundary of the Project site. As discussed previously, no haul trucks would enter or leave the Project site from public roadways. Because the number of employees would not increase from the number needed at Area L (average of 5 to 6), the number of employee vehicles traveling offsite would not increase.

Prior to Project site operations, and as part of the construction phase, fifteen homes will need to be demolished. It is estimated that demolition activities will require approximately five offsite truck trips for an approximately 30-day period. All other Project site preparation activities (berm construction, etc.) will be completed by the existing employees operating Area L Quarry, and will not result in new offsite trips.

Surface Runoff and Drainage

There are no streams or riparian areas located within the Project site. The closest surface waters are Lytle Creek and Cajon Creek to the west. A series of certified groins (levees) along the eastern edge of Cajon Wash serve as flood control levees, which direct surface flow away from the Project site. The Muscoy Groin #3 is located west of the Southern Pacific Rail Road (SPRR) track next to the site's western boundary. The Devils Creek Diversion Channel is located to the south of the Area Q site and would be separated from the mining areas by the southern berm. Operations at the Project site would not produce any industrial or domestic wastewater discharges.

The Project would be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit 2014-0057-DWQ). Prior to commencement of mining, a Notice of Intent (NOI) would be filed and a site-specific Storm Water Pollution Prevention Plan (SWPPP) would be prepared for the site that complies with the Industrial General Permit (IGP). Additionally, there are no stormwater drains located within the Project site and the development of the Project site would not add any impervious surface area that could increase runoff potential.

Schematic exhibits of the drainage pattern are provided in the *Drainage Report* (Sespe, 2019). A copy of the Drainage Report is provided in Draft Environmental Impact Report (DEIR) Appendix H. The overall approach for managing stormwater runoff for the Project is summarized below:

- Direct precipitation within active mining areas would be retained within the mine pit (excavation area).
- Stormwater that falls on the site would either infiltrate into the ground or would naturally evaporate.
- The excavation which would reach a final depth of 120-feet bgs and would not reach groundwater. Groundwater levels measured over a six-year period (2011 to 2017) ranged

between 217.5- to 282.9-feet bgs, as reported by the State of California Department of Water Resources for a well approximately 200-feet south of the Project site (Haley and Aldrich, Inc., 2020)

- Runoff from the access road would be managed using appropriate Best Management Practices (BMPs), as specified in the SWPPP. If a discharge were to occur, it would be sampled and monitored in accordance with the Project site SWPPP.

Groundwater Quality

According to the Regional Water Quality Control Board's Basin Plan for the Santa Ana Regional Water Quality Control Board (SARWQCB), the Project site is located within the Bunker Hill sub-basin of the Upper Santa Ana River groundwater basin. This groundwater has beneficial uses for municipal and domestic water supply, agricultural water supply, industrial service water supply and industrial process water.

The final depth of the pit would be approximately 120-feet bgs. A *Geotechnical Evaluation* was prepared by Haley and Aldrich in 2019 (DEIR Appendix G). Groundwater levels measured over a six-year period (2011 to 2017) ranged between 217.5- to 282.9-feet bgs, as reported by the State of California Department of Water Resources for a well approximately 200-feet south of the Project site (Haley and Aldrich, Inc., 2020). Therefore, mining activities would take place above groundwater and dewatering of the excavation would not be required.

The use of hazardous materials at the Project site would be minimal and consistent with the routine mining operations (fuel, lubricants, oil, cleaners, grease, etc) currently occurring in Area L. There would be no fuel storage tanks or the use of explosives at the Project site. Implementation of the BMPs identified in a site-specific SWPPP would control potential minor surface spills from impacting groundwater quality. In addition, as discussed above, the groundwater is approximately 100-feet deeper than the proposed maximum excavation depth, which minimizes the potential that a surface spill of limited extent could impact the underlying groundwater.

Water Requirements and Consumption

A *Water Supply Assessment* (WSA) was prepared Haley and Aldrich for the site (DEIR Appendix H). Water would be provided by the Area M groundwater well and associated 15,000-gallon water tank (located on Cajon Creek Quarry Area M site). The assessment determined that the quantity of water estimated to be used for the Project is the same as what is currently used for Area L's mining activities. Because the mining operations at the Project site (Area Q) would be the same as those in Area L, and mining at the Project site would not be initiated until mining in Area L is completed, the anticipated water use for the site is the same as what has historically been used at Area L (i.e., approximately 19.5 AF/year).

Flood Water

As discussed in the Drainage Report (Sespe, 2019), according to the FEMA FIRM No. 06071C7940J, (Effective Date - September 2, 2016), the Project site is impacted by a Zone A and Zone X floodplain. The above-referenced FIRM can be found in the *Drainage Report* (DEIR Appendix H). As identified in the December 26, 2018 letter from Chang Consultants (DEIR Appendix H) and referenced within the DEIR (DEIR Section 2.4.11.4), "Zone A floodplain is an approximate 100-year floodplain... The FEMA mapping shows the floodplain extending beyond the [Devil Creek Diversion] Channel and into a portion of Area Q. [Chang Consultants] have performed research to assess the accuracy of the FEMA floodplain... 100-year and greater flows will be contained within the Channel and will have no impact on, or be impacted by, Vulcan's future operations in Area Q." Based on the Chang Consultants report findings, a request has been submitted to FEMA to update the flood zone designation for the Project

site. The process includes the submittal of a Letter of Map Change (LOMC) which initiates the issuance of a Letter of Map Revision (LOMR). A LOMC was submitted to the County in December 2019. A LOMR is a document that officially revises a portion of the effective National Flood Insurance Program (NFIP) map according to requirements and procedures outlined in Part 65 of the National Flood Insurance Program (NFIP) regulations. A LOMR allows FEMA to revise flood hazard information on an NFIP map via letter without physically revising and reprinting the entire map panel.

Berms, Screens, Setbacks

An approximately 10-foot high berm would be constructed along the southern site boundary using the topsoil and subsoil removed from the Project site. The berm would be installed prior to the initiation of excavation, after clearing the site of structures and debris. Approximately 100,000 tons of the topsoil and subsoil stored within the berm would later be used as revegetation cover during post-mining reclamation. The berm would also be vegetated and act as a visual screen and noise buffer between Project mining operations and the residential community of Muscoy to the south. The excavation of material, topsoil or subsoil would be set back 25- to 50-feet away from any adjacent public right-of-way's.

Reclamation

Once mining at the Project site is complete, the Project site would be reclaimed back to open space, consistent with the approved Area Q Reclamation Plan and in conformance with the Development Code. Table 3 summarizes the estimated Project mining and reclamation schedule. A copy of the Reclamation Plan is provided in DEIR Appendix B.

There would be no permanent buildings or structures proposed within the Project site. Temporary structures, such as the conveyor system connecting to existing infrastructure at Area L, would be dismantled and removed during final reclamation. No other temporary and/or permanent structures that require specific reclamation would be installed at the Project site.

All mobile equipment (e.g., loaders, dozers, scrappers, water truck, etc.) would be removed following the completion of reclamation activities. Any residual wastes (debris, revegetation materials, etc.) would also be removed and properly disposed of in accordance with applicable health and safety regulations and/or local ordinances.

Table 3 Anticipated Mining and Reclamation Schedules

Phase/Activity	Approximate Size (Acres)	Start	End	Land Use/End Use
Site Preparation ¹	187.6	January 2023	March 2023	Cleared Site
Mining Phase ²	182.1	March 2023	December 2052	Excavation Pit
Reclamation	187.6	January 2053	December 2055	Open Space
Reclamation Monitoring	187.6	January 2055	December 2058	Revegetated Open Space

Notes: Timeframes shown above are estimations, and may change depending on market demands, etc. Mining in Area Q would commence once mining in Area L is complete.

1. Site preparation would involve clearing the site of vegetation, and removing topsoil/subsoil to construct the approximate 10-foot high earthen southern perimeter berm. Landscaping along the perimeter berm would also be planted during the site preparation phase.
2. Once mining is complete; all areas would be reclaimed to open space. The perimeter berm would be deconstructed and topsoil/subsoil spread throughout the site to facilitate revegetation.

PROJECT ANALYSIS:

Project Need and Objectives

Project Need

In order to allow regional improvements such as housing, commercial development, industrial development, and infrastructure to be constructed as anticipated in the County's General Plan, the region must have a consistent and predictable source of competitively-priced building materials, including aggregate. This Project would provide a local source of high-quality aggregate that augments the existing supply and contributes to projected future needs of the County. In addition, being a local source, the Project would reduce the need to transport aggregate into the region thereby reducing potential impacts associated with traffic, air quality, and greenhouse gas emissions.

To ensure the State's economic future, demand for aggregates materials in California is large and expected to increase Statewide and specifically in regions where population is forecasted to increase. As designed, the Project would provide an average of 1.9 to 2.6 million tons annually over an approximate 30-year period with an anticipated maximum annual of 3.1 million tons of aggregates (sand and gravel), depending on market demand. The maximum permitted salable material to be mined over the life of the mine is 40 million tons. Obtaining aggregate from within the San Bernardino Region is environmentally preferable to obtaining aggregate from other locations situated outside of the market demand area. Specifically, local sourcing of needed aggregate materials avoids importation via on-road trucks and therefore reduces air pollutant emissions associated with long-distance trucking of material from outside the San Bernardino Region.

Project Objectives

A clear statement of the Project objectives allows for the analysis of reasonable alternatives to the Project. The following are the objectives for the Project:

- Provide a reliable, sustainable, local source of high-quality aggregates to help meet the current and long-term demand for construction materials in the County.
- Create an environmentally sound project that would balance the recovery of the aggregate resource with the protection of other resources including wildlife habitat, sensitive and special-status species, groundwater, surface water, and air quality.
- Provide a final reclamation land surface that is consistent with the proposed end use as open space and the adjacent Vulcan mining sites.
- Maintain existing levels of employment into the future for employees currently working at the Cajon Creek Quarry.

ENVIRONMENTAL ANALYSIS:

A Draft EIR (DEIR) was prepared for the Project in accordance with the requirements of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and California Code of Regulations Title 14, Section 15000 et seq. (CEQA Guidelines). The DEIR evaluated potentially significant effects for several environmental areas of concern. The conclusions of the DEIR indicate that all of the potentially significant environmental impacts may be reduced to a less than significant level with implementation of recommended mitigation measures. The Final EIR (FEIR) includes the DEIR, public and agency comments, responses to comments, errata and the Mitigation Monitoring and Reporting Program (MMRP).

Public Review and Comment Period

The scoping period for this Project was initiated on January 27, 2020, with the publication of the NOP and formally ended on March 27, 2020. The County circulated the NOP and Project Description for public review and held a public meeting on March 11, 2020, from 4:00 p.m. to 6:00 p.m. at the Provision Accelerated Learning (PAL) Academy, located at 2450 Blake Street, San Bernardino, California 92407.

Written comments were received during the scoping period. Copies of these letters/emails, the list of those who attended the public meeting and a copy of the presentation provided during the meeting are located in the Scoping Report (DEIR Appendix A).

A brief summary of the areas of concern received during the scoping process are addressed in the DEIR and summarized in Table 4 below. All letters and emails received were incorporated into the EIR Administrative Record for the Project and are addressed in the DEIR, as appropriate.

Table 4 Comments Received During Scoping Process

Area of Concern	DEIR Section or Reason Not Included DEIR Evaluation
Tribal Cultural Resources	Section 3.11 – Tribal Cultural Resources
Traffic and road maintenance	Section 1.6.7
Operational Management Plan	Due to no increase to offsite traffic, an Operational Management Plan is not required by County Office of Public Works.
San Bernardino and Muscoy Community Emissions Reduction Plan (CERP) and Community Plan	Section 3.2 – Air Quality Section 3.9 – Land Use and Planning
Flood control, drainage features, and storm drains	Section 3.8 – Hydrology and Water Quality
Current assessment of flora and fauna within and adjacent to the Project site	Section 3.3 – Biological Resources
Two different jurisdictions	The Project is located in the County and the City has stated it is appropriate for the County to be the lead agency for SMARA and CEQA.
Two Reclamation Plans	Per SMARA, it is appropriate for the Cajon Creek Quarry and the Area Q Quarry to have separate Reclamation Plans because they are divided by a physical barrier.
Potential impacts to real estate and quality of life	The purpose of CEQA is for environmental impact evaluation.
Impacts to aesthetics and views of mountains	Section 3.1 – Aesthetics
Details of the mining operations (e.g., conveyors, extraction)	Section 2.0 – Project Description
Noise from nighttime operations	Section 3.10 – Noise
Air quality and dust (Santa Ana Winds)	Section 3.2 – Air Quality
Water usage in drought conditions	Section 3.8 – Hydrology and Water Quality
Concerns regarding Valley Fever	Section 3.2 – Air Quality
Hazards	Section 3.7 – Hazards and Hazardous Materials

The County filed a Notice of Completion (NOC) with OPR on June 30, 2020, and a Notice of Availability (NOA) was distributed to public agencies, other affected agencies, adjacent cities, counties, and members of the public living in the adjacent communities or that submitted a written request for a copy of the DEIR.

The 45-day public review period for the DEIR started on June 30, 2020 and ended on August 17, 2020. Due to the Governor's Executive Order N-54-20, the DEIR was not made available at a physical location; however, it was available on the County website, or by telephoning or e-mailing the Land Use Services Department.

The County Planning staff has reviewed the comments on the Draft and Final EIR, and the technical studies/reports, and provided responses to the comments. Presentation of these documents reflect the County's own independent judgment, including reliance on applicable County technical personnel from other departments and review of all technical sub- consultant reports.

Following are summaries of sections of the DEIR that either required mitigation or were a concern to residents:

Aesthetics

A *Visual Impact Analysis* (VIA) Report was prepared by Sespe Consulting, Inc. (2020) for the Project. The methodology utilized in the report is based on the Bureau of Land Management (BLM) visual impact assessment procedures provided in the "Visual Resources Management (VRM) Manual" Section 8400 (Bureau of Land Management, 1986). The VIA determined that implementation of the Project is expected to improve the overall visual quality of the Project site, as the existing illegally dumped debris found on the Project site would be removed and no longer be visible once operations commence. The Project includes construction of an approximately 10-foot tall vegetated berm that would also shield the view into the existing and future mining areas.

Once mining is complete the southern berm would be deconstructed and the topsoil/subsoil spread throughout the Project areas to be reclaimed. Ultimately, the reclaimed and revegetated Area Q site would have higher visual quality compared to existing conditions.

Air Quality and Greenhouse Gases

An *Air Quality, Health Risk and Climate Change Impact Assessment* (AQCCIA) was prepared by Sespe Consulting (2020) to determine the short-term, long-term direct, indirect and cumulative air quality impacts associated with the Project. A copy is provided in DEIR Appendix D.

The AQCCIA explains that the Project would not result in any off-site truck trips and that excavation/production rate of aggregates and equipment used to excavate would remain the same or decrease from existing conditions (Cajon Creek Quarry), subject to market demand. According to the AQCCIA, the baseline was calculated by analyzing fuel use data, engine information, and production records for the existing Cajon Creek Quarry, which can be found in Appendix C of the AQCCIA (DEIR Appendix D).

A Health Risk Assessment (HRA) was also performed using the methods from the Office of Environmental Health Hazard Assessment (OEHHA) HRA Guidelines (2015) and the South Coast Air Quality Management District (SCAQMD) Rule 1401 guidance materials. The HRA results demonstrated that the effects of toxic air contaminants (TACs), including diesel particulate matter (DPM) from mining equipment and various substances found in fugitive dust emissions (i.e., metals and crystalline silica) were also less than significant.

Biological Resources

The biological resources evaluation was based primarily on the *Habitat and Jurisdictional Assessment* (HJA) completed by ELMT Consulting, Inc. (ELMT) (ELMT Consulting, Inc., 2019/2020). ELMT conducted a thorough literature review and records search to determine which special-status plant and wildlife species have the potential to occur on or within the general vicinity of the Project site. In addition, a general habitat assessment and field investigations were conducted in order to document existing conditions on the Project site to help determine the potential for special-status plant and wildlife species to occur and to document potential jurisdictional features that occur on and adjacent to the Project site.

As discussed in the DEIR, currently the entire Project site is located within designated Critical Habitat Unit 2, Lytle Creek/Cajon Wash for the San Bernardino kangaroo rat (SBKR). No SBKR were observed or trapped during extensive trapping surveys, discussed in detail in Appendix C of the HJA located in Appendix E of the DEIR. Since there is no federal nexus, and no SBKR were captured on the Project site, no Section 7 or Section 10 Consultation is required.

It was determined that the Project site has a moderate to high potential to provide suitable habitat for six special status plant species (DEIR Table 3.3-3), but none of these species were found within the Project site. In addition, it was determined that the site provides suitable foraging, nesting and cover habitat for a variety of resident and migrant bird species. A total of fifteen bird species were observed on the Project site during the field studies but none of these species was special status species and no mitigation is required specific to these species. However, two general mitigation measures were identified (Mitigation Measures BIO-1 and BIO-2) to protect migrating birds (i.e., birds of prey such as hawks and owls) and nesting birds during nesting season.

Cultural Resources

Cultural Resources Assessment was prepared by BCR Consulting LLC (BCR) (BCR Consulting LLC, 2020) and is provided in DEIR Appendix F. BCR recommended that no additional cultural resources work or monitoring is necessary during proposed Project activities. However, although the current study has not indicated sensitivity for significant cultural resources within the Project boundaries, ground disturbing activities always have the potential to reveal buried deposits not observed on the surface during previous surveys. Therefore, Mitigation Measure CUL-1 will be implemented which requires that field personnel will be alerted to the possibility of buried prehistoric or historic cultural resources and that in the event cultural resources are encountered, all work will cease in that area and a qualified archaeologist will be retained to determine the appropriate steps to protect the resource.

Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions were calculated and evaluated in the AQCCIA (Sespe, 2020) located in DEIR Appendix D. GHG emissions impact from implementing the Project were calculated at the Project-specific level for operation as explained in the DEIR Section 3.6.5. Impact analysis for the Project follows the approach certified by SCAQMD in the Final Negative Declaration for the Phillips 66 Los Angeles Refinery Carson Plant – Crude Oil Storage Capacity Project on December 12, 2014 (SCAQMD, 2014). This approach takes into account the cumulative nature of the energy industry and recognizes that consumers of electricity and diesel fuel are in effect regulated by higher level emissions restrictions on the producers of these energy sources. Table 10 shows the result of the GHG analysis and that the GHG emissions associated with the Project are below the regulatory threshold and would not have a significant impact.

Table 10 Greenhouse Gas Emissions

Source	CO2e (MT/yr)
Construction Phase Emissions (amortized over 30-year period)	72
Operation Phase Emissions	2,152
Baseline Emissions	2,179
Project Emissions (Incremental Increase)	45
San Bernardino Green House Gas Reduction Plan Screening Threshold¹	3,000
SCAQMD Screening Threshold²	10,000
Exceeds Screening Threshold(s)?	No

¹See DEIR 3.6.3.3.

²See DEIR Section 3.6.4.2.

Hydrology and Water Quality

A WSA was prepared by Haley and Aldrich (2020) as required in Section 10910 of the California Water Code. A copy of the WSA is provided in DEIR Appendix H. Water supply adequacy for the Project and surrounding area was evaluated for a reasonably foreseeable demand over the next twenty years under average normal year, single dry year, and multiple dry year conditions.

The Project would be supplied by the existing groundwater well located in Area M at the Cajon Creek Quarry. The Area M groundwater well currently supplies water for, among other things (e.g., minimal landscape irrigation, dust control, and ongoing revegetation, etc.), and mining at Area L Quarry. The same quantity of water that was being used in Area L would be used for the Project in Area Q.

The Project would not generate new water demand, nor would it substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Project would have a less than significant impact of groundwater resources.

Land Use and Planning

The purpose of this evaluation is to describe any impacts related to land use that would result from implementing the Project by evaluating the Project's compatibility with the County 2007 General Plan (amended 2014), and other applicable regulatory documents related to land use.

The Project seeks an amendment to the site's existing General Plan land use zoning designation from MS/RS-1 (Muscoy Community Plan/Single Residential, 1-acre minimum) to MS/IC (Muscoy Community Plan/Community Industrial). Surface mining operations and related facilities and activities within the County are generally permitted in the Mineral Resources (MR) zone; however, the Muscoy Community Plan, Community Industrial (IC) designation is appropriate and consistent with: (1) Vulcan's adjacent Cajon Creek extraction area, (2) the preliminary land use designation given to the Project site by the City, as the Project site falls within the City's sphere of influence; and (3) consistent with the uses allowed along the Cajon Boulevard corridor. Surface mining operations and related facilities and activities are permitted in the Community Industrial (IC) zoning designation, subject to approval of a Conditional Use Permit (CUP).

According to the County 2007 General Plan (Amended 2014), pages II-17, II-18 the purposes of the IC land use zoning district are as follows (County 2007 General Plan, pages II-17, II-18):

- To identify and establish areas suited to industrial activities.
- To provide opportunities for the concentration of industrial uses to enable efficient use of transportation, circulation, and energy facilities.
- To protect adjacent land uses from harmful influences, as well as to prevent the intrusion of incompatible uses into industrial areas.

Upon County approval of the zone change, the site's current land use designation would be changed to MS/IC (Muscovy Community Plan/Community Industrial). The IC (Community Industrial) land use zoning designation allows for "*Natural resources development (mining/material extraction)*" with the conditional approval of a CUP. Therefore, with the conditional approval of the Project and the changed land use zoning designation to MS/IC, the Project would be compatible with the County General Plan. Therefore, the Project is considered to have a less than significant impact on land use and planning.

Noise

A *Noise Impact Assessment* (NIA) was prepared by Sespe Consulting, Inc. (Sespe Consulting, Inc., 2020) and is included in DEIR Appendix I. The NIA discusses the existing noise environment in the vicinity of the Project site, and quantifies the potential noise impacts that may result from implementing the Project.

The existing ambient noise environment in the Project area is consistent with that of typical semi-urban/industrial areas. Existing intermittent yet significant noise sources include passing trains travelling on rail tracks that run adjacent to Area Q and occasional aircraft over-flights. These existing (i.e., baseline condition) noise sources constitute the existing physical conditions.

To quantify the existing ambient (i.e., baseline) noise environment experienced by neighboring receptors closest to and most affected by the Project noise, seventeen (17) short-duration (15-minute) measurements and one (1) long-duration (24-hour) reference noise measurement were collected at twelve (12) locations surrounding the Project site.

Baseline noise measurement locations and corresponding noise receptors are shown on DEIR Figure 3.10-2 and Figure 3.10-3. The details of these calculations are presented in DEIR Appendix I.

As discussed in DEIR Section 3.10.6.6, shielding and noise attenuation was excluded from the assessment during the short-term site preparation/berm construction phase (approximately 3 months). Additionally, shielding and noise attention from the existing earthen berm (approximately 8-feet high) located outside the Project area south of the Devils Creek Diversion Channel, was also conservatively not accounted for in the impact calculations for the short-term construction phase. Once the southern berm is installed, additional noise attenuation would be provided as it would break line-of-sight between source and receptor. The noise attenuation provided by the southern berm was included in the noise assessment for the mining operations phase of the Project. DEIR Appendix I provides the calculations and detail (e.g., receptor/equipment heights, noise transmission paths, etc.).

Certain noise levels during the short-term construction phase is considered exempt from County noise ordinance regulations during specific hours. Berm construction using heavy duty equipment, specifically two (2) dozers and/or scrapers, falls within this category. Regardless, in order to ensure temporary noise impacts during the Project construction phase do not create a substantial nuisance at nearby receptors, Mitigation Measure NO-1 is required. This mitigation measure limits the hours that construction activities can be conducted to between 7:00 a.m. to 7:00 p.m. Monday through Saturday

(as defined by Section 83.01.080(g)(3)-Exempt Noise of the San Bernardino County Code of Ordinances).

As discussed above, once the southern berm is installed it would provide significant noise attenuation as it would sufficiently break line-of-sight between Project noise sources and receptors located in Muscoy. This results in the Project activities being in compliance with County and City noise standards. Furthermore, when taking into account additional shielding or absorption effects from intervening topography/vegetation, the existing berm adjacent to the Devils Creek Diversion Channel between source and receptor, including the existing earthen berm south of the Devils Creek Diversion Channel, as well as the fact that the majority of mining equipment would not operate simultaneously near the outermost Project site boundaries, as was assumed in this analysis, noise levels are expected to be far less than those presented here. Furthermore, as the excavation pit proceeds to a final depth of approximately 120-feet, equipment noise would be increasingly shielded due to the attenuation provided by the deepening pit walls. With Mitigation Measure NO-1, the Project would have a less than significant impact due to noise.

Wildfire

The Project site is located within an area of the County designated by the California Department of Forestry and Fire Protection (CalFire) (<https://calfire.ca.gov>) as a “Very High Fire Hazard Severity Zone (VHFHSZ)” area that may contain substantial fire risks and hazards. The Project site is also located within a County-designated FS Overlay zone.

The Project would not create any new impediments to existing evacuation routes or result in unsafe conditions in the event of a wildfire and the Project would not conflict with any of the applicable emergency response or evacuation plans, policies and procedures found in the County’s General Plan/Code of Ordinances or other emergency plans, nor would it impede evacuation of people and vehicles via Cajon Boulevard.

The excavated pit would also minimize impacts to the residential neighborhoods to the south resulting from upstream post-fire events, such as flooding, runoff and landslides originating from Cajon Creek Wash. Additionally, the Reclamation Plan proposes revegetation seed mix for Area Q is identical to the approved seed mix for Vulcan’s Cajon Creek Quarry, which includes a large variety of drought deciduous subshrubs that drop their leaves during dry seasons or periods of drought, and large evergreen woody shrubs. The Project would substantially reduce the risk of wildfire hazards to nearby areas compared to the conditions that currently exist onsite. Therefore, the Project would result in a less than significant impact and is not expected to exacerbate a wildfire risk or expose Project personnel and vendors to increased risk due to uncontrolled wildfire.

Alternatives Considered for Further Evaluation – No Project Alternative

The discussion and evaluation of a “No Project (No Development) Alternative” is required by the CEQA Guidelines. The “no project” alternative compares the environmental impacts of the Project with the environmental impacts of not approving the Project. (Guidelines § 15126.6(e)(1). According to the CEQA Guidelines:

The “no project” analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be ***reasonably expected to occur in the foreseeable future if the project were not approved***, based on current plans and consistent with available infrastructure and community services. (Guidelines § 15126.6(e)(2) [emphasis added].)

The “no project” analysis differs depending on the proposed project. For development projects on identifiable property, such as the current Project:

[T]he “no project” alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this “no project” consequence should be discussed. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project’s non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment. (Guidelines § 15126.6(e)(3)(B))

Because the Project is a development project on identifiable property, this “no project” analysis compares the environmental effects of the property remaining in its existing state against environmental effects, which would occur if the project were approved. If the Project is not approved, the existing conditions are reasonably expected to occur into the near future, as the Applicant has no other plans for the Project site, and no other development plans for the Project site exist. The only predictable consequence of Project disapproval is the continuation of the existing environment at the Project site.

Potential changes in environmental impacts associated with this “No Project Alternative” as compared to the Project are summarized in DEIR Section 4.4.1. It was determined that this alternative would not substantially lessen the potential Project impacts.

Alternatives Considered for Further Evaluation – Elimination of Southern Berm

This alternative was considered to determine if eliminating the southern berm would avoid or lessen any potentially significant impacts associated with the Project. Under the “Elimination of the Southern Berm Alternative”, the proposed approximately 10-foot high berm would not be constructed along the site’s southern perimeter as proposed in the Project. Topsoil and subsoil would still be removed from the site prior to mining; however, it would be managed offsite if not used in berm construction. Specifically, the soils would be removed separately, and transported and stockpiled offsite for later use during reclamation/revegetation.

Potential changes in environmental impacts associated with this “Elimination of the Southern Perimeter Berm Alternative” as compared to the Project are summarized in DEIR Section 4.4.1. It was determined that this alternative would not substantially lessen the potential Project impacts.

Division of Mine Reclamation

The County has responded to comments and recommendations raised by the Division of Mine Reclamation (DMR), a division of the State Department of Conservation, in its review of the Projects Reclamation Plan. In a letter dated March 2, 2020, DMR provided comments on the Project’s Reclamation Plan. On August 3, 2020, the County provided comment responses to DMR. The County has not received any further comments from DMR. The County notified DMR of the Planning Commission hearing scheduled for September 3, 2020, at which time a recommendation for approval of the Project was to be considered. Pursuant to the County’s responses and the Conditions of Approval (COAs) required for this Project, the concerns expressed by DMR have been addressed

RECOMMENDATION: That the Planning Commission recommend that the Board of Supervisors:

- 1) **APPROVE** the Water Supply Assessment (Exhibit E);
- 2) **CERTIFY** the Environmental Impact Report (SCH No. 2020010528) (Exhibit C);
- 3) **ADOPT** the recommended CEQA Findings (Exhibit A);
- 4) **ADOPT** the Mitigation Monitoring and Reporting Program (Exhibit D);
- 5) **ADOPT** the General Plan Amendment to change the Land Use Zoning District from MS/RS-1 to MS/IC on 196 acres;
- 6) **ADOPT** the recommended Findings for approval of the Project (Exhibit A);
- 7) **APPROVE** the Conditional Use Permit, subject to the conditions of approval (Exhibit B);
- 8) **APPROVE** the Reclamation Plan for 2020M-01 (Exhibit F); and
- 9) **DIRECT** the Clerk of the Board to file a Notice of Determination.

ATTACHMENTS:

Exhibit A:	Findings
Exhibit B:	Conditions of Approval
Exhibit C:	Draft and Final EIR and Technical Studies (Quarry Q) posted at: http://cms.sbcounty.gov/lus/Planning/Environmental/Valley.aspx
Exhibit D:	Mitigation Monitoring and Reporting Program
Exhibit E:	Water Supply Assessment http://www.sbcounty.gov/uploads/LUS/Environmental/QUARRY_Q/Appendix%20H3%20-%20Vulcan%20Area%20Q_Water%20Supply%20Assessment_2020.pdf
Exhibit F:	Reclamation Plan
Exhibit G:	Mining Plan

EXHIBIT A

Findings

A GENERAL PLAN AMENDMENT FROM MUSCOY COMMUNITY PLAN / SINGLE RESIDENTIAL (MS/RS-1) TO MUSCOY COMMUNITY PLAN/COMMUNITY INDUSTRIAL (MS/IC) AND A CONDITIONAL USE PERMIT (CUP) AND MINING RECLAMATION PLAN FOR VULCAN MATERIALS COMPANY'S PLANNED RELOCATION OF MINING OPERATIONS FROM AREA L TO AREA Q (Project).

FINDINGS: GENERAL PLAN AMENDMENT [Development Code Section 86.12.060]

1. THE PROPOSED AMENDMENT IS INTERNALLY CONSISTENT WITH ALL OTHER PROVISIONS OF THE RESPECTIVE PLAN, THE GENERAL PLAN OR AN APPLICABLE SPECIFIC PLAN;

The amendment is consistent with and will further the objectives, goals and policies of the County General Plan and will not obstruct their attainment as indicated below, and based on the evidence contained in the Project's supporting documents.

2. THE PROPOSED AMENDMENT WOULD NOT BE DETRIMENTAL TO THE PUBLIC INTEREST, HEALTH, SAFETY, CONVENIENCE, OR WELFARE OF THE COUNTY;

Approval of the General Plan Amendment (GPA) would change the Land Use District designation of the Project site from MS/RS-1 (Muscoy Community Plan, Single Residential, 1-acre Minimum Parcel) to MS/IC (Muscoy Community Plan, Community Industrial). The proposed Project will develop the parcel into an open pit quarry. The development of the Project would not divide an established community, conflict with local land use policies, regulations, or conflict with existing zoning. The existing Project site is currently developed with fifteen single-family residential structures and is divided from most of the community to the south by the Devil Creek Diversion Channel. Access to the current Project site is from 5th Avenue, a dirt road that connects to Cajon Boulevard. This street only provides access to existing onsite residents and has no outlet.

The Project site's western boundary is bordered by the Southern Pacific Railroad (SPRR) tracks, which lies between the Project site and Lytle Creek and Cajon Creek. The Devil Creek Diversion Channel (a concrete channel) occurs along the southern boundary of the site and the residential community of Muscoy is located directly south of the concrete channel. The Devil Creek Diversion Channel, including the existing earthen berm (approximately eight-feet high) located just south of the channel, would not be impacted by the Project, and would continue to serve as an existing barrier between mining operations and residential areas in the community of Muscoy to the south. Additionally, installation of the southern berm along the Project site perimeter would also not divide the area as the southern berm footprint would run immediately parallel to the existing Devil Creek Diversion Channel. Cajon Boulevard is to the east of the Project site and Vulcan's existing Cajon Creek Quarry occurs north of the Project site. The Project would not divide the residential community of Muscoy nor would the site divide the industrial area to the east of the Project site. The Project has incorporated appropriate Conditions of Approval and mitigation measures to protect and enhance public health, safety and welfare. As such, the proposed Project will be a benefit to the community and not compromise existing development in the area.

3. THE PROPOSED LAND USE ZONING DISTRICT CHANGE IS IN THE PUBLIC INTEREST, THERE WILL BE A COMMUNITY BENEFIT, AND OTHER EXISTING AND ALLOWED USES WILL NOT BE COMPROMISED;

The existing Project site is currently developed with fifteen single-family residential structures, and has been extensively disturbed by human activities, including illegal dumping. A variety of mining and industrial land uses exist near the Project site. It is surrounded by residential neighborhoods to the south/southeast, industrial facilities to the east/northeast, and open-space (i.e., Cajon Creek Wash) to the west. Vulcan's existing Cajon Creek Quarry site, specifically Area L, is to the north. Nearby urban centers include the community of Muscoy (immediately southeast), the City of San Bernardino (City)(immediately north and east), and the City of Rialto (1.25 miles to the southwest). Approval of the GPA would change the Land Use District designation of the Project site from Muscoy, Single Residential (RS-1) to Muscoy, Community Industrial (IC). The proposed Project will develop the parcel into an open pit mine, which would be consistent with the proposed GPA and allow for regional improvements such as housing, commercial development, industrial development, and infrastructure to be constructed as anticipated in the County's General Plan because the region must have a consistent and predictable source of competitively priced building materials, including aggregate. This Project would provide a local source of high-quality aggregate that augments the existing supply and contributes to projected future needs within the County. In addition, being a local source, the Project would reduce the need to transport aggregate into the region thereby reducing potential impacts associated with traffic, air quality, and greenhouse gas emissions throughout the region.

The Project would provide an average of 1.9 to 2.6 million tons annually over an approximate 30-year period with an anticipated maximum annual of 3.1 million tons of aggregates (sand and gravel), depending on market demand. The maximum permitted salable material to be mined over the life of the mine is 40 million tons. Obtaining aggregate from within the San Bernardino Region is environmentally preferable to obtaining aggregate from other locations situated outside of the market demand area. Specifically, local sourcing of needed aggregate materials avoids importation via on-road trucks and reduces air pollutant emissions associated with long-distance trucking of material from outside the San Bernardino Region.

Furthermore, at the proposed location, with the proposed buffers and landscaping, including the Conditions of Approval associated with the Conditional Use Permit Mining project, the Project would not divide an established community, conflict with local land use policies, regulations, or conflict with existing zoning. In fact, the Project would lead to the construction of a mining project on an underutilized site that could no longer support single-family residential homes. As such, the proposed Project will be a benefit to the community and region and not compromise existing development in the area.

4. THE PROPOSED LAND USE ZONING DISTRICT CHANGE WILL PROVIDE A REASONABLE AND LOGICAL EXTENSION OF THE EXISTING LAND USE PATTERN IN THE SURROUNDING AREA;

The proposed Land Use District change will meet the minimum size requirements enumerated in the San Bernardino County Development Code (Development Code) and will allow for the creation of an open pit-mining project within a Community Industrial (IC) Land Use Zoning District. The Mining use is considered a logical and appropriate extension of the mining

project located north of the Project site given that industrial land uses are located to the east and northeast of the Project site.

5. THE PROPOSED LAND USE ZONING DISTRICT CHANGE DOES NOT CONFLICT WITH PROVISIONS OF THIS DEVELOPMENT CODE;

The change in the Land Use District from MS/RS-1 (Muscoy Community Plan, Single Residential, 1-acre Minimum Parcel) to MS/IC (Muscoy Community Plan, Community Industrial) will not conflict with the Development Code. The Project will comply with all provisions set forth in Section 85.06.100 (Surface Mining and Reclamation Plan Applications) and Section 88.03.020 (Incorporation of SMARA and State Regulations). The provisions of the California Surface Mining and Reclamation Act of 1975 (Public Resources Code Section 2710 et seq.), Public Resources Code Section 2207, and the regulations implementing the act (California Code of Regulations Section 3500 et seq.) ("State Regulations") are made a part of the Development Code.

The Project is in conformance with Section 88.03.040 (Permit, Plan, and Financial Assurance Requirements) of the Development Code and is requesting approval of a Conditional Use Permit, Reclamation Plan, and will provide required financial assurance. The General Plan allows mining operations to be located in areas adjacent to industrial operations. Since the Project is located in an urbanized sphere, adjacent to another open pit mine, the change in zone will not conflict with the provisions of the Development Code and will be in full compliance.

6. THE PROPOSED LAND USE ZONING DISTRICT CHANGE WILL NOT HAVE A SUBSTANTIAL ADVERSE EFFECT ON SURROUNDING PROPERTY; AND

Adequate public services and facilities will be provided in accordance with provisions of the Conditional Use Permit, Conditions of Approval, and mitigation measures provided in the Final EIR. Approval of the proposed Project will not result in a reduction of such public services to properties in the vicinity, to the detriment of public health, safety and welfare. In fact, the proposed changes will improve the safety and appearance of the area by improving a vacant lot with an active operation that will improve the overall appearance of the site. As demonstrated in Section 3.1 of the Draft EIR, the proposed southern berm is expected to completely obscure existing views of the site, as well as views of the active mining areas and proposed operations. Therefore, implementation of the Project is expected to improve the overall visual quality of the Project site, as the existing illegally dumped debris found on the Project site would be removed and no longer be visible once operations commence.

7. THE AFFECTED SITE IS PHYSICALLY SUITABLE IN TERMS OF DESIGN, LOCATION, SHAPE, SIZE, OPERATING CHARACTERISTICS, AND THE PROVISION OF PUBLIC AND EMERGENCY VEHICLE (E.G., FIRE AND MEDICAL) ACCESS AND PUBLIC SERVICES AND UTILITIES (E.G., FIRE PROTECTION, POLICE PROTECTION, POTABLE WATER, SCHOOLS, SOLID WASTE COLLECTION AND DISPOSAL, STORM DRAINAGE, WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL, ETC.), TO ENSURE THAT THE PROPOSED OR ANTICIPATED USES AND/OR DEVELOPMENT WOULD NOT ENDANGER, JEOPARDIZE, OR OTHERWISE CONSTITUTE A HAZARD TO THE PROPERTY OR IMPROVEMENTS IN THE VICINITY IN WHICH THE PROPERTY IS LOCATED.

A variety of mining and industrial land uses exist near the Project site. It is surrounded by residential neighborhoods to the south/southeast, industrial facilities to the east/northeast, and open-space (i.e., Cajon Creek Wash) to the west. Vulcan's existing Cajon Creek Quarry site, specifically Area L, occurs north of the Project site. The Cajon Creek Quarry (consisting of Areas L, M, and N) occurs north and northeast of the Project site and currently provides high-quality local aggregates (sand and gravel) to serve the regional market. The Project includes the relocation of mining operations from Area L, once operations have ceased, to the proposed Project site (Area Q). The Project site would be developed with an open pit mine on land that is physically suitable for the requested use. The proposed change in the land use designation to MS/IC will allow for the development of an open pit mine with the approval of a Conditional Use Permit. The proposed Project will comply with the minimum lot size requirements for the GPA.

The proposed Project as designed will not jeopardize or constitute a hazard to property or improvement in the vicinity given that the Project utilizes existing roadways associated with operations located in the Area L Quarry. Therefore, no significant adverse impacts to law enforcement are identified or anticipated, with the proposed mitigation measures required. The proposed Project, as conditioned, will not have a substantial adverse effect on surrounding property or the permitted use thereof, and will be compatible with the existing and planned land use character of the surrounding area with the proposed buffers and landscaping.

8. The Project is consistent with the following specific General Plan Goals and Policies:

- **GOAL LU 1:** The County will have a compatible and harmonious arrangement of land uses by providing a type and mix of functionally well-integrated land uses that are fiscally viable and meet general social and economic needs of the residents.

Consistency: The Project seeks an amendment to the Project site's General Plan land use zoning designation from MS/RS-1 (Muscoy Community Plan, Single Residential, 1-acre Minimum Parcel) to MS/IC (Muscoy Community Plan, Community Industrial). Surface mining operations and related facilities and activities within the County are generally permitted in the Mineral Resources (MR) zone, however the Community Industrial (IC) designation is appropriate and consistent with the adjacent Cajon Creek extraction area, and the preliminary land use designation given to the Project site by the City, as the Project site falls within the City's sphere of influence; and would be consistent with the uses allowed along the Cajon Boulevard corridor. Surface mining operations and related facilities and activities are permitted in the Community Industrial (IC) zoning designation, subject to approval of a Conditional Use Permit (CUP).

The Project site is surrounded by existing mining operations to the north, and industrial operations to the east. Development of the Area Q quarry site would be compatible and fit the character of these nearby land uses. The Devil Creek Diversion Channel occurs along the southern boundary of the site and the residential community of Muscoy is located directly south of this diversion channel. The Project includes construction of a southern berm that would buffer proposed mining operations from existing residential land uses in the community of Muscoy to the south. Additionally, once mining is completed, the site would be reclaimed back to open space in a manner compatible with the surrounding environment. The Project would be compatible and harmonious with the surrounding land

uses and would be fiscally viable and meet the general social and economic needs of the residential, and therefore would be consistent with this goal.

- **POLICY LU-1.1:** Develop a well-integrated mix of residential, commercial, industrial, and public uses that meet the social and economic needs of the residents in the three geographic regions of the County: Valley, Mountain, and Desert.

Consistency: The Project would allow Vulcan to continue to provide a reliable and sustainable local source of high-quality aggregates to help meet the current and long-term demand for construction materials in San Bernardino County. Vulcan's operations would also continue to create jobs in the local economy. For these reasons, the Project is considered consistent with this policy.

- **POLICY LU-1.2:** The design and siting of new development will meet locational and development standards to ensure compatibility of the new development with adjacent land uses and community character.

Consistency: The proposed Project includes a request for a zone change from MS/RS-1 (Muscoy Community Plan, Single Residential, 1-acre Minimum Parcel) to MS/IC (Muscoy Community Plan, Community Industrial). Surface mining operations and related facilities and activities are allowable in the Community Industrial (IC) land use designation. The Project site is surrounded by existing mining operations to the north and industrial operations to the east. The Devil Creek Diversion Channel occurs along the southern boundary of the site and the residential community of Muscoy is located directly south of this diversion channel. A southern berm is proposed along the site's southern boundary to act as a noise and visual barrier between mining operations and residences to the south within the community of Muscoy. Development of the Area Q quarry site would be compatible and fit the character of these nearby land uses. The Project would also provide a final reclamation land surface that is consistent with the future final landform planned for the adjacent Cajon Creek Quarry.

The Project has been designed to control noise, air emissions, and other nuisance impacts associated with mining operations. The southern berm would be installed along the site's southern boundary and would provide a noise and visual barrier between mining operations and residences to the south within the community of Muscoy. As discussed in Section 3.2 – Air Quality of the Draft EIR, the Project's air quality impacts, including those related to odor and dust, were determined to be less than significant. For these reasons, the Project would be consistent with this policy.

- **GOAL LU-4:** The unincorporated communities within the County will be sufficiently served by industrial land uses.

Consistency: The Project involves developing an industrial site on a property compatible for the proposed land use (i.e., mining). Additionally, the Project's location adjacent to Vulcan's existing Cajon Creek Quarry to the north and existing industrial developments to the east make the Area Q site well suited for an aggregate mine. Development of the Project would provide a reliable and sustainable, local source of high-quality aggregates to help meet the current and long-term regional demand. Therefore, the Project is compatible with this policy.

- **POLICY LU-4.1:** Protect areas best suited for industrial activity by virtue of their location and other criteria from residential and other incompatible uses.

Consistency: The Project involves developing an industrial site on a property compatible for the proposed land use (i.e., mining). Additionally, the Project's location adjacent to Vulcan's existing Cajon Creek Quarry to the north and existing industrial developments to the east make the Area Q site well suited for an aggregate mine. Development of the Project would provide a reliable and sustainable, local source of high-quality aggregates to help meet the current and long-term regional demand. These findings below, along with the findings within the Draft and Final EIR demonstrate that the Project is compatible with the County General Plan.

- **GOAL 7.0, POLICY LU-7.1:** Ensure that land use developments within the state-delineated Mineral Resource Zones (MRZs) are in accordance with the adopted mineral resources management policies of the County.

Consistency: The Project site occurs in a state-designated MRZ-2 zone, indicating that significant mineral deposits (i.e., sand and gravel) are present, or there is a high likelihood for their presence. Since the Project proposed the extract of these mineral resources in accordance with State and County policies, the Project is considered consistent with this policy.

- **POLICY MS/LU 1.1:** Require strict adherence to the Land Use Policy Map unless proposed changes are clearly demonstrated to be consistent with the community character.

Consistency: The Project seeks an amendment to the Project site's General Plan land use zoning designation from MS/RS-1 (Muscoy Community Plan, Single Residential, 1-acre Minimum Parcel) to MS/IC (Muscoy Community Plan, Community Industrial). The proposed use of the site for mining operation is consistent with the community character, as mining operations currently exists north of the Project site.

The Project site meets the following locational criteria of the Community Industrial (IC) land use zoning designation (County of San Bernardino *2007 General Plan*, page II-18):

- Areas located within urban areas where full urban services are available.
- Areas of existing industrial uses.
- Areas physically suited for industrial activities.
- Areas that are or can be adequately buffered from adjacent uses in other land use categories.
- Areas where industrial traffic is not routed through residential or other areas not compatible with industrial traffic.
- Areas appropriate for development of large acreages using the concepts of planned development to provide industrial parks with unified landscaping, signing, building design, services, infrastructure, and circulation.
- Areas located peripheral to urban areas where residential or long-term agricultural uses are inappropriate.
- Areas that have stable soil with average slope of 10 percent or less.
- Rural areas where there is a demonstrated need for industrial land uses.

Upon County approval of the zone change, the site's current land use designation would be changed to MS/IC (Muscoy Community Plan, Community Industrial). The IC (Community Industrial) land use zoning designation allows for "Natural resources development (mining/material extraction)" with the conditional approval of a CUP. Therefore, with the conditional approval of the Project and the changed land use zoning designation to MS/IC, the Project would be compatible with the County General Plan and would be consistent with this policy.

- **POLICY MS/LU 1.5:** When more intensive development is proposed adjacent to developed large lots, the new development shall be required to provide adequate buffering, so that compatibility between rural residential uses and more urban uses may be maintained.

Consistency: The Project would not conflict with County buffers policies. The southern berm and proposed landscaping would buffer proposed mining operations from the residential land uses in the community of Muscoy to the south. Additionally, once mining is completed, the site would be reclaimed back to open space in a manner compatible with the surrounding environment. As such, the Project is consistent with this policy.

FINDINGS: CONDITIONAL USE PERMIT

The following Chapter 85.06 Conditional Use Permit findings must be made in the affirmative, pursuant to Development Code Section 88.03.060(k)(1), in order to approve the Project's mining Conditional Use Permit:

1. THE SITE FOR THE PROPOSED MINING SITE IS ADEQUATE IN TERMS OF SHAPE AND SIZE TO ACCOMMODATE THE PROPOSED USE AND ALL OPEN SPACE, SETBACKS, AND OTHER REQUIRED FEATURES PERTAINING TO THE APPLICATION.

The 196.0-acre parcel is of adequate size and shape to accommodate the aggregate mining operation and related equipment including relocation of the existing Area L conveyor infrastructure. The minimum setback requirements for the Community Industrial (IC) zoning district in the Valley region is 10 feet from the property line. To buffer the mining operations from residential uses to the south, an approximately 10 foot landscaped screening berm would be built along the southern site boundary. The southern berm along with a 50-foot setback along the southern property line will be utilized to reduce visual, noise and operational impacts associated with the mining operation.

2. THE SITE FOR THE PROPOSED USE HAS ADEQUATE ACCESS, WHICH MEANS THAT THE SITE DESIGN INCORPORATES APPROPRIATE STREET AND HIGHWAY CHARACTERISTICS TO SERVE THE PROPOSED USE.

The proposed mining activities would take place within 187.6 acres of the 196.0-acre Project site (Area Q property). Extraction of aggregate at the Project site would occur over a 182.1-acre area, with the balance of 5.5 acres dedicated to setbacks and construction of a ten foot high earthen berm along the southern site boundary. Aggregate would be mined from the Project site using mobile equipment (excavators, loaders, dozers, etc.). Aggregates mined from the Project site will be transferred from the excavated areas via an extension to the existing conveyance infrastructure in place at Area L. Area L is located in the City. The exact

location of the conveyor within the Project site may change as mining progresses through the site. However, material mined would be processed and shipped from Vulcan's existing permitted processing facilities and no mined material would be processed on the Project site. Additionally, no haul trucks would enter or leave the Project site by public roads. Prior to Project site operations, fifteen homes will need to be demolished as part of construction activities. It is estimated that demolition activities will require approximately five offsite truck trips for an approximately 30-day period. All other Project site construction activities (berm construction, etc.) will be completed by the existing employees operating Cajon Creek Area L, and will not result in any increase of trucks or employee vehicles on public roads, vehicles.

3. THE PROPOSED USE WILL NOT HAVE A SUBSTANTIAL ADVERSE EFFECT ON ABUTTING PROPERTY OR THE ALLOWED USE OF THE ABUTTING PROPERTY, WHICH MEANS THE USE WILL NOT GENERATE EXCESSIVE NOISE, TRAFFIC, VIBRATION, LIGHTING, GLARE, OR OTHER DISTURBANCE.

The potential impact to adjacent properties was thoroughly reviewed in the Draft Environmental Impact Report (DEIR) in accordance with CEQA Guidelines and the County of San Bernardino General Plan. The environmental analysis concluded that the Project would not create a significant impact to any of the resources identified in the CEQA Appendix G Environmental Checklist nor other identified local environmental thresholds.

Specifically, to reduce the potential impacts from noise, aesthetics, and other disturbances to the residential community of Muscoy, located south of the Project, a 50-foot buffer is proposed at the southern site boundary adjacent to the Devil Creek Diversion Channel. This setback will contain an approximately 10-foot berm (i.e., southern berm) and landscaping, which will reduce potential impacts to less than significant for noise and aesthetic. Although not anticipated, portable lighting may be required for safety purposes during evening or nighttime operations. Lighting for nighttime operations (i.e., evening hours prior to 10:00 p.m.) and security would be installed in a manner so as to minimize glare onto adjacent sites. As discussed in Finding No. 3 in support of the GPA above, the Project would not result in an increase in traffic, except for the short-term site preparation construction period (approximately 3 months). Furthermore, County noise, vibration, and lighting standards would apply to the Project and are included in the Project's Conditions of Approval.

4. THE PROPOSED USE AND MANNER OF DEVELOPMENT ARE CONSISTENT WITH THE GOALS, MAPS, POLICIES, AND STANDARDS OF THE COUNTY GENERAL PLAN AND ANY APPLICABLE COMMUNITY OR SPECIFIC PLAN.

The proposed mining operation is consistent with the goals, maps, policies and standards of the Muscoy Community Plan, Community Industrial (MS/IC) Zoning District with the approval the General Plan Amendment and associated Conditional Use Permit and Reclamation Plan Approval. The Project is a temporary use of a 196.0-acre, privately owned parcel of land that would be reclaimed back to open space upon project completion. Use of the site for high quality construction aggregate extraction allows a measure of economic gain while providing a much-improved open space value.

LAND USE ELEMENT: MUSCOY COMMUNITY PLAN/COMMUNITY INDUSTRIAL (IC)
LAND USE ZONING DISTRICT

Applicable site-specific policies for the Muscoy Community Plan, Community Industrial (IC) Zoning District include:

Purpose

- To identify and establish areas suited to industrial activities.
- To provide opportunities for the concentration of industrial uses to enable efficient use of transportation, circulation, and energy facilities.
- To protect adjacent land uses from harmful influences, as well as to prevent the intrusion of incompatible uses into industrial areas.

Locational Criteria

- Areas located within urban areas where full urban services are available
- Areas of existing industrial uses.
- Areas physically suited for Industrial activities.
- Areas that are or can be adequately buffered from adjacent uses in other land use categories
- Areas adjacent to major transportation terminals and energy facilities.
- Areas where industrial traffic is not routed through residential or other areas not compatible with industrial traffic.
- Areas that are at the intersection or have direct access to major arterial, major divided streets, or a freeway, or are served by railroad access.
- Areas appropriate for development of large acreages using the concepts of planned development to provide industrial parks with unified landscaping, signing, building design, services, infrastructure, and circulation.
- Areas located peripheral to urban areas where residential or long-term agricultural uses are inappropriate.
- Areas that have stable soil with average slope of 10 percent or less.
- Rural areas where there is a demonstrated need for industrial land uses.

OPEN SPACE ELEMENT: GOALS AND POLICIES

Applicable site-specific Region Goals and Policies from the Open Space Element include:

GOAL D/OS -1 The County will provide plentiful open spaces, local parks, and a wide variety of recreational amenities for all residents.

D/OS 1.3 Evaluate the value of surplus County property for open space uses so that all actions are consistent with the land use policy map.

SPECIFIC OR COMMUNITY PLANS: The Project site is located within the Muscoy Community Plan area and as discussed above is consistent with the General Plan and Muscoy Community Plan.

5. THERE IS SUPPORTING INFRASTRUCTURE, EXISTING OR AVAILABLE, CONSISTENT WITH THE INTENSITY OF THE DEVELOPMENT, TO ACCOMMODATE THE PROPOSED PROJECT WITHOUT SIGNIFICANTLY LOWERING SERVICE LEVELS.

No additional County infrastructure or services are required to be supplied for this Project.

6. THE LAWFUL CONDITIONS STATED IN THE APPROVAL ARE DEEMED REASONABLE AND NECESSARY TO PROTECT THE OVERALL PUBLIC HEALTH, SAFETY AND GENERAL WELFARE.

The Conditions of Approval for the Project include conditions to minimize noise, lighting, air quality, and traffic impacts to enforce performance standards.

7. THE DESIGN OF THE SITE HAS CONSIDERED THE POTENTIAL FOR THE USE OF SOLAR ENERGY SYSTEMS AND PASSIVE OR NATURAL HEATING AND COOLING OPPORTUNITIES.

Although solar energy generation and use is not a part of the Project proposal, neither would it be precluded should the need and desire for such use arise.

FINDINGS: RECLAMATION PLAN

Reclamation Plan for the Area Q Quarry to extract sand and gravel (aggregate) from a 182.1-acre portion (mining area) of the 196.0-acre Area Q Quarry (Project) (APN: 0262-241-16 – Multiple Parcels (26 total)).

Pursuant to Development Code Section 88.03.060(k)(2), the following findings must be made in the affirmative in order to approve the Project's mining Reclamation Plan:

1. THE RECLAMATION PLAN COMPLIES WITH THE CALIFORNIA SURFACE MINING AND RECLAMATION ACT (SMARA) (PUBLIC RESOURCES CODE SECTIONS 2772-2773) AND ANY OTHER APPLICABLE PROVISIONS.

The Area Q Quarry Mine Reclamation Plan (Reclamation Plan) was reviewed, and conditioned, for compliance with SMARA. The Plan was also reviewed and accepted by the California Department of Conservation Division of Mine Reclamation.

2. THE RECLAMATION PLAN COMPLIES WITH APPLICABLE REQUIREMENTS OF STATE MINING REGULATIONS (CALIFORNIA CODE OF REGULATIONS SECTIONS 3500-3505 AND 3700-3713).

The Reclamation Plan was reviewed, and conditioned, for compliance with State mining regulations. The Plan was also reviewed and accepted by the California Department of Conservation Division of Mine Reclamation.

3. RECLAMATION PLAN AND POTENTIAL END USE OF LANDS RECLAIMED IN COMPLIANCE WITH THE PLAN ARE CONSISTENT WITH THIS CHAPTER AND THE GENERAL PLAN AND ANY APPLICABLE RESOURCE PLAN OR ELEMENT.

The Reclamation Plan and potential end use of lands disturbed and reclaimed in compliance with the Plan, as conditioned, are consistent with the Development Code and General Plan. No additional resource plans or elements apply.

4. THE RECLAMATION PLAN HAS BEEN REVIEWED IN COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) AND THE COUNTY'S ENVIRONMENTAL REVIEW GUIDELINES, AND ALL SIGNIFICANT ADVERSE IMPACTS FROM RECLAMATION OF THE SURFACE MINING OPERATIONS ARE MITIGATED BELOW A LEVEL OF SIGNIFICANCE OR TO THE MAXIMUM EXTENT FEASIBLE.

A Final EIR (FEIR) was prepared in compliance with CEQA and all Mitigation Measures identified in the FEIR have been incorporated into the Conditions of Approval.

5. THE LAND AND/OR RESOURCES, SUCH AS WATER, WILL BE RECLAIMED TO A CONDITION THAT IS COMPATIBLE WITH, AND BLENDS IN WITH, THE SURROUNDING NATURAL ENVIRONMENT, TOPOGRAPHY, AND OTHER RESOURCES, OR SUITABLE OFF-SITE DEVELOPMENT WILL COMPENSATE FOR RELATED DISTURBANCE TO RESOURCES VALUES.

Affected lands will be reclaimed to a condition compatible with, and blending with, the surrounding natural environment, topography, and other open space resources as identified in the Reclamation Plan. Financial Assurances and annual mine inspections pursuant to SMARA will take place to ensure this occurs. Groundwater resources will also be monitored and mitigated should related disturbance to this resource occur.

6. THE RECLAMATION PLAN WILL RECLAIM THE MINED LANDS TO A USABLE CONDITION WHICH IS READILY ADAPTABLE FOR ALTERNATIVE LAND USES CONSISTENT WITH THE GENERAL PLAN AND APPLICABLE RESOURCE PLAN.

The Reclamation Plan, as conditioned, along with annual mine inspections pursuant to SMARA will ensure reclamation of the mined lands return to a usable condition that is readily adaptable for alternative land uses consistent with the County's Resource Conservation and Open Space Element of the General Plan.

7. A WRITTEN RESPONSE TO THE STATE DEPARTMENT OF CONSERVATION HAS BEEN PREPARED, DESCRIBING THE DISPOSITION OF MAJOR ISSUES RAISED BY THAT DEPARTMENT. WHERE THE COUNTY'S POSITION IS AT VARIANCE WITH THE RECOMMENDATIONS AND OBJECTIONS RAISED BY THE STATE DEPARTMENT OF CONSERVATION, THE RESPONSE SHALL ADDRESS, IN DETAIL, WHY SPECIFIC COMMENTS AND SUGGESTIONS WERE NOT ACCEPTED.

The County sent a written response, dated August 3, 2020, to the California Department of Conservation Division of Mine Reclamation in response to its March 9, 2020 review of the Cajun Creek Quarry, Area Q Expansion Mine Reclamation Plan. Staff provided a detailed response to each comment, along with the required 30-day notification of intent to adopt the project at a Planning Commission hearing scheduled for September 3, 2020. Each concern

expressed by the California Department of Conservation Division of Mine Reclamation has been addressed and/or incorporated into the revised Plan.

FINDINGS: CALIFORNIA ENVIRONMENTAL QUALITY ACT

The environmental document for the Project consists of an EIR for the following County approvals: General Plan land use designation/zoning change from MS/RS-1 to MS/IC, a CUP, and a SMRP. The EIR was prepared in full compliance with CEQA (Pub. Res. Code § 21000 et seq.) and reflects the County's independent judgement and analysis regarding all matters contained therein. The EIR and Staff Report(s) prepared for this Project are fully incorporated into these findings by this reference. As fully explained below, the Planning Commission and Board of Supervisor's finds that Project-specific design features and proposed mitigation measures in the EIR will avoid or substantially reduce environmental impacts resulting from the Proposed Project to less than significant levels.

8. THE PROJECT WILL NOT HAVE A SIGNIFICANT ADVERSE IMPACT ON THE ENVIRONMENT, SUBJECT TO IMPLEMENTATION OF THE PROPOSED CONDITIONS OF APPROVAL AND MITIGATION MEASURES.

A Final EIR (FEIR) was prepared in compliance with CEQA and all Mitigated Measures identified in the FEIR have been incorporated into the Project's Conditional Use Permit as Conditions of Approval. The FEIR reflects the independent judgment of the County of San Bernardino. The FEIR was reviewed and considered prior to adoption and approval of the Project, as summarized below.

A. Aesthetics/Visual Resources

According to the EIR and associated technical analyses, the Project would not result in any significant impacts related to aesthetics/visual resources with the implementation of Project-specific design features (PDF) (see PDF Nos. 20, 21, 22 and 25). Therefore, impacts to aesthetics/visual resources were found to be less than significant with no mitigation measures required.

B. Air Quality

According to the EIR and associated technical analyses, the Project would not result in any significant air quality impacts with the implementation of Project-specific design features (see PDF Nos. 1, 2, 3, 4, 16, 17, 19, 22, 31, 32 and 35). Therefore, air quality impacts were found to be less than significant with no mitigation measures required.

C. Biological Resources

According to the EIR, the Project site provides suitable foraging, nesting and cover habitat for a variety of resident and/or migrant nesting bird species. Pursuant to California Fish and Wildlife Code Section 3503, it is unlawful to destroy any bird's nest or any bird's eggs that are protected under the Migratory Bird Treaty Act (MBTA). While Project operations could potentially impact nesting bird species, this impact can be mitigated to a less than significant level. Therefore, to ensure impacts remains at a less than significant level, the Proposed Project includes the following mitigation measures to reduce or eliminate potential impacts to biological resources:

Mitigation Measure BIO-1: If determined necessary, consult with CDFW prior to the removal of any raptor nest on the Project site, if found.

Mitigation Measure BIO-2: If ground disturbance and vegetation removal cannot occur outside of the nesting season, a preconstruction clearance survey for nesting birds should be conducted within thirty (30) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction.

The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the preconstruction clearance survey, construction activities should stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer is expanded to 500-feet. It is recommended that a biological monitor be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, normal construction activities can occur.

In addition to the mitigation measures listed above, Project-specific design features (see PDF Nos. 19, 20, 25, 27, 28 and 29) related to biological resources will be implemented. Therefore, impacts to biological resources were found to be less than significant with mitigation measures incorporated.

D. Cultural Resources

According to the EIR and associate technical studies, the Project site did not indicated sensitivity for historical or cultural resources as well as human remains within its boundaries. However, the EIR found that ground-disturbing activities always have the potential to reveal buried cultural resource or human remains deposits not observed on the surface during previous surveys. Therefore, to ensure impacts remain at a less than significant level, the Proposed Project includes the following mitigation measures to reduce or eliminate potential impacts to cultural resources:

Mitigation Measure CUL-1: Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a cultural resources professional that meets the U.S. Secretary of the Interior Professional Qualification Standards for Archaeology (a qualified archaeologist) should be retained to assess the significance of the find. The qualified archaeologist would have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing in the California Register of Historical Resources or the National Register of Historic Places, plans for the treatment, evaluation, and mitigation of impacts to the find would be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- historic artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;

- historic structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks.

Mitigation Measure CUL-2: If human remains are encountered during Project operations, per State Health and Safety Code Section 7050.5, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

In addition to the mitigation measures listed above, Project-specific design features (see PDF Nos. 19 and 28) related to cultural resources will be implemented. Therefore, impacts to cultural resources were found to be less than significant with mitigation measures incorporated.

E. Geology & Soils

According to the EIR and associate technical studies, the Project could have a significant impact with respect to seismically induced ground movement, slope stability and other potential hazards during a seismic event. Additionally, while considered low, is possible that vertebrate materials could be encountered during excavation at the Project site. Therefore, to ensure potential impacts to geology and soil resources remain at a less than significant level, the Proposed Project includes the following mitigation measures to reduce or eliminate potential impacts to these resources:

Mitigation Measure GEO-1: Should there be areas along slopes where alluvial materials are loose, and/or there is evidence of dislodgement, the operator will install a soil catchment berm at least 10-feet from the toe of the slope in those areas, as needed, to prevent falling coarse materials from rolling out into the quarry bottom.

Mitigation Measure GEO-2: Approximately every 12 to 18 months during active mining, a California Certified Engineering Geologist (CEG) will observe exposed cut faces of the mining operation in Area Q for evidence of the Fault, and if warranted assess the potential for surface rupture and/or slope failure.

Mitigation Measure GEO-3: Site workers will be trained and instructed to stop working in the immediate area upon discovery of a vertebrate fossil. A County of San Bernardino Qualified Paleontologist will be contacted to examine the vertebrate remains and recommend and implement appropriate measures to curate the fossil materials, if warranted.

In addition to the mitigation measures listed above, Project-specific design features (see PDF Nos. 6, 8, 9, 10, 11 and 30) related to geology and soil resources will be implemented. Therefore, impacts to geology and soil resources were found to be less than significant with mitigation measures incorporated.

F. Greenhouse Gases

According to the EIR and associated technical analyses, the Project would not result in any significant greenhouse gas impacts with the implementation of Project-specific design features (see PDF Nos. 3, 4, 31 and 32). Therefore, greenhouse gas impacts were found to be less than significant with no mitigation measures required.

G. Hazards and Hazardous Materials

According to the EIR and associated technical analyses, the Project would not result in any significant impacts related to hazards and hazardous materials with the implementation of Project-specific design features (see PDF Nos. 1, 2, 5, 6, 7, 12, 13, 14, 15, 16, 18, 19, 26 and 33). Therefore, impacts related to hazards and hazardous materials were found to be less than significant with no mitigation measures required.

H. Hydrology and Water Quality

According to the EIR and associated technical analyses, the Project would not result in any significant impacts related to hydrology and water quality resources with the implementation of Project-specific design features (see PDF Nos. 5, 6, 7, 11, 12, 13, 14, 15, 16, 20, 24, 26 and 34). Therefore, impacts related to hydrology and water quality resources were found to be less than significant with no mitigation measures required.

I. Land Use and Planning

According to the EIR and associated technical analyses, the Project would not result in any significant impacts related to land use and planning. Therefore, impacts related to land use and planning were found to be less than significant with no mitigation measures required.

J. Noise and Vibration

According to the EIR and associate technical studies, Project construction/site preparation would temporarily generate noise, but this impact can be mitigated to a less than significant level if the Project Applicant requires onsite workers to implement specific mitigation measures relating to noise. Therefore, to ensure impacts remain at a less than significant level, the Proposed Project includes the following mitigation measures to reduce or eliminate potential noise and vibration impacts:

Mitigation Measure NO-1: Topsoil/subsoil removal and berm construction activities shall only occur between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday as defined by Section 83.01.080(g)(3)-Exempt Noise of the San Bernardino County Code of Ordinances.

In addition to the mitigation measure listed above, Project-specific design features (see PDF Nos. 19, 21, 22 and 31) related to noise and vibration will be implemented. Therefore, noise and vibration impacts were found to be less than significant with mitigation measures incorporated.

K. Tribal Cultural Resources

According to the EIR and associate technical studies, field surveys of the Project site did not indicate sensitivity for tribal cultural resources within its boundaries. However, the EIR found that ground-disturbing activities always have the potential to reveal buried tribal cultural resource or deposits not observed on the surface during previous surveys. Therefore, to ensure impacts remain at a less than significant level, the Proposed Project includes the following mitigation measures to reduce or eliminate potential impacts to tribal cultural resources:

Mitigation Measure TCR-1: Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried historical or TCR deposits. Consistent with CEQA Guidelines Section 15064.5(f), in the event that field personnel encounter buried TCR materials, work in the immediate vicinity of the find should cease and a tribal consultant either approved by Gabrieleño Band of Mission Indians – Kizh Nation and San Manuel Band of Mission Indians or selected from the Native American Heritage Commission’s Tribal Contact list, and/or a qualified archaeologist that meets the U.S. Secretary of the Interior Professional Qualification Standards for Archaeology be retained to assess the significance of the find and notify the appropriate Tribes. The tribal consultant and/or qualified archaeologist will have the authority to stop or divert construction excavation as necessary.

Mitigation Measure TCR-2: Upon discovery of human remains, the tribal and/or archaeological monitor/consultant will immediately divert work at minimum of 150-feet and place an exclusion zone around the discovery location. The monitor/consultant(s) will then notify the onsite lead/construction manager, who will then notify the consulting Tribes, the qualified lead archaeologist, and the County coroner, pursuant to the State Health and Safety Code §7050.5, and that code will be enforced for the duration of the Project. Work will continue to be diverted while the coroner determines whether the remains are human and subsequently Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by state law who will then appoint a MLD.

Mitigation Measure TCR-3: If the Gabrieleño Band of Mission Indians – Kizh Nation is designated MLD, the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term “human remains” encompasses more than human bones. In ancient as well as historic times, Tribal traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.

If the San Manuel Band of Mission Indians is designated MLD in accordance with the legal process noted in Mitigation Measure CUL-2 presented in Section 3.4 – Cultural Resources, the MLD will work with the Coroner, NAHC, landowner, and Lead Agency regarding culturally appropriate practices and recommended next steps.

Mitigation Measure TCR-4: Prior to the continuation of ground disturbing activities, the landowner shall arrange a designated site location within the footprint of the Project for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The MLD tribe will make every effort to recommend diverting the Project and keep the remains in situ and protected, and the landowner/applicant shall make every effort to comply with these recommendations. If the Project cannot be diverted, it may be determined that burials will be removed. The MLD Tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the MLD tribe, documentation shall be taken that includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall only occur once approved by the MLD tribe for data recovery purposes. Cremations will either be removed in bulk or by any means necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the MLD tribe and the NAHC. The tribes do not authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

Each occurrence of human remains and associated funerary objects that requires data recovery will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects, and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within 6 months of recovery. The site of reburial/repatriation shall be on the Project site but at a location agreed upon between the MLD tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

Mitigation Measure TCR-5: Upon discovery of any tribal cultural or archaeological resources, construction activities shall cease within the immediate vicinity of the find (60-foot buffer) until the find can be assessed. All tribal cultural and archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist, by a member of the Gabrieleño Band of Mission Indians – Kizh Nation, and a member of the San Manuel Band of Mission Indians Cultural Resources Department. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians – Kizh Nation and San Manuel Band of Mission Indians shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the tribe will request preservation in place or reburial onsite, though will recommend data recovery for educational purposes if other options are exhausted. Work may continue on other parts of the Project while evaluation and, if necessary, additional protective mitigation takes place (CEQA Guidelines Section 15064.5(f)). If a resource is determined by the qualified archaeologist to constitute a “historical resource” or “unique archaeological resource”, time

allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available.

Mitigation Measure TCR-6: For unique archaeological resources, preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. All analysis proposals will be reviewed and approved by the consulting Tribes. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials within the County, if such an institution agrees to accept the material. If no institution accepts the archaeological material that is not Native American in origin, they shall be offered to the Gabrieleño Band of Mission Indians – Kizh Nation or a local school or historical society in the area for educational purposes.

Mitigation Measure TCR-7: Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC and PRC 5097.98 shall be followed. More details on this process can be found in Mitigation Measure CUL-2 (see Section 3.4 – Cultural Resources).

Mitigation Measures TCR-8: Archaeological and Native American monitoring and excavation during construction Projects will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in southern California. The qualified archaeologist shall ensure that all other personnel are appropriately trained and qualified.

With implementation of the mitigation measures listed above, impacts to tribal cultural resources were found to be less than significant with mitigation measures incorporated.

L. Wildfire

According to the EIR and associated technical analyses, the Project would not result in any significant impacts related to wildfire with the implementation of Project-specific design features (see PDF Nos. 1, 13, 15, 16 and 19). Therefore, impacts related to wildfire were found to be less than significant with no mitigation measures required.

9. THE PROJECT IS THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE PURSUANT TO CEQA.

Although the County of San Bernardino finds that all significant environmental effects will be avoided or substantially lessened by the mitigation measures discussed above, the County has made the following findings regarding the Project's designation as the environmentally superior alternative.

A. No Project Alternative.

This alternative would preserve existing conditions on the Project site, and no land use approvals would be adopted by the County. Existing residential land uses on the site would continue in their present condition. The County rejects this alternative for these reasons:

- The Project will provide a reliable, sustainable, local source of high-quality aggregates to help meet the current and long-term demand for construction materials in San Bernardino County. In order to allow regional improvements such as housing, commercial development, industrial development, and infrastructure to be constructed as anticipated in the County's General Plan, the region must have a consistent and predictable source of competitively priced building materials, including aggregate. The no-project alternative would neither meet that need nor further General Plan policies of providing a reliable and sustainable source of local construction materials.
- The Project would result in an environmentally sound project that would balance the recovery of the aggregate resource with the protection of other resources including wildlife habitat, sensitive and special-status species, groundwater, surface water, and air quality. Additionally, being a local source of construction materials, the Project would reduce the need to transport aggregate into the region thereby reducing potential impacts associated with traffic, air quality and greenhouse gas emissions. The no-project alternative would not result in an environmentally sound project that provides a local source of construction materials.
- The Project would provide a final reclamation land surface that is consistent with the proposed end use as open space and the adjacent Vulcan mining sites. This would not result if the no-project alternative were adopted.
- The Project would maintain existing levels of employment into the future for employees currently working at the Cajon Creek Quarry, which would not be provided if the no-project alternative were adopted.

B. Elimination of Southern Berm Alternative

This alternative would remove the approximately 10-foot tall berm along the Project site's southern boundary. Topsoil and subsoil would still be removed from the site prior to mining; however, it would be managed offsite if not used in berm construction. Specifically, the soils would be removed separately, and transported and stockpiled offsite for later use during reclamation/revegetation. The County rejects this alternative for the following reasons:

- Removing the southern berm as a PDF would avoid potential temporary construction-related noise impacts during construction of the berm; however, this

would result in increased operational noise levels, resulting in a different, permanent, potentially significant noise impact.

- Removing the southern berm as a would also result in crease aesthetic impacts, because existing and future mining operations would be more visible from the residential community of Muscoy to the south, as no visual screening would be provided.

EXHIBIT B

Conditions of Approval

CONDITIONS OF APPROVAL

AREA Q QUARRY

Vulcan Materials – Western Division

Conditions of Operation and Reclamation, and Procedures

LAND USE SERVICES DEPARTMENT– Planning Division (909) 387-8311

1. Project Description. General Plan Amendment from Muscoy Community Plan/Single Residential (MS/RS-1) to Muscoy Community Plan/Community Industrial (IC) and a Mining Conditional Use Permit (CUP) and Reclamation Plan for Vulcan Materials Company's planned relocation of mining operations from Area L to Area Q. The extraction of all material over 30 years will amount to approximately 42.1 million tons, which includes the removal of the overburden.
2. Project Location. The site is located in a non-sectioned portion of Township 1 North, Range 5 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) San Bernardino North, California (1980) 7.5-minute topographic quadrangle. The approximate site coordinates are at latitude 34.17° N and longitude 117.36° W.
3. Effective Dates. This Reclamation Plan approval shall be effective from the time of approval for 30 years. Final reclamation and monitoring will require an additional 5 years to complete. At the conclusion of all mining activities, the site will be reclaimed to vacant open space and support wildlife habitat.
4. Reclamation Plan Recordation. Pursuant to Public Resources Code Section 2772.7, Planning will prepare a "Notice of Reclamation Plan Approval" on a form to be approved by the County Recorder's Office. The operator shall be responsible for review costs and recording fees.
5. Revisions/Amendments. Any substantial deviation of these facilities or increase in the developed area of the site from that shown on the final approved Mining and Reclamation Plan will require submission of an additional application for review and approval. If Mining and Reclamation Plan procedures change from those outlined in the Area Q Quarry Plan of Operations and Reclamation Plan, the applicant/operator shall file an amendment and secure approval before such changes can be made effective.
6. Continuous Effect/Revocation. All conditions of the Area Q Quarry Reclamation Plan are continuing conditions. Failure of the applicant/operator to comply with any or all of said conditions at any time could result in the notice of a public hearing before the Planning Commission to consider corrective measures and/or revocation of the Mining Conditional Use Permit. If revocation is confirmed, the Planning Commission may provide for a reasonable period of time to amortize any lawful existing uses and require the commencement of reclamation in accordance with approved Reclamation Plan 2020M-01.
7. Written Notification. The Land Use Services Department shall be notified in writing, within 30 days, regarding any:
 - a) Change in operating procedures, or inactive periods of operation for one (1) year or more.
 - b) Changes of Company ownership, address, or telephone number during the life of the Reclamation Plan.
 - c) Changes to provisions in lease agreements or real property having any effect on the approved Reclamation Plan.

8. SMARA and State Regulations. The provisions of the California Surface Mining and Reclamation Act of 1975 ("SMARA", Public Resources Code Section 2710 et seq.), Public Resources Code Section 2207, and the regulations implementing SMARA ("State Regulations", California Code of Regulations Section 3500 et seq.) are made a part of the Reclamation Plan. In the event that the State amends SMARA to the extent it adds to or conflicts with the Conditions of Approval, State law shall prevail.
9. CA Mine ID. The applicant/operator shall obtain a California Mine Identification number from the California Department of Conservation pursuant to Public Resources Code, Section 2207 and pay all associated fees to the State. The operator shall file mining operation annual reports to the State and County and pay all associated fees to the State.
10. Blasting. Blasting shall be conducted in compliance with the Mine Safety and Health Administration (MSHA) and California Safety and Health Administration (Cal OSHA) requirements. Blasting is not part of this permit approval.
11. Interim Management Plan. The applicant shall implement measures to stabilize and secure the site during periods of inactivity as per the approved Reclamation Plan. An Interim Management Plan (IMP) as required by SMARA, Public Resources Code Section 2770(h)(1) shall be submitted to Planning for review and approval within 90 days of the mining operation becoming idle.
12. Additional Permits/Approvals. The applicant/operator shall ascertain and comply with requirements of all County, State, and Federal agencies as may be applicable to the Project. These include, but are not limited to the following: San Bernardino County Departments of Land Use Services, Public Health, Environmental Health Services, Public Works, Fire Department, South Coast Air Quality Management District (SCAQMD), Santa Ana Regional Water Quality Control Board (RWQCB) Region 4, State Fire Marshal, Environmental Health Services, California Department of Fish and Wildlife (CDFW) Region 6, U.S Fish and Wildlife, Army Corp of Engineers, State Mining and Geology Board, California Department of Conservation, , California Occupational Safety and Health Administration (OSHA), and the Mine Safety and Health Administration (MSHA).
13. Indemnification. In compliance with SBCC §81.01.070, the developer shall agree, to defend, indemnify, and hold harmless the County or its "indemnitees" (herein collectively the County's elected officials, appointed officials (including Planning Commissioners), Zoning Administrator, agents, officers, employees, volunteers, advisory agencies or committees, appeal boards or legislative body) from any claim, action, or proceeding against the County or its indemnitees to attack, set aside, void, or annul an approval of the County by an indemnitee concerning a map or permit or any other action relating to or arising out of County approval, including the acts, errors or omissions of any person and for any costs or expenses incurred by the indemnitees on account of any claim, except where such indemnification is prohibited by law. In the alternative, the developer may agree to relinquish such approval.

Any condition of approval imposed in compliance with the County Development Code or County General Plan shall include a requirement that the County acts reasonably to promptly notify the developer of any claim, action, or proceeding and that the County cooperates fully in the defense. The developer shall reimburse the County and its indemnitees for all expenses resulting from such actions, including any court costs and attorney fees, which the County or its indemnitees may be required by a court to pay as a result of such action.

The County may, at its sole discretion, participate at its own expense in the defense of any such action, but such participation shall not relieve the developer of their obligations under this condition to reimburse the County or its indemnitees for all such expenses.

This indemnification provision shall apply regardless of the existence or degree of fault of indemnitees. The developer's indemnification obligation applies to the indemnitees' "passive" negligence but does not apply to the indemnitees' "sole" or "active" negligence or "willful misconduct" within the meaning of Civil Code Section 2782.

14. Financial Assurances. The applicant/operator shall maintain an acceptable form of Financial Assurance to ensure reclamation in accordance with Reclamation Plan 2020M-01. The Financial Assurance mechanism shall identify the County of San Bernardino and the California Department of Conservation (DOC) as the beneficiaries.

The Financial Assurance shall be calculated based on a cost estimate submitted by the applicant/operator and approved by the County and DOC, Division of Mine Reclamation (DMR) for the approved reclamation procedures.

Within 30 days following the mine site inspection, a Financial Assurance Cost Estimate (FACE) shall be provided to the Land Use Services Department. The assurance amount shall be reviewed and, if necessary, adjusted to account for new lands disturbed by surface mining operations, inflation and reclamation of lands accomplished in accordance with approved Reclamation Plan.

The Financial Assurance is not established to replace the applicant's/operator's responsibility for reclamation, but to assure adequate funding to complete reclamation per the Reclamation Plan and Conditions of Approval. Should the applicant/operator fail to perform or operate within all of the requirements of the approved Reclamation Plan, the County or Department of Conservation will follow the procedures outlined in Sections 2773.1 and 2774.1 of SMARA regarding the encashment of the assurance and applicable administrative penalties, to bring the applicant/operator into compliance. The requirements for the assurance will terminate when reclamation of the site has been completed in compliance with the approved Mining and Reclamation Plan and accepted by the County DMR pursuant to California Code of Regulations (CCR), Section 3805.5.

15. Annual Reporting and Inspection. The applicant/operator shall provide a Mining Operation Annual Report to the California DOC and to Land Use Services Department on a date established by the California DMR, using forms furnished by the State Mining and Geology Board. The County is required to conduct an inspection in intervals of no more than 12 months to determine if the operation is in compliance with the approved Conditions of Approval, Reclamation Plan, and SMARA statutes and regulations. The County is required to notify the California DMR upon completion of the inspection that the inspection has been conducted and provide a statement regarding the status of compliance of the operation within 90 days after completion of the inspection. The operator of the mining operation is responsible for filing an application with the County to request an inspection and shall be responsible for paying the County's costs in conducting the mine site inspection.

16. Applicant/Operator. Requirements extend to the property owner and any person, lessee, tenant or sub-tenant, operator, individual, firm, association, corporation, organization, limited liability company or partnership, or any city, county, district, or the state or any department or agency thereof for any disturbance or improvements to the mined lands. The applicant/operator may include an agent or other interested party, and any heir or successor in interest in the project land use by sale or by lease of all or of a portion of the mine site including land use within any or all of the mine structures or areas on the mine site.

Definitions

17. Minerals. Include any naturally occurring chemical element or compound, or groups of elements and compounds, formed from organic and inorganic processes. Clay, sand, gravel, rock, decomposed granite, salts, alumina, silica, alkali, topsoil or growth medium, organic humus and gems represent the aggregate of different minerals.
18. Aggregate Removal. The applicant shall not sell or otherwise move off the mine site any sand, gravel, or other produced minerals to a public agency unless the operator certifies, under penalty of perjury, that the mining operation is identified in the AB 3098 List published pursuant to PRC Section 2717(b).
19. Construction and Demolition (C&D). Materials left on site or produced in the process of site clearing activities, construction, renovation, or demolition of structures of all types to include roads and bridges shall be deemed as waste material. Waste materials include, but is not limited to concrete, asphalt, wood, metals, gypsum wallboard and brick. The Financial Assurance Cost Estimate shall include costs to remove C&D materials to an approved offsite facility that is permitted to receive such materials.
20. Exploration or Prospecting. Includes the activities in search for minerals by geological, geophysical, geochemical or other techniques, including, but not limited to, sampling, assaying, drilling, or any surface or underground works needed to determine the type, extent, or quantity of minerals present.
21. Project Design Features: Project Design Features (PDFs) are aspects of the proposed project that have been designed into the mining operations.
22. Mitigation Measures: Mitigation Measures (MMs) are environmental protection measures developed during the CEQA/NEPA process (in addition to the proposed PDFs) that have been determined necessary to further protect the environment.
23. Ownership. The person(s) involved in the ownership of the property include all persons having interest in the ownership of the surface and subsurface property, including mineral rights. If the applicant/operator is not the recorded owner(s) of the property, must submit a signed statement by the property and mineral rights owner(s) authorizing the applicant to act on their behalf.
24. Operator. The Operator includes the applicant and any person who is engaged in surface mining operations, and others contracted to conduct operations on his or her behalf, except a person who is engaged in surface mining operations as an employee with wages as his or her sole involvement and compensation.
25. Operations. Surface mining operations include all, or any part of, the process involved in the mining of minerals on mined lands, borrow pitting, segregation and stockpiling of mined materials (and recovery of same).
26. Mined Lands. Include the surface, subsurface, and groundwater of an area in which surface mining operations will be, are being, or have been conducted, including private ways and roads appurtenant to any such area, land excavations, workings, mining waste, and areas in which structures, facilities, equipment, machines, tools, or other materials or property which result from, or are used in, surface mining operations are located.

27. Parcel Map. The applicant/operator shall, prior to final inspection for reclamation and release of the financial assurance, record a parcel map for Assessor Parcel Numbers (APNs): 0262-201-11 THROUGH 14, 0262-211-02 THROUGH 06, 0262-221-03, 04, 05, 09, 10, 11, 12, 13, 17, 21, 23, 29, 30, AND 0262-231-01, 0262-241-13, 14, 16, AND 26 and any other parcel(s) where unconsolidated fill is part of the final reclamation. The parcel map shall indicate those areas backfilled with uncompacted material and designate said areas as unbuildable. At such time a California Building Code (CBC) compaction report has been approved by Building and Safety before that particular area can have the building restriction removed.
28. Produced Minerals. As defined in CCR Section 3501 includes all minerals sold, given or otherwise moved off the site of the operation, as defined in the approved reclamation plan. Recycled products (e.g. broken concrete, bricks, asphaltic concrete, etc.) or stockpiles of mineral products that remain on the site are not produced minerals for purposes of CCR Section 3695(b).
29. Transplanting. Transplanted or propagated plants will be maintained for a minimum of three years, or until a qualified biologist(s) determine that the plants have been successfully established (e.g., plants are vigorous, flower, and produce seed). Successful re-establishment of the plants will be based on the replanted areas achieving density and diversity standards based on control plots.
30. Project Account. As determined necessary on a case by case basis, the applicant/operator shall deposit funds with the County necessary to compensate staff time and expenses for review of compliance monitoring reports and site inspections. The project account number for this Reclamation Plan is PROJ-2019-00073. This is an actual cost project with a deposit account to which hourly charges are assessed by various county agency staff, including but not limited to: Land Use Services, Public Works, and County Counsel.

Upon notice, the applicant shall deposit additional funds to maintain or return the account to a positive balance. The applicant/operator is responsible for all expenses charged to this account.

LAND USE SERVICES DEPARTMENT – Building and Safety (909) 387-4421

31. Geology Report Required Before Grading. If construction of inhabited structures is proposed, a geology report shall be submitted to the Building and Safety Division for review and approval by the County Geologist and fees paid for the review prior to issuance of grading permits or land disturbance.
32. Geotechnical (Soil) Report Required Before Grading. If construction of inhabited structures is proposed, a geotechnical (soil) report shall be submitted to the Building and Safety Division for review and approval prior to issuance of grading permits or land disturbance.
33. Temporary Use Permit. A Temporary Use Permit (T.U.P.) for the office trailer will be required or it must be placed on a permanent foundation per State H.C.D. guidelines. A T.U.P. is only valid for a maximum of five (5) years.

COUNTY FIRE DEPARTMENT – Community Safety Division (760) 254-5474

34. Jurisdiction. The above referenced Project is under the jurisdiction of the San Bernardino County Fire Department herein ("Fire Department"). Prior to any construction occurring on any parcel, the developer shall contact the Fire Department for verification of current fire protection requirements. All new construction shall comply with the current Uniform Fire Code requirements and all applicable statutes, codes, ordinances and standards of the Fire Department

35. Access. The development shall have a minimum of 1 points of vehicular access. These are for fire/emergency equipment access and for evacuation routes.
- a) Single Story Road Access Width. All buildings shall have access provided by approved roads, alleys and private drives with a minimum twenty-six (26) foot unobstructed width and vertically to fourteen (14) feet six (6) inches in height. Other recognized standards may be more restrictive by requiring wider access provisions.
 - b) Multi-Story Road Access Width. Buildings three (3) stories in height or more shall have a minimum access of thirty (30) feet unobstructed width and vertically to fourteen (14) feet six (6) inches in height.
36. Access – 150+ feet. Roadways exceeding one hundred fifty (150) feet in length shall be approved by the Fire Department. These shall be extended to within one hundred fifty (150) feet of and shall give reasonable access to all portions of the exterior walls of the first story of any building.
37. Additional Requirements. In addition to the Fire requirements stated herein, other onsite and offsite improvements may be required which cannot be determined from tentative plans at this time and would have to be reviewed after more complete improvement plans and profiles have been submitted to this office.
- a) 1. If buildings are to be constructed at a later date plans shall be submitted to Fire.
- Combustible Vegetation. Combustible vegetation shall be evaluated in accordance with the approved Reclamation Plan and for removal as follows:
- a. Where the average slope of the site is less than 15% - Combustible vegetation shall be removed a minimum distance of thirty (30) feet from all structures or to the property line, whichever is less.
 - b. Where the average slope of the site is 15% or greater - Combustible vegetation shall be removed a minimum one hundred (100) feet from all structures or to the property line, whichever is less.
38. Fire Flow Test. Your submittal did not include a flow test report to establish whether the public water supply is capable of meeting your project fire flow demand. You will be required to produce a current flow test report from your water purveyor demonstrating that the fire flow demand is satisfied. This requirement shall be completed prior to combination inspection by Building and Safety.
39. Fire Hydrant Placement. Fire Hydrant Replacement. Replacement of substandard fire hydrant(s) is required along with the required fire flow. The applicant is required to provide a minimum of one new six (6) inch fire hydrant assembly with two (2) two and one half (2 1/2) inch and one four (4) inch outlet. In areas that are subject to freezing the fire hydrant shall be a Dry Barrel type and approved by the local water company. As operations proceed through the Project site, the operator will replace fire hydrants closer to Cajon Boulevard, outside of the mining area. Fire hydrants shall be installed in accordance to Fire Department standards.
- a) Hydrants to have a distance not to exceed 1000 ft. when there are no structures to protected, not to exceed 300 ft. to closest hydrant and buildings being protected. San Bernardino County Standard W-2 and Appendix C in the 2019 CFC.
40. Fire Safety Overlay. The County General Plan designates this property as being within the Fire Safety Review Area and all future construction shall adhere to all applicable standards and requirements of the overlay district.

41. Standard A-1 Fire Apparatus Access Road Design, Construction and Maintenance. This standard shall apply to the design, construction and maintenance of all new fire apparatus access roads within the jurisdiction, as well as fire apparatus access roads at existing facilities when applied at the discretion of the fire code official, as applicable.
42. Standard A-3 Gates and Other Obstructions to Fire Department Access. This standard shall apply to all obstructions, access control devices, traffic-calming devices, or other similar systems within any roadways that serve as fire access in all new or existing residential, commercial, and industrial development. This standard does not apply to obstructions within parking aisles that do not serve as fire apparatus access roads, as applicable.
43. Street Sign. This project is required to have an approved street sign (temporary or permanent). The street sign shall be installed on the nearest street corner to the project. Installation of the temporary sign shall be prior any combustible material being placed on the construction site. Prior to final inspection and occupancy of the first structure, the permanent street sign shall be installed.
44. Water System Certification. The applicant shall provide the Fire Department with a letter from the serving water company, certifying that the required water improvements have been made or that the existing fire hydrants and water system will meet distance and fire flow requirements. Fire flow water supply shall be in place prior to placing combustible materials on the job site.

MINING OPERATIONS

LAND USE SERVICES DEPARTMENT – Planning Division (909) 387-8311

General

45. Operations. Extraction and processing operations shall proceed in accordance with the Area Q Quarry Reclamation Plan. Mineral extraction and stockpiling will adhere to the mining operations outlined in the Area Q Quarry Mining Plan of Operations.
46. Best Management Practices (BMP's). The operator shall implement BMP's procedures. BMP provisions shall include, but not limited to, the following:
 - Good Housing Keeping – Dust minimization, waste spills, discharges.
 - Preventive Maintenance – Minimize spills, and on-site leaks, prompt maintenance.
 - Spill and Leak Preventive Response – In place spill procedures and controls.
 - Material Handling and Waste Mgmt. – Waste covering, storm water diversion practices, waste clean ups.
 - Implement Erosion and Sediment Controls – Sediment and Erosion Stabilization.
 - Employee Training Program- BMP Training.
 - Exposure Minimization – Storm resistant shelters to prevent contact of storm water with mining materials, as feasible.
 - Storm Water Containment & Discharge Reduction – BMP's that divert, reuse, contain or reduce volume of storm water runoff.
47. Employee Training. Develop an Employee Training Awareness Plan that addresses training requirements, as necessary to comply with relevant regulations and approval conditions and mitigations identified in the Final EIR/EIS.

48. Additional Environmental Control Measures. In addition to the BMPs, MMs, and PDFs stated herein, the Operator shall implement the environmental control measures identified below in the specific resource sections of these COAs.
49. Trackout and Spills. The mine operator shall take actions sufficient to prevent project-related trackout onto paved surfaces and while operating on publicly maintained paved surfaces. The mine operator shall immediately clean-up project-related trackout or spills on publicly maintained paved surfaces.
50. Chemical Spills/Leakage. All chemical spills or leakage of petroleum products during mining or reclamation activities shall be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. Contaminated wastes shall be collected and disposed of at an appropriately licensed disposal or treatment facility.

In the event of any soil contamination on-site, the applicant/operator shall remove any soils that become chemically contaminated to a County-approved disposal site so as to preclude any chemical leaching into the local ground water supply over time.

Air Quality

51. Air Quality – General. Comply with all relevant SCAQMD regulations and permit conditions to minimize air emissions.
52. Dust Control Plan. Prepare and implement a Dust Control Plan pursuant to SBCC Chapter 88.02 and Section 88.02.040 and the South Coast Air Quality Management District (SCAQMD) Rule 403.2(C)(3)(a). The Plan shall, at minimum, include the following aspects:
 - a) Every day of active mining, the operator shall apply water to unpaved roads and disturbed mine areas that are in active use on that day no less than once every 1.25 hours at a rate of no less than 0.11 gallons per square yard. Alternatively, the operator shall apply chemical dust suppressants to unpaved roads and disturbed mine areas in active use at a frequency and application rate in accordance with manufacturer specifications.
 - b) Mining activities will be limited or stopped during significant wind events per SCAQMD Rule 403.2(C)(2)(f).
 - c) Stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than thirty days per SCAQMD Rule 403.2(C)(2)(d).
53. Equipment Emission Reduction and Idling. Maintain and operate construction equipment so as to minimize exhaust emissions. During mining, trucks and vehicles in loading and unloading shall have their engines turned off when not in use, to reduce vehicle emissions.
54. Exhaust Control Measures. Comply with all existing and future EPA (Clean Air Non-road Diesel Rule-May 2004), CARB and SCAQMD regulations related to diesel-fueled trucks and equipment, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.

Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures (SBCC, Section 83.01.040 (c)) including but not limited to:

- a) Equipment/vehicles shall not be left idling for period in excess of five minutes;
- b) Engines shall be maintained in good working order to reduce emissions;
- c) Onsite electrical power connections shall be made available where feasible;

- d) Ultra-low-sulfur diesel fuel shall be utilized;
- e) Electric and gasoline powered equipment shall substitute for diesel powered equipment where feasible; and
- f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.

Hazardous and Hazardous Materials; Geology Slope Stability

- 55. Hazardous Materials Business Plan / Emergency/Contingency Plan. The operator shall establish a Business Emergency/Contingency Plan to establish protocol in the event of release or threatened release of hazardous materials and wastes. Contact Office of the Fire Marshall, Hazardous Materials Division at (909) 386-8401.
- 56. Hazardous Materials Handling. The operator shall be required to apply for one or more of the following permits: Hazardous Materials Permit, a Hazardous Waste Permit, and/or an Aboveground Storage Tank Permit, as appropriate.
- 57. Compliance. Comply with the Hazardous Materials Business Plan, SWPPP, SPCC Plan and BMPs as required and applicable by these plans and hazardous materials and waste regulatory requirements.
- 58. Management of Hazardous Materials. Ensure that the use, transport, management, storage and disposal of fuels (i.e. diesel and gasoline) and other hazardous materials used for mining operations (i.e. motor oil, transmission fluids, hydraulic fluids, lubricating greases, brake fluids and/or antifreeze) are in accordance with federal, state and local hazardous materials and waste management regulations and BMPs.
- 59. Above Ground Storage Tank. Inspect and maintain any above ground fuel storage tank to ensure that the secondary containment (i.e. double wall tank) and spill prevention controls and countermeasures are present and/or operating as required.
- 60. Hazardous Materials Business Plan. Maintain an updated Hazardous Materials Business Plan and hazardous materials inventory per CUPA requirements as applicable.
- 61. Emergency Response Equipment. Maintain all emergency and spill response equipment in proper operating condition and have available at areas where hazardous materials and waste are used, transported and/or stored.
- 62. Hazardous Material/Waste Training. Ensure all personnel are appropriately trained in hazardous materials and waste management, including spill prevention and response procedures.
- 63. Slope Design. Implement quarry and overburden slope designs and procedures recommendations identified in approved slope stability investigations and per SMARA requirements.
- 64. Slope Monitoring. Slope inspections and monitoring shall be implemented to assure that unnecessary hazards are not created with the active or final reclaimed slopes. A qualified independent California Certified Professional Civil Engineer and/or Engineering Geologist shall complete a stability assessment of existing and new quarry development areas when deemed necessary by the County inspector. The analysis shall identify and discuss significant structural features or indications of potential instability encountered.

Biological Resources

65. Mitigation Measure BIO-1: If determined necessary, consult with CDFW prior to the removal of any raptor nest on the Project site, if found.
66. Mitigation Measure BIO-2: If ground disturbance and vegetation removal cannot occur outside of the nesting season, a preconstruction clearance survey for nesting birds should be conducted within thirty (30) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction.

The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the preconstruction clearance survey, construction activities should stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer is expanded to 500-feet. It is recommended that a biological monitor be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, normal construction activities can occur.

Cultural Resources

67. Archaeological Resources. The developer/property owner shall submit a letter to the County Land Use Services Department- Planning Division (County) agreeing to adhere to the following requirements:
In the event archaeological resources are uncovered during earthmoving activities, all work in that immediate area shall cease immediately and the County shall be notified. A qualified archeologist shall be retained to access the findings, and if, necessary, provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have been evaluated, recorded, excavated, and/or recovered as necessary. Earthmoving shall be allowed to proceed on the site when the archaeologist, in consultation with the appropriate Native American Tribe(s), the County, the SBNF, and the qualified archaeologist determines the resources are recovered to their satisfaction.
68. Paleontological Resources. The developer/property owner shall submit a letter to County Land Use Services Department- Planning Division (County) agreeing to adhere to the following requirements:
In the event paleontological resources are uncovered during earthmoving activities, all work in that immediate area shall cease immediately and the County shall be notified. A qualified paleontologist shall be retained to access the findings, and, if necessary, provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have been evaluated, recorded, excavated, and/or recovered as necessary. In consultation with the Project proponent, the County, and the SBNF, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation in the find a local qualified repository, and preparation of a report summarizing the find.
69. Mitigation Measure CUL-1: Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a cultural resources professional that meets the U.S. Secretary of the Interior Professional

Qualification Standards for Archaeology (a qualified archaeologist) should be retained to assess the significance of the find. The qualified archaeologist would have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing in the California Register of Historical Resources or the National Register of Historic Places, plans for the treatment, evaluation, and mitigation of impacts to the find would be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include:

- a) Historic artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- b) Historic structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- c) Prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- d) Groundstone artifacts, including mortars, pestles, and grinding slabs;
- e) Dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks.

70. Mitigation Measure CUL-2: If human remains are encountered during Project operations, per State Health and Safety Code Section 7050.5, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

Geological Resources

71. Mitigation Measure GEO-1: Should there be areas along slopes where alluvial materials are loose, and/or there is evidence of dislodgement, the operator will install a soil catchment berm at least 10-feet from the toe of the slope in those areas, as needed, to prevent falling coarse materials from rolling out into the quarry bottom.
72. Mitigation Measure GEO-2: Approximately every 12 to 18 months during active mining, a California Certified Engineering Geologist (CEG) will observe exposed cut faces of the mining operation in Area Q for evidence of the Fault, and if warranted assess the potential for surface rupture and/or slope failure.
73. Mitigation Measure GEO-3: Site workers will be trained and instructed to stop working in the immediate area upon discovery of a vertebrate fossil. A County of San Bernardino Qualified Paleontologist will be contacted to examine the vertebrate remains and recommend and implement appropriate measures to curate the fossil materials, if warranted.

Noise

74. Noise Level: Should results of a noise study indicate that operations would not comply with the County noise ordinance; the Planning Director may require modification of such operations.
75. Noise Operations: Noise levels shall be maintained at or below County Standards, SBCC Section 83.01.080.

76. Mitigation Measure NO-1: Topsoil/subsoil removal and berm construction activities shall only occur between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday as defined by Section 83.01.080(g)(3)-Exempt Noise of the San Bernardino County Code of Ordinances.

Tribal Resources

77. Mitigation Measure TCR-1: Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried historical or TCR deposits. Consistent with CEQA Guidelines Section 15064.5(f), in the event that field personnel encounter buried TCR materials, work in the immediate vicinity of the find should cease and a tribal consultant and/or a qualified archaeologist that meets the U.S. Secretary of the Interior Professional Qualification Standards for Archaeology will be retained to assess the significance of the find and notify the appropriate Tribes. The qualified archaeologist will have the authority to stop or divert construction excavation as necessary.
78. Mitigation Measure TCR-2: Upon discovery of human remains, the operation will immediately divert work at minimum of 150-feet and place an exclusion zone around the discovery location. The operator shall notify the County coroner pursuant to Public Resources Code (PRC) §5097.98 and State Health and Safety Code §7050.5. Work will continue to be diverted while the coroner determines whether the remains are human and subsequently Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) as mandated by state law who will then appoint a Most Likely Descendent (MLD).
79. Mitigation Measure TCR-3: If the Gabrieleño Band of Mission Indians – Kizh Nation is designated MLD, the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term “human remains” encompasses more than human bones. In ancient as well as historic times, Tribal traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects. If the San Manuel Band of Mission Indians is designated MLD in accordance with the legal process noted in Mitigation Measure CUL-2 presented in Section 3.4 – Cultural Resources, the MLD will work with the Coroner, NAHC, landowner, and Lead Agency regarding culturally appropriate practices and recommended next steps.
80. Mitigation Measure TCR-4: Prior to the continuation of ground disturbing activities, the landowner shall confer with the MLD tribe for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The MLD tribe will make every effort to recommend diverting the Project and keep the remains in situ and protected, and the landowner/applicant shall make every effort to comply with these recommendations. If the Project cannot be diverted, it may be determined that burials will be removed. The MLD tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the MLD tribe, documentation shall be taken that

includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall only occur once approved by the MLD tribe for data recovery purposes. Cremations will either be removed in bulk or by any means necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the MLD tribe and the NAHC. The tribes do not authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.

Each occurrence of human remains and associated funerary objects that requires data recovery will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects, and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within 6 months of recovery. The landowner shall confer with the MLD tribe regarding the site of reburial/repatriation to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

81. Mitigation Measure TCR-5: Upon discovery of any tribal cultural or archaeological resources, construction activities shall cease within the immediate vicinity of the find (60-foot buffer) until the find can be assessed. All tribal cultural and archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist, by a member of the Gabrieleño Band of Mission Indians – Kizh Nation, and a member of the San Manuel Band of Mission Indians Cultural Resources Department. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians – Kizh Nation and San Manuel Band of Mission Indians shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the tribe will request preservation in place or reburial onsite, though will recommend data recovery for educational purposes if other options are exhausted. Work may continue on other parts of the Project while evaluation and, if necessary, additional protective mitigation takes place (CEQA Guidelines Section 15064.5(f)). If a resource is determined by the qualified archaeologist to constitute a “historical resource” or “unique archaeological resource”, time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available.
82. Mitigation Measure TCR-6: For unique archaeological resources, preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. All analysis proposals will be reviewed and approved by the consulting Tribes. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials within the County, if such an institution agrees to accept the material. If no institution accepts the archaeological material that is not Native American in origin, they shall be offered to the Gabrieleño Band of Mission Indians – Kizh Nation or a local school or historical society in the area for educational purposes.
83. Mitigation Measure TCR-7: Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC and PRC 5097.98 shall be followed. More details on this process can be found in Mitigation Measure CUL-2 (see Section 3.4 – Cultural Resources).

84. Mitigation Measure TCR-8: Archaeological and Native American consultants management of TCRs during the Project excavations will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. The Archaeologist must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in southern California. The qualified archaeologist shall ensure that all other personnel associated with TCRs are appropriately trained and qualified.

Aesthetics (Scenery)

85. On-Site Lighting. The area of illumination from any on-site lighting shall comply with SBCC Section 83.07.040 Glare and Outdoor Lighting. Light pollution shall be minimized and confined within the site boundaries to limit impacts to surrounding properties. The glare from any luminous source, including on-site lighting shall not exceed one-half (0.5) foot-candle at property line. On-site lighting shall be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light shall project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting shall be limited to that necessary for maintenance activities, security and safety purposes. All signs proposed by this project shall only be lit by steady, stationary, shielded light directed at the sign.
86. Site Maintenance. The applicant/operator shall maintain the premises in a neat and orderly manner at all times. All refuse generated at the premises shall at all times be stored in approved containers and shall be placed in a manner so that visual or other impacts and environmental public health nuisances are minimized. All refuse not containing garbage shall be removed from the premises at least one time per week, or as often as necessary to minimize public health nuisances. Refuse containing garbage shall be removed from the premises at least two times per week, or as often as necessary to minimize public health nuisances, by a permitted hauler to an approved solid waste facility. For information, call DEHS/LEA at (800) 442-2283.

Reclamation and Revegetation

87. Reclamation Plan. Surface mining operations shall adhere to the Mining and Reclamation Plan. Any changes from the Reclamation Plan's provisions shall not be undertaken until review by the Land Use Services Department.
88. Reclamation Time Schedule. Reclamation shall be initiated at the earliest possible time on those portions of the disturbed lands that will not be subject to further disturbance by the surface mining operation.
89. Reclamation and Revegetation. Reclamation and revegetation of the site shall proceed in accordance with the Area Q Quarry Reclamation Plan 2020M-01.
90. Plant Seeds. The operator shall provide for the collection of seed and other propagules as needed in support of the revegetation plan. Propagules shall be collected within the Project Area to the extent possible.
91. Barriers/Signage. Safety barriers and signage per MSHA requirements shall be maintained around the mined slopes.

92. Growth Medium Stockpiles. The operator shall stockpile topsoil and vegetation from areas to be disturbed. Stockpiled topsoil shall be identified with clearly labeled signs stating “Topsoil – Do Not Disturb” and stored separately from overburden material stockpiles and protected to preserve as much of the organic material and seeds as practicable. Locations for these topsoil stockpiles are to be identified in the Mining Plan.

Stockpiles shall be maintained with temporary erosion control methods and shall be stabilized through establishment of temporary vegetative cover or other acceptable means of surface treatment for prolonged storage periods. At the time of reclamation, areas being reclaimed shall have the stockpiled growth medium and vegetation spread over them. Revegetation shall be supplemented by broadcast seeding with native and locally adapted seed and planting of established seedlings and/or shrubs in accordance to the approved Reclamation Plan.

93. Seed Types and Amounts. A seed mix is designed for the Project site to promote a plant community similar to that found in undisturbed areas. The seed mix will serve as a guideline for the revegetation plant community. Seed types and amounts will conform to the site's Revegetation Plan. The seed mixes will be applied based on the seed mix plan cited in the Revegetation Plan.
94. Re-vegetation Annual Monitoring. The project biologist will document the progress of the revegetation effort at the mine site and submit Annual Maintenance and Monitoring reports to the County of San Bernardino as necessary.
95. Revegetation Attainment. Revegetation will be deemed successful by the County when all success criteria in the Reclamation Plan have been achieved.. If these criteria have not been achieved, maintenance seeding and monitoring will continue annually until success criteria has been met.
96. Financial Assurances - Revegetation. Revegetation can be tenuous at best and, therefore, the applicant shall provide in the Financial Assurance Cost Estimate, the costs to monitor and report on revegetation, incidental disturbance and erosion control for a time period of five (5) years following the termination date of operation unless the County deems the success criteria has been achieved.

Land Use Services Department – Land Development Division – (909) 387-8311

97. Legal Access. Prior to land disturbance, proof of legal access to the nearest maintained public road is required for all applications. As proof of legal access, the “developer” shall submit one of the following: (a) existing dedication; (b) copy of the court decree establishing prescriptive rights that is acceptable to the Land Development Division; (c) dedications/easements by separate instrument from all property owners intervening between the proposed land division and a Publicly Maintained Road System.
98. Physical Access. Prior to land disturbance, physical access shall be required to all newly developed/improved parcels. Physical access is defined as a route, which is traversable in a standard (two-wheel drive) sedan. The Developer's Engineer or Surveyor shall submit a signed and sealed letter, to Land Development Division certifying that physical access has been completed.
99. Flood Control District Review. Prior to grading, any encroachment to the Flood Control District right-of-way will require a proof of applying for an encroachment permit from Flood Control District and shall be submitted to Land Development Division. Contact Flood Control District, Permit Section for permit information, (909) 387-7995

100. Legal Access. Prior to grading, proof of legal access to the nearest maintained public road is required for all applications. As proof of legal access, the “developer” shall submit one of the following: (a) existing dedication; (b) copy of the court decree establishing prescriptive rights that is acceptable to the Land Development Division; (c) dedications/easements by separate instrument from all property owners intervening between the proposed land division and a Publicly Maintained Road System.
101. Physical Access. Prior to grading, physical access shall be required to all newly developed/improved parcels. Physical access is defined as a route which is traversable in a standard (two-wheel drive) sedan. The Developer’s Engineer or Surveyor shall submit a signed and sealed letter, to Land Development Division certifying that physical access has been completed.
102. Flood Control District Approval. Prior to occupancy, submit an official letter issued by the Flood Control District indicates that all items under the issued encroachment permit have been satisfied and the permit has been closed.

DEPARTMENT OF PUBLIC WORKS – Surveyor’s Office (909) 387-7910

103. If any activity on this project will disturb any land survey monumentation, including but not limited to vertical control points (benchmarks), said monumentation shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer authorized to practice land surveying prior to commencement of any activity with the potential to disturb said monumentation, and a corner record or record of survey of the references shall be filed with the County Surveyor pursuant to Section 8771(b) Business and Professions Code.
104. Pursuant to Sections 8762(b) and/or 8773 of the Business and Professions Code, a Record of Survey or Corner Record shall be filed under any of the following circumstances:
 - a. Monuments set to mark property lines or corners;
 - b. Performance of a field survey to establish property boundary lines for the purposes of construction staking, establishing setback lines, writing legal descriptions, or for boundary establishment/mapping of the subject parcel;
 - c. Any other applicable circumstances pursuant to the Business and Professions Code that would necessitate filing of a Record of Survey.

PUBLIC HEALTH – Environmental Health Services (DEHS) (800) 442-2283

105. Refuse Storage and Disposal. All refuse generated at the premises shall at all times be stored in approved containers and shall be placed in a manner so that environmental public health nuisances are minimized. All refuse not containing garbage shall be removed from the premises at least 1 time per week, or as often as necessary to minimize public health nuisances. Refuse containing garbage shall be removed from the premises at least 2 times per week, or as often if necessary to minimize public health nuisances, by a permitted hauler to an approved solid waste facility in conformance with San Bernardino County Code Chapter 8, Section 33.0830 et. seq. For information, please call EHS/LEA at: 1-800-442-2283.
106. Septic System Maintenance. The septic system shall be maintained so as not to create a public nuisance and shall be serviced by a EHS permitted pumper. For information, please call EHS/Wastewater Section at: 1-800-442-2283.
107. Sewage Disposal. Method of sewage disposal shall be EHS approved onsite wastewater treatment system (OWTS).

108. Water Purveyor. Water purveyor shall be City of San Bernardino MWD or EHS approved.
109. Preliminary Acoustical Information. Submit preliminary acoustical information demonstrating that the proposed project maintains noise levels at or below San Bernardino County Noise Standard(s), San Bernardino Development Code Section 83.01.080. The purpose is to evaluate potential future on-site and/or adjacent off-site noise sources. If the preliminary information cannot demonstrate compliance to noise standards, a project specific acoustical analysis shall be required. Submit information/analysis to the DEHS for review and approval. For information and acoustical checklist, contact DEHS at 1-800-442-2283.
110. Vector Control Requirement. The project area has a high probability of containing vectors. EHS Vector Control Section will determine the need for vector survey and any required control programs. A vector clearance letter shall be submitted to EHS/Land Use. For information, contact Vector Control at (800) 442-2283.

**PRIOR TO FINAL CLOSURE
The Following Conditions Shall Be Met**

LAND USE SERVICES – Planning Division (909) 387-8311

111. Equipment. At the time of termination of the operation for any reason, all equipment, structures and refuse associated with the operation shall be removed from the site, all hazards mitigated, and reclamation initiated as per the approved Reclamation Plan 2020M-01.
112. Wells. When applicable and upon final reclamation, evidence shall be provided that all wells, exploration holes or test holes, as defined by DWR Bulletin 74-81 as revised in 1988 or the latest revision are destroyed in accordance with DEHS regulations and in such a manner that will no longer be a hazard to the health and safety of people and wildlife.
113. Access Roads. All access roads on site, which will not be retained for post-operation uses, shall be reclaimed at the conclusion of ground-disturbing activities.
114. Site Re-Contour. The applicant/operator shall re-contour the site at the conclusion of operations (slopes, stockpiles, roads, etc.) consistent with the reclamation plan.
115. Reclamation Verification. As portions of the site are reclaimed, they shall be identified on a map. The final map shall be provided to County Planning Division for review and approval.
116. Reclamation Completion. Following reclamation verification and release of Financial Assurances pursuant to CCR Section 3805.5, Planning will prepare a “Notice of Reclamation Plan Completion” on a form to be approved by the County Recorder’s Office. The operator shall pay any and all review and recording fees.

CONCLUSION OF CONDITIONS

EXHIBIT C

Draft and Final EIR and Technical Studies
(Quarry Q) posted at:

<http://cms.sbcounty.gov/lus/Planning/Environmental/Valley.aspx>

EXHIBIT D

Mitigation Monitoring and Reporting Plan

4.0 MITIGATION MONITORING AND REPORTING PLAN

CEQA Section 21081.6 requires adoption of a Mitigation Monitoring and Reporting Plan (MMRP) for those measures or conditions placed on the Project to mitigate or avoid adverse effects on the environment. The law states that the MMRP shall be designed to ensure compliance during Project implementation. When implemented, environmental effects associated with the Project will be reduced or eliminated.

The MMRP has been prepared as a matrix containing the following elements:

- Measures that would mitigate significant impacts on the environment are recorded with the action and the procedure necessary to ensure compliance.
- A procedure of compliance and verification is outlined for each measure. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.
- The MMRP is designed to provide focused, yet flexible guidelines. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the MMRP.

The MMRP will be in place through all phases of the Project. The County planner, assigned to the Project by the County Planning Director, shall coordinate enforcement of the MMRP and oversee it to ensure that proper action is taken on each mitigation measure.

The Project planners or responsible County departments have the authority to stop the work of the operator if compliance with aspects of the MMRP are not occurring after written notification has been issued.

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Table 4-1 Mitigation Monitoring and Condition Compliance Program

Environmental Impact	Mitigation Measures	Compliance/Monitoring Procedure	Responsible Department
BIOLOGICAL RESOURCES			
Impact BIO-1: Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<p>Mitigation Measure BIO-1: If determined necessary, consult with the California Department of Fish and Wildlife (CDFW) prior to the removal of any raptor nest on the Project site, if found.</p> <p>Mitigation Measure BIO-2: If ground disturbance and vegetation removal cannot occur outside of the nesting season, a preconstruction clearance survey for nesting birds should be conducted within thirty (30) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction.</p> <p>The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the preconstruction clearance survey, construction activities should stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer is expanded to 500-feet. It is recommended that a biological monitor be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, normal construction activities can occur.</p>	<p>BIO-1: Per Project Design Feature (PDF) No. 28, Vulcan shall conduct wildlife/plant awareness training programs for employees (including new employee orientation and annual refresher trainings). The program shall also address sightings of occupied raptor nests on or near the facility and how to properly report to the County and CDFW. CDFW shall provide assistance in developing the training program, if needed.</p> <p>If Vulcan employees discover a potential raptors nest on or near the facility, a qualified biologist shall conduct pre-construction surveys for nesting raptors and oversee avoidance of active nests during mining activities.</p> <p>If nests are found within identified ranges, the CDFW shall be contacted. The qualified biologist, in consultation with the CDFW, shall determine the appropriate course of action under applicable State law.</p> <p>BIO-2: Qualified biologist will conduct pre-construction surveys for nesting migratory birds and raptors during the nesting bird season (generally from early February through August) and oversee avoidance of active nests during construction and ground disturbance activities. Nesting bird surveys shall be conducted within thirty (30) days of the start of any vegetation removal or ground disturbing activities.</p> <p>If nests are found within identified ranges, the CDFW shall be contacted. The qualified biologist, in consultation with the CDFW, shall determine the appropriate course of action under applicable State law.</p>	<p>San Bernardino County, Land Use Services Department, Planning Division</p> <p>California Department of Fish and Wildlife</p>
CULTURAL RESOURCES			

Environmental Impact	Mitigation Measures	Compliance/Monitoring Procedure	Responsible Department
Impact CUL-1: Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	Mitigation Measure CUL-1: Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried prehistoric or historic cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a cultural resources professional that meets the U.S. Secretary of the Interior Professional Qualification Standards for Archaeology (a qualified archaeologist) should be retained to assess the significance of the find. The qualified archaeologist would have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing in the California Register of Historical Resources or the National Register of Historic Places, plans for the treatment, evaluation, and mitigation of impacts to the find would be developed. Prehistoric or historic cultural materials that may be encountered during ground-disturbing activities include: <ul style="list-style-type: none">• historic artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;• historic structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;• prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;• groundstone artifacts, including mortars, pestles, and grinding slabs;• dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks.	CUL-1: Per Project Design Feature (PDF) No. 28, Vulcan shall conduct cultural resource awareness training programs for employees (including new employee orientation and annual refresher trainings). If needed, a qualified archeologist shall provide assistance in developing the training program. In the event field personnel encounter potential buried cultural materials, operations will immediately divert work at a minimum of 150-feet and place an exclusion zone around the discovery location. A qualified archaeologist will be retained to assess the significance and provide direction. If such finds are found the San Bernardino County Land Use Services Department shall be notified.	San Bernardino County, Land Use Services Department, Planning Division
Impact CUL-2: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Mitigation Measure CUL-1	See Above	See Above

Environmental Impact	Mitigation Measures	Compliance/Monitoring Procedure	Responsible Department
Impact CUL-3: Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	Mitigation Measure CUL-2: If human remains are encountered during Project operations, per State Health and Safety Code Section 7050.5, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.	CUL-2: Per Project Design Feature (PDF) No. 28, Vulcan shall conduct cultural resource awareness training programs for employees (including new employee orientation and annual refresher trainings). If potential human remains are encountered during Project operations, operations will immediately divert work at a minimum of 150-feet and place an exclusion zone around the discovery location. The San Bernardino County Coroner shall be contacted immediately in order to assess the remains and to determine the correct action. If the coroner has reason to believe that the remains are of Native American origin, he or she will contact the NAHC by telephone within 24 hours. If Native American remains are discovered, an agreement shall be executed between the operator/landowner and NAHC regarding treatment of burial items and unanticipated human remains.	San Bernardino County, Land Use Services Department, Planning Division San Bernardino County Coroner Native American Heritage Commission (NAHC)
GEOLOGY AND SOILS			

Environmental Impact	Mitigation Measures	Compliance/Monitoring Procedure	Responsible Department
<p>Impact GEO-1: Would the Project expose people or structures to potential substantial adverse effects, involving the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none">I. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map issued by the State Geologist for the area or based on other substantial evidence of known fault;II. Strong seismic ground shaking;III. Seismic-related ground failure, including liquefaction; orIV. Landslides?	<p>Mitigation Measure GEO-1: Should there be areas along slopes where alluvial materials are loose, and/or there is evidence of dislodgement, the operator will install a soil catchment berm at least 10-feet from the toe of the slope in those areas, as needed, to prevent falling coarse materials from rolling out into the quarry bottom.</p> <p>Mitigation Measure GEO-2: Approximately every 12 to 18 months during active mining, a California Certified Engineering Geologist (CEG) will observe exposed cut faces of the mining operation in Area Q for evidence of the Fault, and if warranted assess the potential for surface rupture and/or slope failure.</p>	<p>GEO-1: In the event there is evidence of dislodgement, Vulcan shall install a soil catchment berm at least 10-feet from the bottom of slopes in areas where there is evidence of loose alluvial materials or clast dislodgement.</p> <p>GEO-2: Approximately every 12 to 18 months during active mining, a California Certified Engineering Geologist (CEG) will be retained by Vulcan to observe exposed cut faces of the mining operation in Area Q for evidence of the Fault, and, if warranted, assess the potential for surface rupture and/or slope failure</p> <p>Reports of seismic events and subsequent geotechnical evaluations, if any were warranted, shall be part of the annual monitoring report prepared and submitted to the County, and/or California Department of Conservation. In addition, documentation demonstrating compliance with the identified seismic slope stability requirements shall be maintained onsite and provided to the County upon request.</p>	<p>San Bernardino County, Land Use Services Department, Planning Division</p>
<p>Impact GEO-4: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>	<p>Mitigation Measure GEO-3: Site workers will be trained and instructed to stop working in the immediate area upon discovery of a vertebrate fossil. A County of San Bernardino Qualified Paleontologist will be contacted to examine the vertebrate remains and recommend and implement appropriate measures to curate the fossil materials, if warranted.</p>	<p>GEO-3: Per Project Design Feature (PDF) No. 28, Vulcan shall conduct paleontological resource awareness training programs for employees (including new employee orientation and annual refresher trainings). If needed, a qualified archaeologist/paleontologist shall provide assistance in developing the training program.</p> <p>In the event field personnel encounter potential buried paleontological materials, earthmoving activities shall cease in the immediate area of the find and a qualified archaeologist/paleontologist will be retained to assess the significance and provide direction.</p> <p>If such finds are found the San Bernardino County Land Use Services Department shall be notified.</p>	<p>San Bernardino County, Land Use Services Department, Planning Division</p>

Environmental Impact	Mitigation Measures	Compliance/Monitoring Procedure	Responsible Department
NOISE AND VIBRATION			
Impact NO-1: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Mitigation Measure NO-1: Topsoil/subsoil removal and berm construction activities shall only occur between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday as defined by Section 83.01.080(g)(3)-Exempt Noise of the San Bernardino County Code of Ordinances.	NO-1: Prior to commencement of normal operations, Vulcan shall install the approximately 10-foot high berm along the southern boundary of the Project site. Berm construction shall occur between the hours of 7:00 a.m. and 7:00 p.m. except Sundays and Federal holidays in accordance with Section 83.01.080(g)(3) of the San Bernardino County Development Standards. Compliance with this mitigation will be verified through annual County Mine Inspections.	San Bernardino County, Land Use Services Department, Planning Division
TRIBAL CULTURAL RESOURCES			

<p>Impact TCR-1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically 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:</p> <p>I. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?</p> <p>II. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?</p>	<p>Mitigation Measure TCR-1: Prior to the initiation of ground-disturbing activities, field personnel should be alerted to the possibility of buried historical or TCR deposits. Consistent with CEQA Guidelines Section 15064.5(f), in the event that field personnel encounter buried TCR materials, work in the immediate vicinity of the find should cease and a tribal consultant and/or a qualified archaeologist that meets the U.S. Secretary of the Interior Professional Qualification Standards for Archaeology will be retained to assess the significance of the find and notify the appropriate Tribes. The qualified archaeologist will have the authority to stop or divert construction excavation as necessary.</p> <p>Mitigation Measure TCR-2: Upon discovery of human remains, the operation will immediately divert work at minimum of 150-feet and place an exclusion zone around the discovery location. The operator shall notify the County coroner pursuant to Public Resources Code (PRC) §5097.98 and State Health and Safety Code §7050.5. Work will continue to be diverted while the coroner determines whether the remains are human and subsequently Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) as mandated by state law who will then appoint a Most Likely Descendent (MLD).</p> <p>Mitigation Measure TCR-3: If the Gabrieleño Band of Mission Indians – Kizh Nation is designated MLD, the Koo-nas-gna Burial Policy shall be implemented. To the Tribe, the term “human remains” encompasses more than human bones. In ancient as well as historic times, Tribal traditions included, but were not limited to, the preparation of the soil for burial, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. The prepared soil and cremation soils are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.</p> <p>If the San Manuel Band of Mission Indians is designated MLD in accordance with the legal process noted in Mitigation Measure CUL-2 presented in Section 3.4 – Cultural Resources, the MLD will work with the Coroner, NAHC, landowner, and Lead Agency regarding culturally appropriate practices and recommended next steps.</p> <p>Mitigation Measure TCR-4: Prior to the continuation of ground disturbing activities, the land owner shall confer with the MLD tribe for the respectful reburial of the human remains and/or</p>	<p>TCR-1: Per Project Design Feature (PDF) No. 28, Vulcan shall conduct tribal cultural resource awareness training programs for employees (including new employee orientation and annual refresher trainings).</p> <p>In the event field personnel encounter potential buried tribal cultural materials, earthmoving activities shall cease in the immediate area of the find and a qualified archaeologist will be retained to assess the significance and provide direction.</p> <p>If the qualified archaeologist has reason to believe that the remains are of Native American origin, he or she will contact the NAHC by telephone within 24 hours. The San Bernardino County Land Use Services Department shall also be notified.</p> <p>TCR-2: See Mitigation Measure CUL-2 above. If potential human remains are encountered during Project operations, earthmoving activities shall cease in the immediate area of the find. The San Bernardino County Coroner shall be contacted immediately in order to assess the remains and to determine the correct action.</p> <p>If the coroner has reason to believe that the remains are of Native American origin, he or she will contact the NAHC by telephone within 24 hours.</p> <p>If Native American remains are discovered, an agreement shall be executed between the operator/landowner and NAHC regarding treatment of burial items and unanticipated human remains.</p> <p>TCR-3 through TCR-8: See TCR-1 and TCR2 above.</p>	<p>San Bernardino County, Land Use Services Department, Planning Division</p> <p>San Bernardino County Coroner</p> <p>Native American Heritage Commission (NAHC)</p>
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	<p>ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The MLD tribe will make every effort to recommend diverting the Project and keep the remains in situ and protected, and the landowner/applicant shall make every effort to comply with these recommendations. If the Project cannot be diverted, it may be determined that burials will be removed. The MLD tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically, and respectfully. If data recovery is approved by the MLD tribe, documentation shall be taken that includes, at a minimum, detailed descriptive notes and sketches. Additional types of documentation shall only occur once approved by the MLD tribe for data recovery purposes. Cremations will either be removed in bulk or by any means necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the MLD tribe and the NAHC. The tribes do not authorize any scientific study or the utilization of any invasive and/or destructive diagnostics on human remains.</p> <p>Each occurrence of human remains and associated funerary objects that requires data recovery will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects, and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within 6 months of recovery. The landowner shall confer with the MLD tribe regarding the site of reburial/repatriation to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.</p> <p>Mitigation Measure TCR-5: Upon discovery of any tribal cultural or archaeological resources, construction activities shall cease within the immediate vicinity of the find (60-foot buffer) until the find can be assessed. All tribal cultural and archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist, by a member of the Gabrieleño Band of Mission Indians – Kizh Nation, and a member of the San Manuel Band of Mission Indians Cultural Resources Department. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians – Kizh Nation and San Manuel Band of Mission Indians shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the tribe will request preservation in place or reburial onsite, though will recommend data recovery for educational purposes if other options are exhausted. Work may continue on other parts of the Project while evaluation and, if necessary, additional protective mitigation takes place (CEQA Guidelines Section15064.5(f)). If a resource is determined by the</p>		
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Environmental Impact	Mitigation Measures	Compliance/Monitoring Procedure	Responsible Department
	<p>qualified archaeologist to constitute a “historical resource” or “unique archaeological resource”, time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available.</p> <p>Mitigation Measure TCR-6: For unique archaeological resources, preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. All analysis proposals will be reviewed and approved by the consulting Tribes. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials within the County, if such an institution agrees to accept the material. If no institution accepts the archaeological material that is not Native American in origin, they shall be offered to the Gabrieleño Band of Mission Indians – Kizh Nation or a local school or historical society in the area for educational purposes.</p> <p>Mitigation Measure TCR-7: Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the NAHC and PRC 5097.98 shall be followed. More details on this process can be found in Mitigation Measure CUL-2 (see Section 3.4 – Cultural Resources).</p> <p>Mitigation Measure TCR-8: Archaeological and Native American consultant’s management of TCRs during the Project excavations will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. The Archaeologist must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in southern California. The qualified archaeologist shall ensure that all other personnel associated with TCRs are appropriately trained and qualified.</p>		

EXHIBIT E

Water Supply Assessment

http://www.sbcounty.gov/uploads/LUS/Environmental/QUARRY_Q/Appendix%20H3%20-%20Vulcan%20Area%20Q_Water%20Supply%20Assessment_2020.pdf

EXHIBIT F

Reclamation Plan

RECLAMATION PLAN

AREA Q QUARRY

Vulcan Materials Company – Western Division
San Bernardino County, California

CA Mine ID No. – TBD

November 2019

Prepared for:	County of San Bernardino Land Use Services Department 385 N. Arrowhead Avenue San Bernardino, California 92415-0187 (909) 387-8311
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RECLAMATION PLAN

AREA Q QUARRY

Vulcan Materials Company – Western Division
San Bernardino County, California

CA Mine ID No. – TBD

November 2019

This Reclamation Plan was prepared by the undersigned on behalf and under the direction of the Vulcan Materials Company – Western Division.

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RECLAMATION PLAN

Vulcan Materials Company – Area Q Quarry
San Bernardino County, California
CA Mine ID No. – TBD

November 2019

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RECLAMATION PLAN

**Vulcan Materials Company – Area Q Quarry
San Bernardino County, California
CA Mine ID No. – TBD**

November 2019

1.0 INTRODUCTION

Vulcan Materials Company – Western Division (“Vulcan”) owns and operates the Cajon Creek Quarry (consisting of Areas L, M, and N), located adjacent to the northwest side of the City of San Bernardino (“City”). The Cajon Creek Quarry is currently providing high-quality aggregate (sand and gravel) to Vulcan’s San Bernardino processing facility located 2.5 miles to the south. Upon completion of mining at the Cajon Creek Quarry, specifically within the mine area referred to as Area L, Vulcan is proposing to relocate the mining operation to an adjacent 196.0-acre site, referred to as the “Area Q Quarry” or “Area Q.” In preparation for transferring the mining operation to the adjacent site, Vulcan submitted an application to the County of San Bernardino (“County”) for a Conditional Use Permit (CUP) permit and a General Plan Land Use Zoning Designation change to conduct aggregate material extraction and ancillary activities. Extraction of sand and gravel at the Area Q Quarry will occur over a 182.1-acre area. Additionally, as required by the State Surface Mining and Reclamation Act (SMARA) and the County mining ordinance(s), this Reclamation Plan was prepared and submitted to the County as part of the CUP application package. Please see Figure 4 which shows the Area Q boundary.

The Area Q site, as well as Vulcan’s other operating mines in the area, lies within the Cajon Wash Mineral Resource Zone (MRZ), which is included in the 1987 SMARA Designation Report No. 5 (DR-5) and designated as Sector C-5. The Cajon Wash area is classified as MRZ-2, and is designated as having construction grade aggregate deposits of regional significance. The mineral resource classification and designation of the Cajon Wash area is incorporated into the Conservation Element of the County’s General Plan.

This Reclamation Plan was prepared in compliance with the following:

- SMARA, as amended (Public Resources Code Section 2710 et seq.);
- California Code of Regulations (Title 14, Division 2, Chapter 8, Subchapter 1, Section 3500 et seq.);
- San Bernardino County Development Code (Division 8, Chapter 88.03);
- San Bernardino County General Plan; and
- San Bernardino County Mining and Reclamation Plan Conditional Use Permit – Information Sheet and Application.

1.1 Site Location

The Area Q Quarry is located in unincorporated San Bernardino County, east of Cajon Creek and north of the community of Muscoy. The site is located in a non-sectioned portion of Township 1 North, Range 5 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) San Bernardino North, California (1980) 7.5-minute topographic quadrangle. The approximate site coordinates are at latitude 34.17° N and longitude 117.36° W.

Surrounding land uses near the Area Q Quarry include Vulcan’s adjacent Cajon Creek Quarry and auxiliary facilities located to the north, as well as developed residential neighborhoods located to the southeast, across the Devil Creek Diversion Channel. The Devil Creek Diversion Channel runs down the southern boundary of the site, and the residential community of Muscoy is located directly south of this diversion channel. The site’s western boundary is bordered by the Southern Pacific Railroad (SPRR) track, which lies between the site and the Lytle Creek/Cajon Creek drainage located to the west. The site is protected from surface flows in Cajon Creek through a series of groins (levees), including Muscoy Groin #3, which is located west of the site’s western boundary (see Figure 8). Industrial developments are located east of the site, across Cajon Boulevard. Please see Figures 1 through 4 which show general site location.

The existing site is generally undeveloped and degraded, but has been subject to a variety of human-related disturbances. Disturbances include the presence of approximately fifteen (15) homes in poor condition and unauthorized dumped miscellaneous debris throughout the site. Figure 5 shows an aerial of the existing Area Q site and the surrounding Vulcan Cajon Creek Quarry operations to the north. The proposed end use of the reclaimed Area Q Quarry is open space, and has been designed to complement the reclamation currently approved for the existing Vulcan Cajon Creek mining operations to the north. Please see Figures 1 and 2 which show the regional and vicinity locations of the site, and Figures 3 and 4 which depict the property and permitting boundaries of the Area Q Quarry. Table 1 below summarizes general land use information for the Area Q Quarry.

Table 1: Site Information

General Plan & Zoning Designation(s)	Existing: Muscoy/Single Residential – 1-acre Minimum (MS/RS-1) Proposed: Community Industrial (IC)
Site Size	Area Q Quarry Area: Approximately 196.0 acres Mining Area: Approximately 182.1 acres (mining activity area) Reclamation Area: 187.6 acres (includes the setbacks and berm areas)
Current Use & Development	Rural Residences, Unauthorized Miscellaneous Dumping, Dirt Roadways, Disturbed Open Space
Adjacent Land Use Designations	North: Industrial Extractive (IE) ¹ South: Muscoy/Single Residential – 1-acre Minimum (MS/RS-1) East: Industrial Heavy (IH) West: Industrial Extractive (IE) ¹ / SPRR / Cajon Creek & Lytle Creek

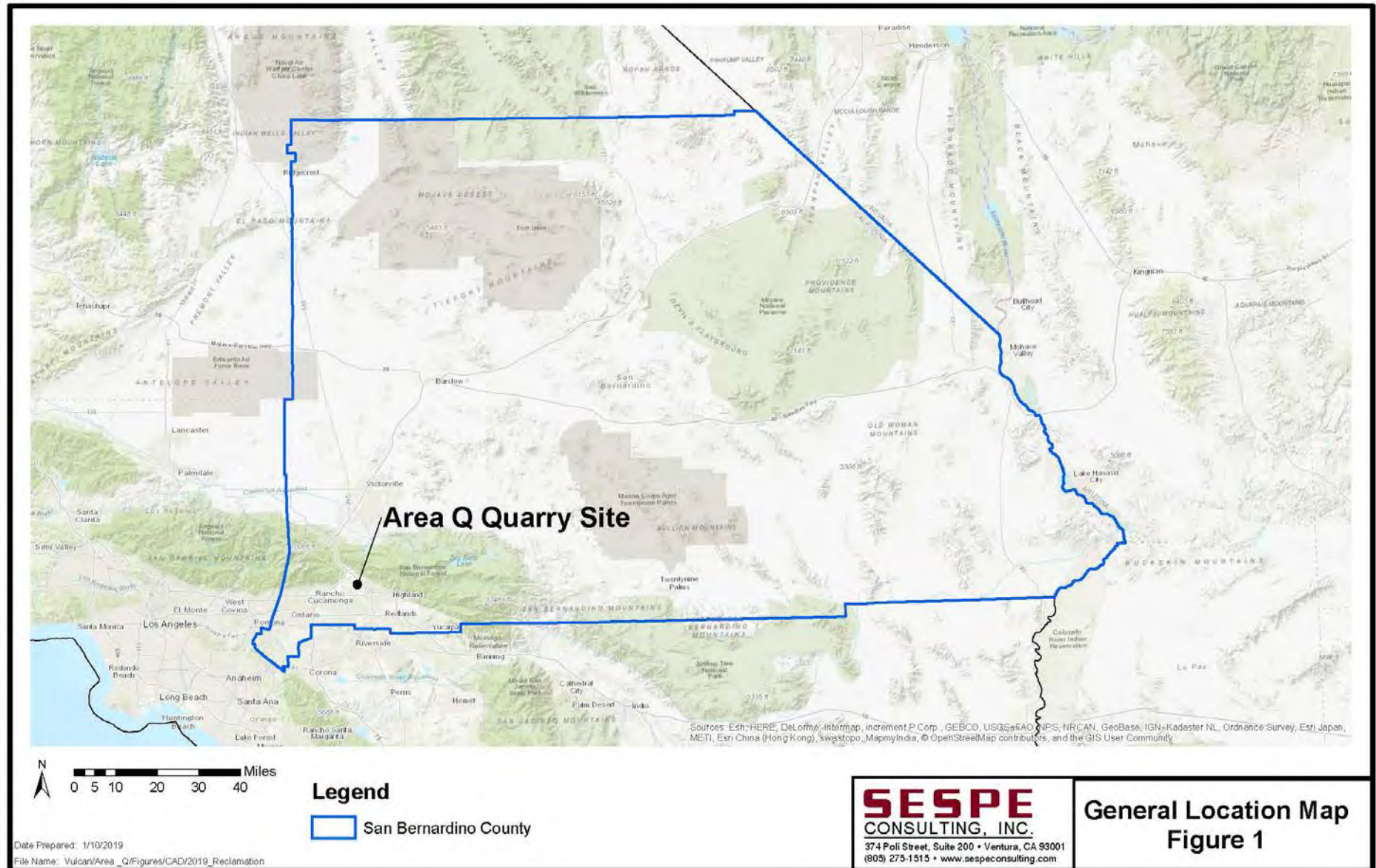
Access	Vehicular access to the mine site would come from the existing entrance which connects to Cajon Boulevard at the northeast corner of the site. This point would serve as the single ingress and egress point for employees and other work vehicles, which includes small work trucks as well as employee and visitor passenger vehicles. No on-road haul trucks would enter or leave the site onto public roads, as material will be conveyed to the existing Cajon Creek Quarry (Area L) to the north. See Figure 5 for the Area Q Quarry site plan.
Public Services / Utilities	<ul style="list-style-type: none"> – The adjacent Cajon Creek Quarry is an existing operation with established utility and public service providers. No major changes to the current system are proposed. – Water will continue to be provided by existing private water well located within the adjacent Cajon Creek Quarry (i.e. Area M) to the northwest. Water will be used onsite primarily for fugitive dust control. – The site will operate with portable sanitation facilities, as is presently the case for the Cajon Creek Quarry (i.e. Area L) to the north. – Electrical service required for the conveyor system or other equipment requiring electricity would be obtained from the existing connection at the Cajon Creek Quarry, provided by Southern California Edison (SCE). No additional power lines will be necessary. – No natural gas or propane will be utilized at the site. – No fixed landline telephone service is required. Employees will continue to utilize cellular phones around the site. – Trash will be collected onsite and disposed of by Burrtec Waste Industries.

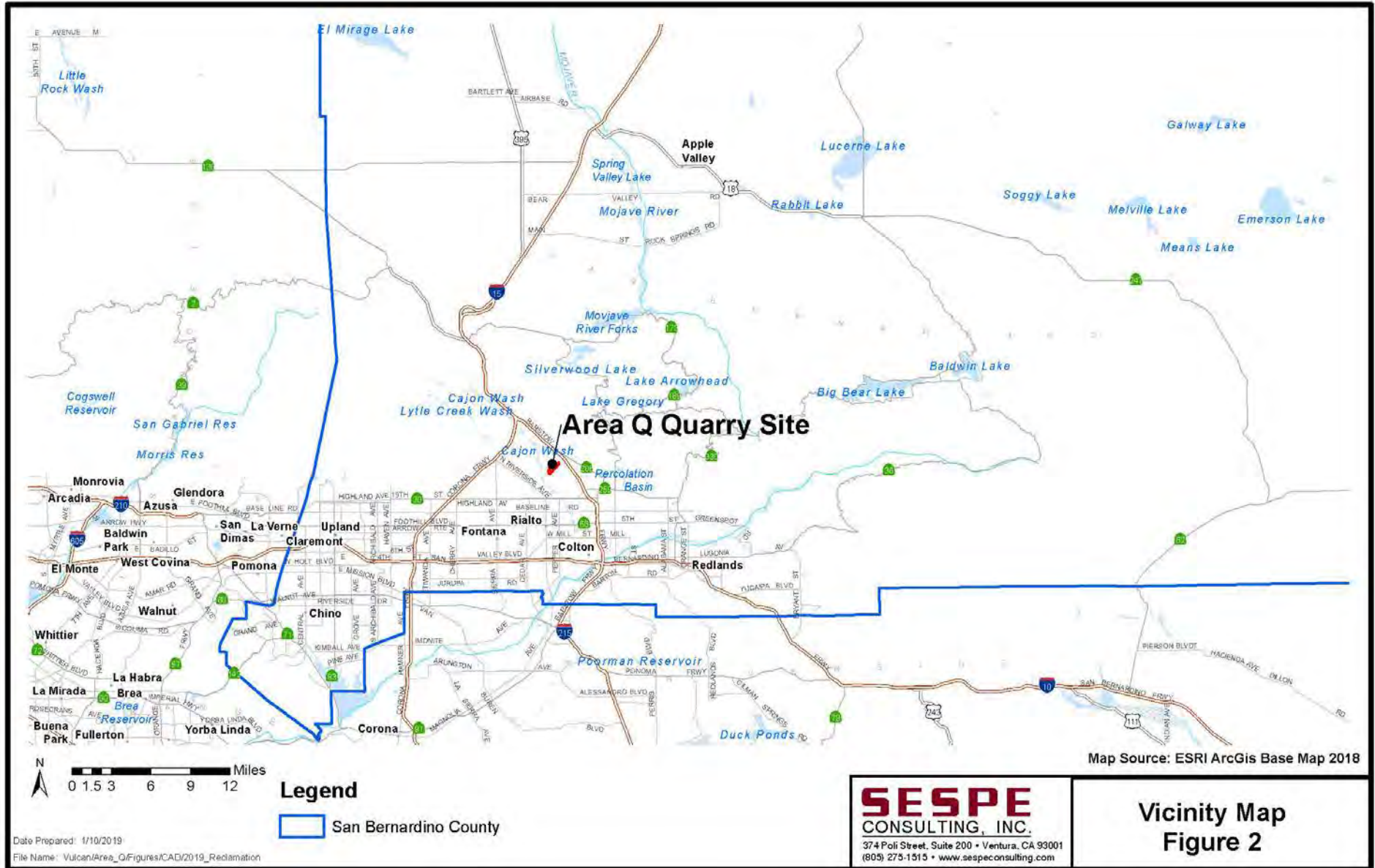
1 – Vulcan’s existing Cajon Creek Quarry adjacent to the north and a portion to the west, and is within the City of San Bernardino.

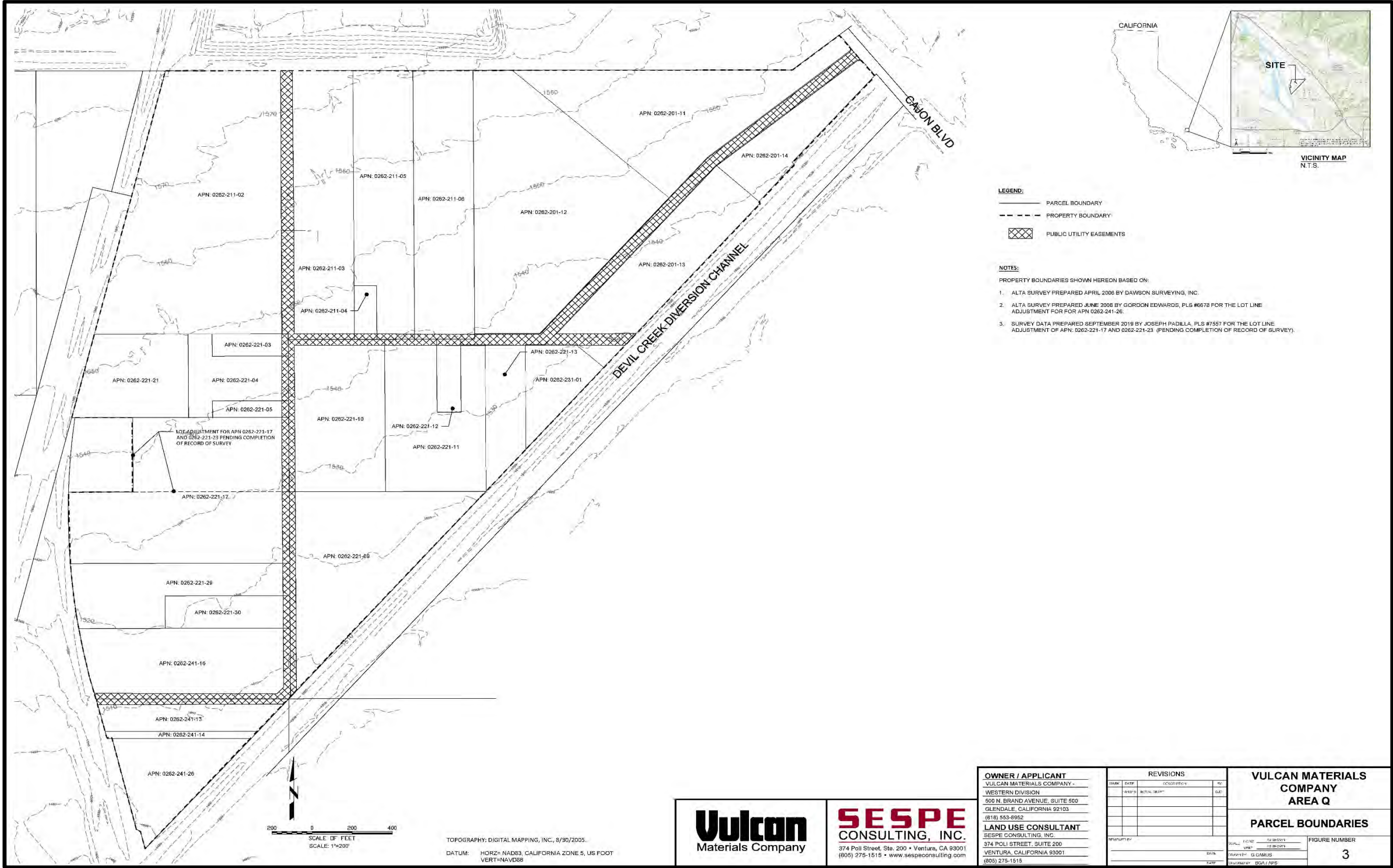
1.2 Background & Permit History

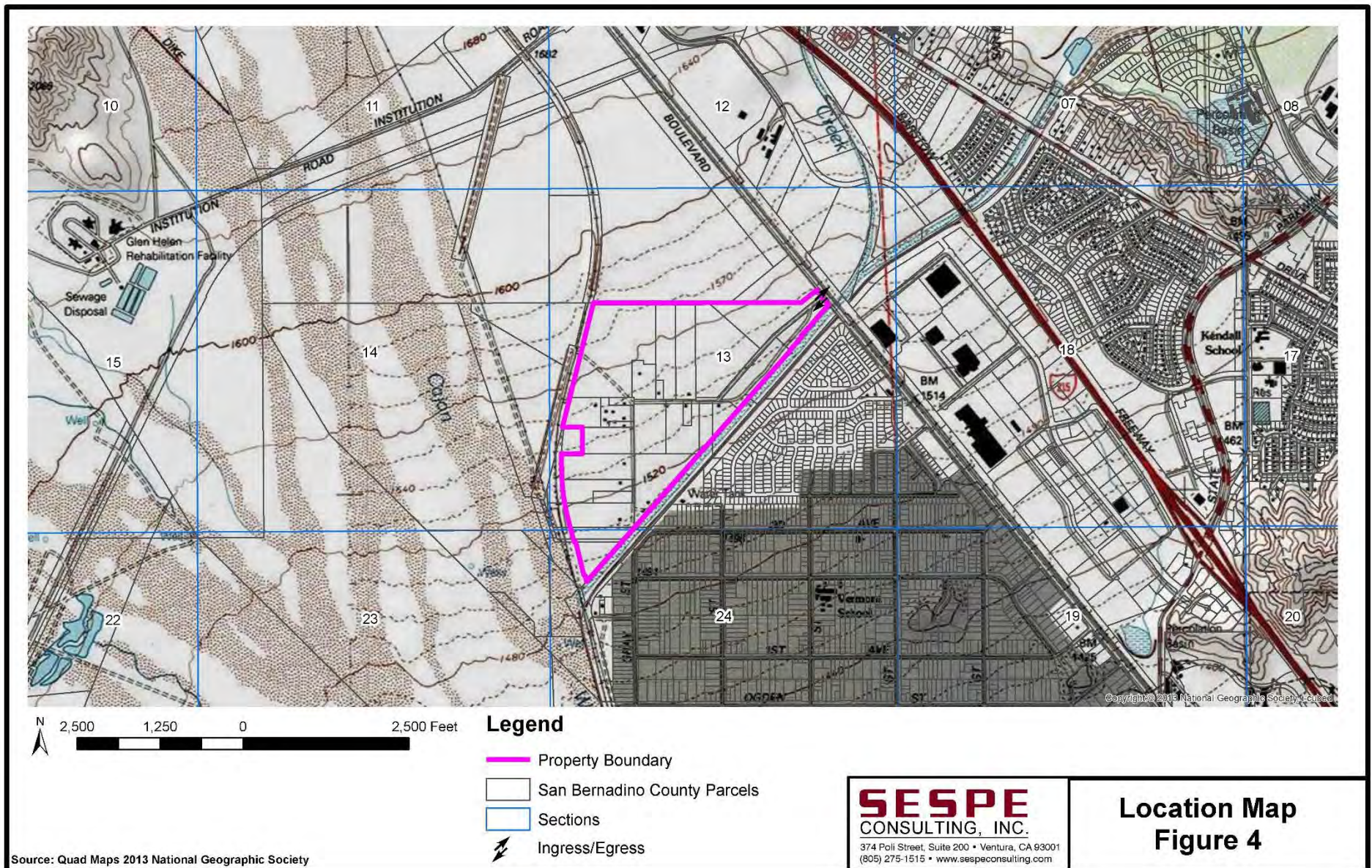
Vulcan currently operates the Cajon Creek Quarry adjacent to the north of the proposed Area Q Quarry. Although Area Q is within the County’s jurisdiction, Vulcan’s Cajon Creek Quarry is located within the City and operates under City CUP No. 91-31/Specific Plan No. 90-01 and associated Reclamation Plan (CA Mine ID No. 91-36-0137), both approved by the City in 1993. Operations at Cajon Creek Quarry have been ongoing since 1995. Please see Figures 3 and 4, which show the extent of Vulcan’s holdings for the Area Q Quarry.

Upon completion of mining within the Cajon Creek Quarry, specifically Area L, Vulcan is proposing to relocate the mining operation to the adjacent Area Q Quarry. In preparation for mining the Area Q Quarry, Vulcan has submitted an application to the County for a new CUP and this Surface Mining and Reclamation Plan, to conduct aggregate material extraction and ancillary activities within the 196.0-acre Area Q Quarry, including post-mining reclamation. Additionally, Vulcan is requesting Area Q be rezoned from RS-1 (Single Residential) to IC (Community Industrial) to allow the proposed mining and reclamation operations.









1.3 Summary of Mining & Reclamation Activities

Operations in Area Q will not involve any changes to Vulcan's existing mining or processing operations, other than installation of a new or modified conveyor and changing the location of material extraction from Area L to Area Q. There are no proposed changes to the existing mining methods, extraction rates or material processing rates. Aggregate extracted from Area Q will be transferred via a conveyor system to the existing conveyance infrastructure in place at Area L. Material would then be processed and shipped from Vulcan's existing and/or permitted locations. No on-road haul trucks would enter or leave the site onto public roads. Blasting will not be required to conduct the mining operations. Please see Figure 6 which shows the layout of the proposed Area Q Quarry and conveyor system. Also see Figure 12, which shows cross-sections of both the mine and reclamation sites.

The mining operations will be typical of surface aggregate mining operations, and mining would involve the use of mobile equipment to excavate and load material onto a conveyor, that terminates at Area L to the north. The materials would then be transported to other Vulcan permitted facilities for processing. It is expected that approximately 40,000,000 tons of sand and gravel (i.e. aggregate) would be extracted over approximately 30-years, depending on market demand and once mining in Area L is complete. The mine would provide a high-quality source of local aggregate materials to serve the regional market.

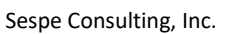
Mining in Area Q would be initiated once mining in Area L is complete, which is estimated to occur in 2023. The mining would be conducted in one (1) mining phase, with reclamation occurring concurrently, as feasible, as mining activities progress through the site. Prior to initiating mining, the existing debris and structures currently present at the site would be demolished and removed in accordance with local, state, and federal regulations. Topsoil and subsoil from Area Q will be used to construct a minimum 10-foot tall landscaped earthen berm along the entire southern site boundary adjacent to the residential neighborhoods in Muscoy. Topsoil and subsoil stored within the berm will be used as revegetation cover during reclamation. The vegetated berm has been designed to provide visual and noise screening between mining operations and public viewpoints to the south. Overburden will be handled and conveyed to the other Vulcan facilities in the same manner as the mined sand and gravel.

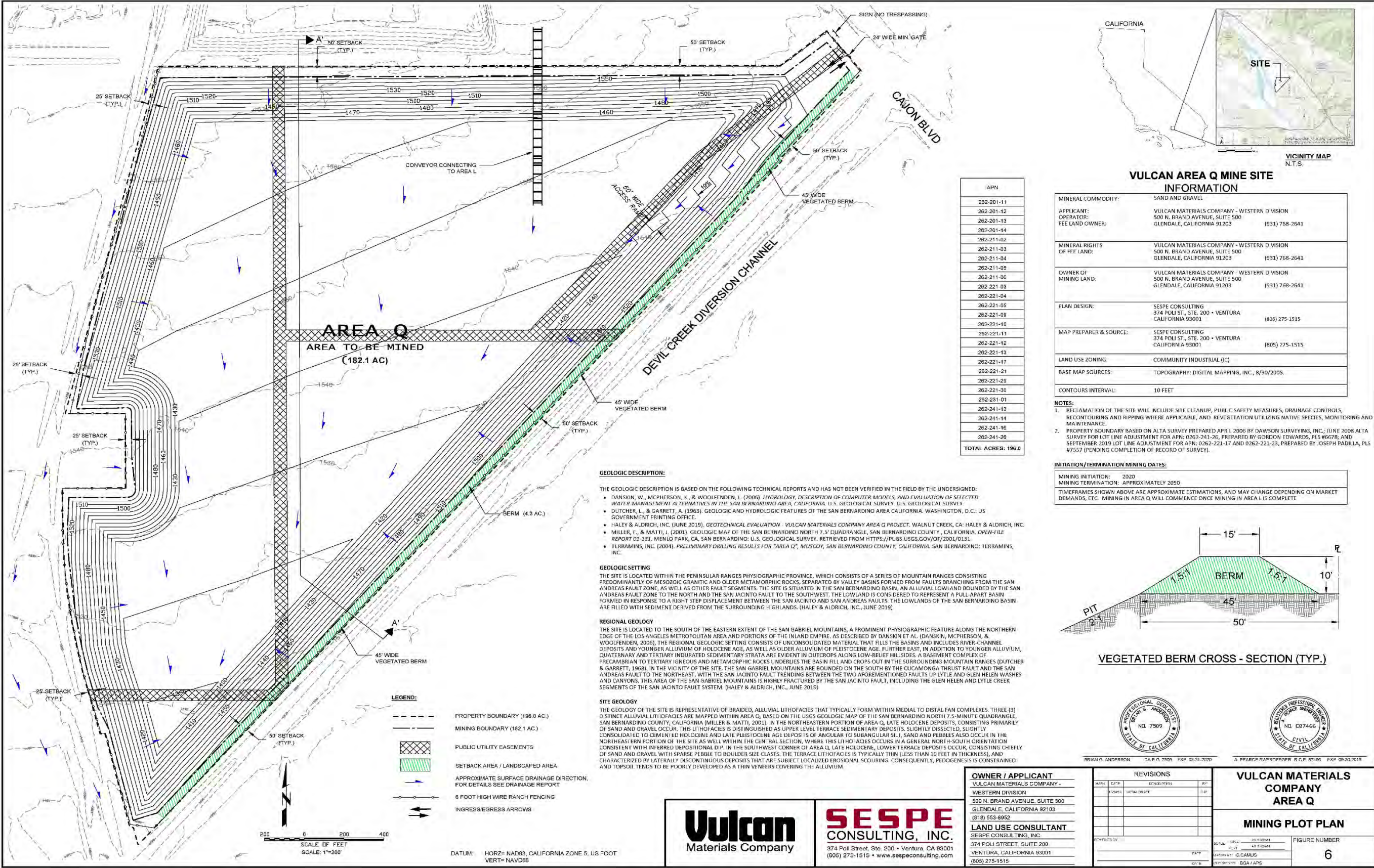
Once site preparation is completed (approximately 3 months), mining at the site would commence in the northeast corner of the site, reaching a final depth of 120-feet below ground surface (bgs). Groundwater is expected to occur at depths below 200-feet bgs. Therefore, mining activities would take place above groundwater and dewatering of the excavation would not be required.

The major components of the proposed Area Q mining operation include the following (see Figure 6):

- Open-pit surface mine;
- Temporary stockpiles of excavated materials;
- Ancillary mining equipment;
- Various site improvements for access, safety, and other requirements; and
- Reclamation to open space.

Once mining operations are complete, the Area Q Quarry would be reclaimed back to open space, consistent with the approved end use for the Cajon Creek Quarry. Figure 11 shows the reclaimed site.





2.0 GENERAL OWNERSHIP / OPERATION INFORMATION

2.1 Mine Operator & Property Owner Information

MINE NAME: Area Q Quarry

CA MINE ID NUMBER: TBD

LOCATION OF MINE: The site has no physical address per the San Bernardino County Office of Assessor, though it is located just north of the intersection of Gray Street and 5th Avenue in Muscoy, San Bernardino County, CA 92407.

ASSESSOR PARCEL NUMBERS (APN): The Area Q Quarry lies on portions of multiple APNs shown in Table 2 below.

Table 2: APN's & Acreages

Parcel Number	Property Owner	Zoning Designation
0262-201-11-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-201-12-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-201-13-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-201-14-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-211-02-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-211-03-0000	Calmat Co. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-211-04-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-211-05-0000	Calmat Co. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-211-06-0000	Arundel Company, LLC P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)

Parcel Number	Property Owner	Zoning Designation
0262-221-03-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-04-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-05-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-09-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-10-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-11-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-12-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-13-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-17-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-21-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-23-0000	Calmat Co. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-29-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-221-30-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-231-01-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-241-13-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)

Parcel Number	Property Owner	Zoning Designation
0262-241-14-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-241-16-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
0262-241-26-0000	Vulcan Lands, Inc. P.O. Box 385014 Birmingham, Alabama 35242	Muscoy/Single Residential – 1 Acre Minimum (Single Residential)
Total Acres:	196.0	

COUNTY USE PERMIT: Mining & Reclamation Plan CUP No. TBD

MINE OPERATOR: Vulcan Materials Company – Western Division

TELEPHONE NUMBER: (951) 768-2641

MAILING ADDRESS: 500 N. Brand Avenue, Suite 500
Glendale, CA 91203

OWNERS OF POSSESSORY INTEREST: Vulcan Lands, Inc.
Calmat Co.
Arundel, LLC

LEGAL DESCRIPTION: Portions of Sections 12, 14, 23 and 24, Township 1 North, Range 5 West, San Bernardino Base and Meridian

2.2 Lead Agency Information

LEAD AGENCY: County of San Bernardino

STAFF CONTACT: George Kenline, P.E., C.E.G., C.H.G.
Senior Mining/Engineering Geologist

TELEPHONE NUMBER: (909) 387-8311

MAILING ADDRESS: 385 N. Arrowhead Avenue
San Bernardino, CA 92415-0187

2.3 General Mining Operation Information

START-UP DATE: Estimated 2023 (or once operations in Area L complete)

MINERAL RESOURCE ZONE (MRZ): Mineral Resource Zone 2 (MRZ-2)

Table 3: Mining Operation Information

Component	Proposed Plan
Mineral Commodity	Sand and Gravel
Estimated Total Production of Area Q Quarry (tons)	40 million tons
Estimated Average Annual Production (tons/year) ¹	1.3 to 3.1 million tons/year
Area Q Quarry Area in Acres (including setbacks)	196.0 acres
Number of Acres of Mining Area	182.1 acres
Anticipated Depth of Mining (feet bgs)	120-feet bgs
Anticipated Depth of Pit at Reclamation (feet bgs)	120-feet bgs
Total Life of Mine ¹	30 years (approximate)
Estimated Mining Initiation Date	2023 (approximate)
Estimated Mining Termination Date	2053 (approximate)
Estimated Reclamation Completion Date	2055 (approximate)
Estimated Monitoring Completion Date	2058 (approximate)

“bgs” = below ground surface

1 – Depends on market demand. Based on historical extraction rate(s) at Cajon Creek Quarry.

3.0 ENVIRONMENTAL SETTING, CCR §3502 (B)(1)

The Area Q Quarry covers 196.0 acres located within the County of San Bernardino, southwest of Cajon Boulevard. Although the site is located within the County’s jurisdiction, the City is adjacent to portions of the site to the west, north and east (see Figures 2 and 3). Access to the mine site for employee vehicles will come via the existing entrance which connects to Cajon Boulevard at the northeast corner of the site. No on-road haul trucks would enter or exit the site onto public roads, as material will be conveyed to the existing Cajon Creek Quarry, specifically Area L, to the north. Please see Figure 5 which shows an aerial of the existing site, Figure 6 which shows the layout of the Area Q Quarry, and Figure 12 which shows the cross-sections.

3.1 Geologic Setting

The Area Q Quarry is located within the Peninsular Ranges Physiographic Province, which consists of a series of mountain ranges consisting predominantly of Mesozoic granitic and older metamorphic rocks, separated by valley basins formed from faults branching from the San Andreas Fault zone, as well as other fault segments. The site is situated in the San Bernardino Basin, an alluvial lowland bounded by the San Andreas Fault zone to the north and the San Jacinto Fault to the southwest. The lowland is considered to represent a pull-apart basin formed in response to a right step displacement between the San Jacinto and San Andreas Faults (Haley & Aldrich, Inc., October 2019). The lowlands of the San Bernardino Basin are filled with sediment derived from the surrounding highlands. The sections that follow describe more fully the regional geologic framework. Also see the Geotechnical Evaluation completed by Haley and Aldrich in Appendix A for more detail (Haley & Aldrich, Inc., October 2019).

3.1.1 Regional Geology

The site is located to the south of the eastern extent of the San Gabriel Mountains, a prominent physiographic feature along the northern edge of the Los Angeles metropolitan area and portions of the Inland Empire. A generalized regional geologic map of the San Bernardino area that includes the site is provided as Figure 7. As described by Danskin et al. (Danskin, McPherson, & Woolfenden, 2006), the regional geologic setting consists of unconsolidated material that fills the basins and includes river-channel deposits and younger alluvium of Holocene age, as well as older alluvium of Pleistocene age. Further east, in addition to younger alluvium, Quaternary and Tertiary indurated sedimentary strata are evident in outcrops along low-relief hillsides. A basement complex of Precambrian to Tertiary igneous and metamorphic rocks underlies the basin fill and crops out in the surrounding mountain ranges (Dutcher & Garrett, 1963). In the vicinity of the site, the San Gabriel Mountains are bounded on the south by the Cucamonga Thrust Fault and the San Andreas Fault to the northeast, with the San Jacinto Fault trending between the two aforementioned faults up Lytle and Glen Helen washes and canyons. This area of the San Gabriel Mountains is highly fractured by the San Jacinto Fault, including the Glen Helen and Lytle Creek segments of the San Jacinto Fault system.

Regionally, the area encompassing the Area Q Quarry is considered seismically active. There are numerous active faults in addition to those discussed above. According to a Geotechnical Evaluation prepared by Haley and Aldrich (Haley & Aldrich, Inc., October 2019), many of faults in the region have been designated as being in Alquist-Priolo (AP) Special Studies Zones (Earthquake Fault Zones as known today), as these faults exhibit evidence of surface rupture in the last 11,700 years (Holocene Epoch) or are “sufficiently active and/or well-defined”.

Rocks types occurring along the eastern extent of the San Gabriel Mountains and San Bernardino Mountains include igneous and metamorphic rocks. The metamorphic rocks include schist, gneiss, granulite, as well as marble. Quartz monzonite and quartz diorite rock types intrude into large areas of the metamorphic complexes. Many areas of the igneous plutonic rock are foliated with cataclastic textures. Tertiary conglomerates, sandstones and mudstones unconformably lie on top of, or at fault contact with, the metamorphic and igneous rock masses. Collectively, these rock types are considered the source provenance for the basin alluvium.

The alluvial geomorphic features expressed in the basin consist principally of alluvial fans and braided stream channels. According to the study prepared by Danskin et al. (Danskin, McPherson, & Woolfenden, 2006), the alluvial fans are mid- to late Pleistocene age, and exhibit well-developed incisions, or are younger with less pronounced incisions.

3.1.2 Site Geology

The geology of Area Q is representative of braided, alluvial lithofacies that typically form within medial to distal fan complexes. As such, three (3) distinct alluvial lithofacies are mapped within Area Q, based on the USGS Geologic Map of the San Bernardino North 7.5-Minute Quadrangle, San Bernardino County, California (Miller & Matti, 2001). In the northeastern portion of Area Q, late Holocene deposits, consisting primarily of sand and gravel occur. This lithofacies is distinguished as upper level terrace sedimentary deposits. Slightly dissected, slightly consolidated to cemented Holocene and late Pleistocene age deposits of angular to subangular silt, sand and pebbles also occur in the northeastern portion of the site as well within the central section, where this lithofacies occurs in a general north-south orientation consistent with inferred depositional dip. In the southwest corner of Area Q, late Holocene, lower terrace deposits occur, consisting chiefly of sand and gravel with sparse pebble to boulder size clasts. The terrace lithofacies is typically thin (less than 10-feet in thickness), and characterized by laterally discontinuous deposits that are subject localized erosional scouring. Consequently, pedogenesis is constrained and topsoil tends to be poorly developed as thin veneers covering the alluvium.

In 2004, TerraMins Inc. (TerraMins, Inc., 2004) completed three (3) exploratory boreholes at the Area Q site, each to a depth of 200-feet bgs. Based on the boring logs prepared by TerraMins (TerraMins, Inc., 2004), the site stratigraphy is interpreted as comprising stacked alluvial and fluvial lithofacies, and is described below.

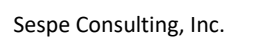
The lithologic logs prepared for the three (3) boreholes indicate the stratigraphy in Area Q appears generally uniform across the site. The material in the upper 100-feet of all three (3) holes is a dark brown to dark grayish brown clean sand and silt with very minor clay. The sand and gravel are moderately graded. Sand is predominant in the upper 100-feet. Coarse gravel is rounded to subrounded, with clast sizes up to 4 inches and averaging between 1-2 inches in size. Very minor clay in the samples is limited to coatings on the coarse gravel. Preliminary screening of samples from two (2) of the boreholes indicates sand is the principal grain size in the upper 100-feet.

Material samples collected by TerraMins Inc. in the upper portion of the borings indicates the lithologies consist mostly of clean sand with silt with some gravels and clay from the surface to about 30-feet bgs. From about 40-feet to 90-feet bgs and between 100-feet and 200-feet bgs, the sands appear cleaner with an increase in gravel and clean sand layers. TerraMins (TerraMins, Inc., 2004) suggests the clean sands are an indication of a greater wash gradient or lower baseline during their deposition. Some of the interbeds reportedly exhibit broken clasts and clays, which TerraMins attributes to moderate weathering.

The deposits appear to be loose and poorly indurated.

Based on the logs prepared by TerraMins, the material from 120-feet to 150-feet bgs is predominantly gravel and sand; and silt with coarse gravel comprising 50% to 60% of the material. Very minor clay is limited to coatings on clasts. Coarse gravel ranges in size from 0.5-inch to over 6-inches in size. Gravels exhibit subrounded to angular textures. The sediment below 120-feet bgs includes more broken rock chips. Some broken clasts exhibited moderate weathering. The sand lenses interbedded within these gravel beds is very clean and moderately graded. The logs indicate the sand and gravel containing clean sand is the dominant lithology below depths of 145-feet to 150-feet bgs; however, some coarse gravel and cobble occur at depths of 180-feet to 190-feet bgs, based on samples collected by TerraMins (TerraMins, Inc., 2004) from two (2) of the boreholes.

With regard to the structural geology of the site, the Glen Helen Fault Strand of the San Jacinto Fault is likely the most active strand of the San Jacinto Fault (Haley & Aldrich, Inc., October 2019). Most of the fault studies done to determine if the Glen Helen Strand was active were performed north of the site in the Glen Helen area. The portion of the fault that trends by the site is mapped on published geology maps (e.g., California Geological Survey [CGS] Fault Evaluation Report [FER-240]) as a “concealed” fault trending though the southwest portion of the Area Q Quarry. The Haley and Aldrich (Haley & Aldrich, Inc., October 2019) study notes that this segment is listed as a State of California AP Earthquake Fault Zone. Please see the Geotechnical Evaluation in Appendix A for more detail.



3.2 Hydrology & Climate

3.2.1 Climate

A study prepared by Danskin et al. (Danskin, McPherson, & Woolfenden, 2006) provides a description of the San Bernardino area climatic setting, which is presented herein. The climate in the San Bernardino area is characterized by relatively warm, dry summers and cool, wet winters. Temperatures range from daytime highs of about 90° Fahrenheit (F) in Summer to night-time lows of about 40° F in Winter. Precipitation is nearly always in the form of rain in the lower elevations and mostly in the form of snow above an altitude of about 6,000-feet above mean sea level (amsl) in the surrounding San Bernardino and San Gabriel Mountains. Mean annual precipitation ranges from less than about 15-inches over much of the valley floor, to about 20-inches along the base of the mountains, to more than 30-inches along the crest of the mountains. Precipitation recorded at the City of San Bernardino from 1871 to 1998 indicates that a period of below-average precipitation can last more than 30 years, such as a dry period that extended from 1947 to 1977. Periods of above-average precipitation have tended to be shorter with a few, very wet years.

3.2.2 Surface Water & Hydrology

With respect to surface water hydrology, Danskin et al. (Danskin, McPherson, & Woolfenden, 2006) note that the San Bernardino area is located in the upper part of the Santa Ana River drainage basin. Runoff, particularly from the San Bernardino Mountains, flows in several small streams, Lytle Creek, and the Santa Ana River. The streams merge mostly within the San Bernardino area, flow southwest through Riverside and Orange Counties, and eventually empty into the Pacific Ocean. Seepage from the streams replenishes the valley-fill aquifer, which provides most of the water used within the San Bernardino area.

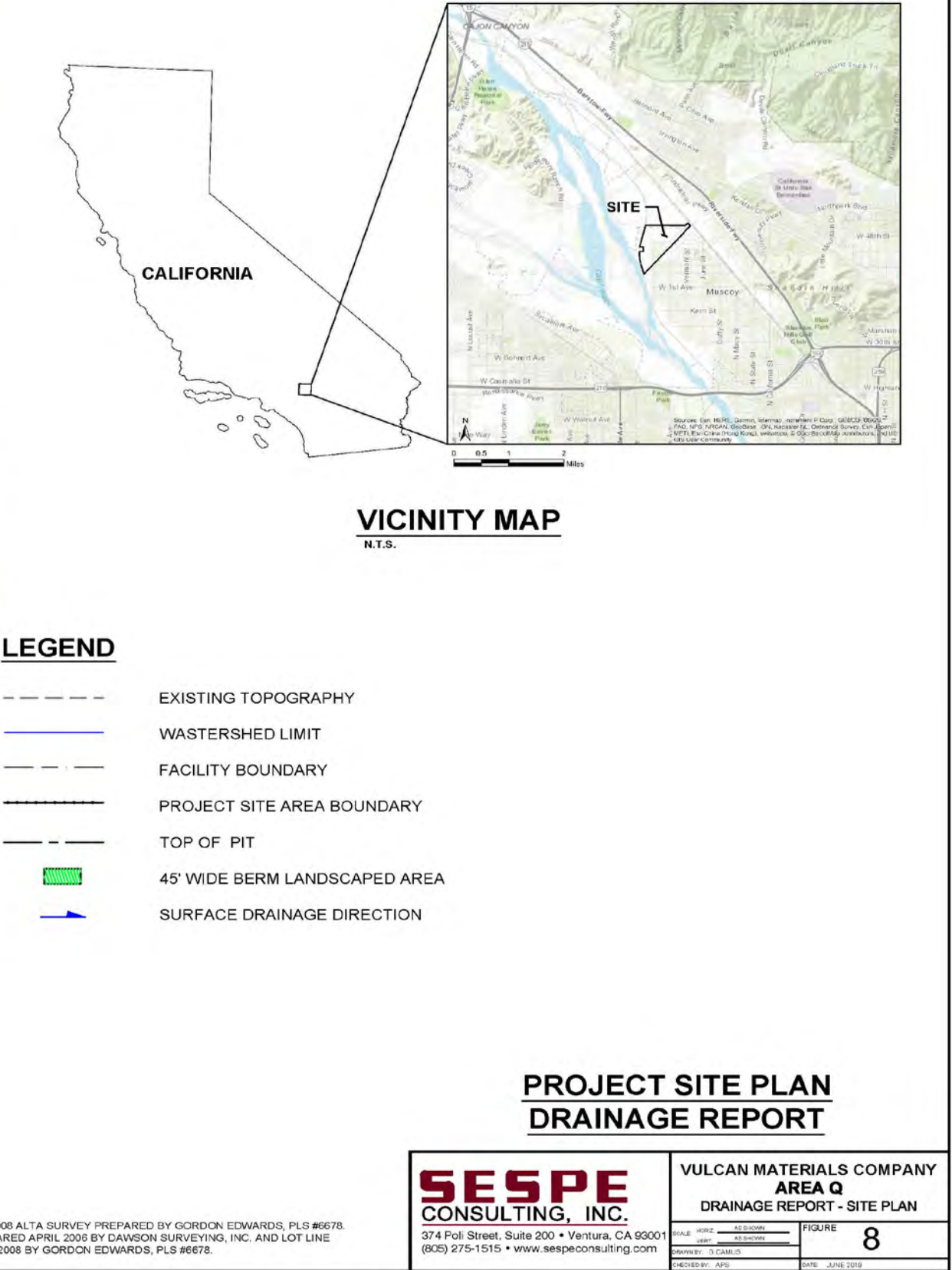
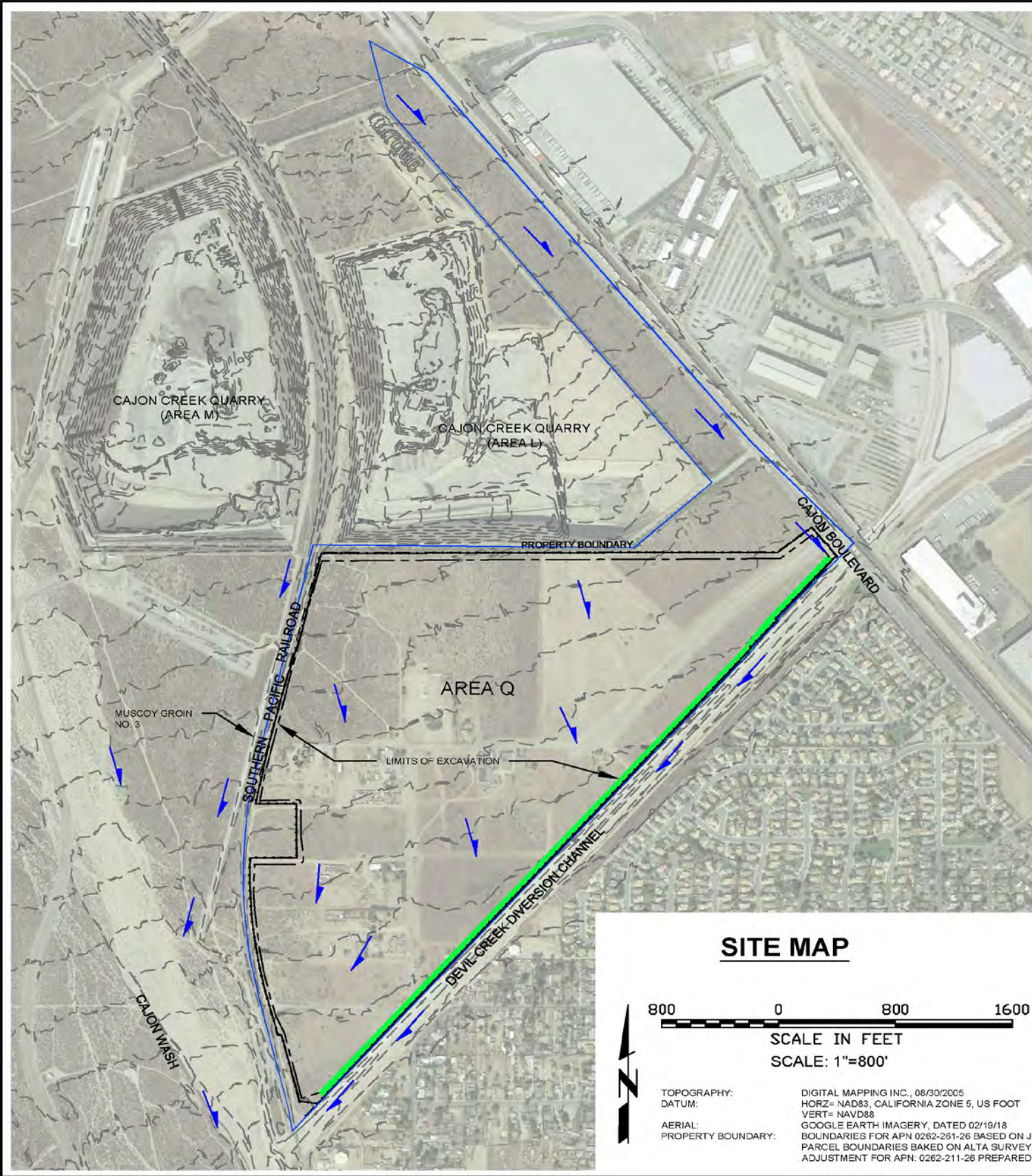
Based on the study prepared by Danskin et al. (Danskin, McPherson, & Woolfenden, 2006), streams originating from the San Bernardino Mountains do not flow continuously across the land surface, except during the largest floods. Rather they stop after a short distance, having lost flow as recharge to the groundwater system. Then, further downstream, flow resumes as a result of groundwater, restricted from flowing across the less permeable San Jacinto Fault, rising to the land surface and reestablishing flow in the streams. According to Danskin et al. (Danskin, McPherson, & Woolfenden, 2006) this intermittent condition was true for all streams except for Lytle Creek and for the Santa Ana River, prior to diversions in the mid-1800's. Moreover, in addition to the stream segments, surface flow occurs within conveyance structures, such as the Devil Creek Diversion Channel and other features, such as upstream groins within Cajon Creek, which divert or otherwise facilitate recharge of surface water.

Most of the Area Q Quarry's surface area is flat, previously disturbed ground with few features or developments. The general direction of the surface slope appears to be to the southeast following the trend of the Cajon Wash. The general flow direction of surface water across the site appears to be to the south, toward the concrete-lined flood control channel (Devil Creek Diversion Channel) along the southern boundary. The Cajon Wash, Cajon Creek and Lytle Creek are just east of the site. The site's western boundary is bordered by the SPRR track on an approximately 5-foot-high earthen berm. A series of certified groins along the eastern edge of Cajon Wash serve as flood control levees, which direct surface flow from away from the Area Q Quarry. Moreover, next to the SPRR track is Muscoy Groin #3, which provides flood control along a portion of the site's western boundary. Cajon Creek Quarry is to the north and Cajon Boulevard is on the eastern boundary.

Given current site topography, typical storm precipitation is generally contained and thus infiltrates into the ground. In the event of a large storm, surface runoff occurs generally as sheet flow to the south and into the adjacent concrete Devil Creek Diversion Channel. The Devil Creek Diversion Channel flows south and eventually discharges to the Cajon Wash east of Area Q. See Figure 8 for more details regarding the existing site topography as well as onsite and adjacent area drainage features. While the Devil Creek Diversion Channel is situated adjacent to the southern boundary of Area Q, design flows within the channel are not expected to impact the site, based on a comprehensive levee study prepared by Tetra Tech and Amec (Tetra Tech, Inc. & Amec, 2009) that includes the Devil Creek Diversion Channel. Based on modeling of predicted surface flow using the Hydrologic Engineering Center's River Analysis System (HEC-RAS), surface flows within the diversion channel are fully contained for the 100-year as well as the 500-year flood event.

The Area Q Quarry is not expected to receive significant local run-on from the surrounding areas due to existing topography and adjacent land uses. Vulcan's existing Cajon Creek Quarry borders Area Q to the north. The SPRR line and the Muscoy Groin #3, which is a certified flood control levee, to the west, and Cajon Boulevard to the east of the site tends to act a barrier to run-on from Cajon Creek to the west. Minimal run-on may originate from the east, but existing drainage features along Cajon Boulevard generally direct flows away from the site.

Onsite drainage, runoff volumes, and inundation depths within Area Q were analyzed in the Drainage Report prepared by Sespe Consulting, Inc. (Sespe) in November 2019 (see Appendix B). As described in the Drainage Report, the proposed mining operations within Area Q site would ultimately result in a reduction of runoff from the site area (Sespe Consulting, Inc., November 2019). As mining in Area Q progresses downward and the pit walls deepen to a final depth of 120-feet bgs, the site will have a greater ability to retain larger quantities of rainfall. Additionally, the proposed minimum 10-foot high earthen landscaped berm along the site's southern perimeter adjacent to the concrete Devil Creek Diversion Channel will also help control stormwater runoff. The HydroCAD® model was used for the existing and proposed site conditions to calculate the estimated maximum pre-runoff flow from the site as well as the containment potential of the Area Q pit once mining commences. Ultimately, at the completion of mining and post-reclamation, the lowered pit will retain onsite rainfall compared to current site conditions (Appendix B).



3.3 Groundwater System

3.3.1 Regional Hydrogeology

Groundwater in the vicinity of the site and more broadly the San Bernardino area occurs primarily in the basin-fill alluvium. The small quantity of groundwater that is found in, or moves through, consolidated and crystalline rocks surrounding and underlying the valley fill is considered negligible (Danskin, McPherson, & Woolfenden, 2006).

The extent of the valley-fill aquifer includes the Bunker Hill and Lytle Creek groundwater basins as defined by Dutcher and Garrett (Dutcher & Garrett, 1963), and is comprised of both unconsolidated alluvium and sedimentary strata. The unconsolidated deposits, which constitute the primary reservoir for storing large quantities of water, are composed of gravel, sand, silt, and clay. Near the mountain front, unconsolidated deposits tend to be coarse grained and poorly sorted, becoming finer grained and better sorted downstream from the mountains. Zones of well sorted sand and gravel, where saturated, yield significant quantities of water according to a study by Danskin et al. (Danskin, McPherson, & Woolfenden, 2006).

The unconsolidated deposits have been divided further by Dutcher and Garrett into older (Pleistocene) and younger (Holocene) alluvium and Holocene river-channel deposits. The older alluvium consists of continental, fluvial deposits ranging in thickness from a few tens of feet to more than 800-feet. The younger alluvium is about 100-feet thick, composed mainly of flood-plain deposits. The thin river-channel deposits are among the most permeable sediments in the San Bernardino area and cause large seepage losses from streams. Hydraulic conductivity for these deposits ranges from about 40 to 100 feet per day (ft/d) (Dutcher & Garrett, 1963).

Sedimentary rocks crop out mainly in the southern part of the San Bernardino area between the San Jacinto fault and Crafton Hills and underlie unconsolidated deposits near Redlands, California. Well yields are moderate from the more permeable layers, generally less than 1 cubic feet per second (ft³/s); hydraulic conductivity ranges from 7 to 29 ft/d (Dutcher & Garrett, 1963) (Dutcher & Fenzel, 1972).

The valley-fill aquifer has been divided by Dutcher and Garrett (1963, pl. 7) into six (6) hydrogeologic units: an upper confining member, an upper water-bearing zone, a middle confining member, a middle water bearing zone, a lower confining member, and a lower water-bearing zone.

In places, the near surface upper confining member exhibits relatively low hydraulic conductivity, and is thin and discontinuous (Dutcher & Garrett, 1963). It appears to have been eroded by streamflow and replaced with coarse sand and gravel. Boreholes drilled to a depth of about 50-feet bgs in the vicinity of the Santa Ana River and the San Jacinto fault indicates a predominance of coarse sand and gravel, not fine-grained silt and clay. In these locations, the coarse material is essentially part of the upper water-bearing unit, vertical ground-water flow is less restricted, and unconfined conditions are likely to be present throughout the upper 100- to 200-feet of valley-fill sediment.

North of the Banning fault, the slope of the land surface increases and a more permeable deposit, considered to be part of the upper water-bearing zone, overlies the upper confining member. This overlying deposit appears to be the result of aggrading alluvial fans being deposited over the finer grained upper confining member.

The upper and middle water-bearing zones provide most of the water to municipal and agricultural wells. In the central part of the San Bernardino area, these zones are separated by as much as 300-feet of

interbedded silt, clay, and sand (the middle confining member). This middle confining member produces confined conditions over the central part of the basin, but thins and becomes less effective toward the margins of the basin (Dutcher & Garrett, 1963). In the area where the middle confining layer is effective, it is referred to locally as the confined area (Mendenhall, 1905; Dutcher and Garrett, 1963). Although not as permeable as the adjacent water-bearing zones, the middle confining member does yield significant quantities of water to wells (Dutcher & Garrett, 1963).

The lower confining member and lower water-bearing zone play a lesser role in the valley-fill aquifer. When penetrated by a production well, the lower confining member is used to increase the yield of the well. The lower water-bearing zone may be composed of poorly consolidated or partly cemented older alluvium, or may be composed solely of even older sedimentary rocks. In either case, the top of the lower water-bearing zone forms the effective bottom of the groundwater flow system within the valley-fill aquifer (Danskin, McPherson, & Woolfenden, 2006) (Dutcher & Garrett, 1963).

3.3.2 Site Groundwater Conditions

A Geotechnical Evaluation was prepared by Haley and Aldrich in August 2019 (see Appendix A), which found that the groundwater level underlying the site is below 200-feet bgs. Groundwater levels measured from 2011 to 2017 range between elevations 1,328.5- and 1,263.1-feet amsl (217.5- to 282.9-feet bgs), as reported by the State of California Department of Water Resources for a well approximately 200-feet south of the site. Similarly, data provided by San Bernardino Valley Municipal Water District reports that the depth to groundwater at the site in Fall 2010 was between 250- and 300-feet bgs (Haley & Aldrich, Inc., October 2019). Groundwater levels may fluctuate with time due to seasonal rainfall changes.

As described previously, mining on the site would commence in the northeast corner of the site, reaching a final depth of 120-feet bgs. Per the Geotechnical Evaluation completed by Haley and Aldrich, groundwater occurs at depths below 200-feet bgs. Therefore, mining activities would take place above groundwater and dewatering of the excavation would not be required.

3.4 Soils, Erosion, & Slope Stability

3.4.1 Soils

Soils underlying the Area Q Quarry were assessed and discussed in both the Habitat and Jurisdictional Assessment prepared by ELMT Consulting, Inc. (ELMT) (ELMT Consulting, Inc., June 2019) and the Geotechnical Evaluation (Haley & Aldrich, Inc., October 2019). Onsite surface elevation within Area Q ranges from approximately 1,495 to 1,580 feet amsl and generally slopes from north to south. Please see Appendix A for the Geotechnical Evaluation and Appendix C for the Habitat and Jurisdictional Assessment.

As previously discussed, topsoil is poorly developed across the Area Q Quarry, and is classified as three (3) distinct units, based on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Also see Figure 9 below which displays the soil units found within Area Q:

- **Soboba gravelly loamy sand, 0-9% slopes (SoC):** The Soboba gravelly loamy sand (0-9% slopes) consists of excessively drained soils formed from alluvium derived from granite sources. It is found on alluvial fans. Elevations are recorded at 25 to 3,700 feet amsl (ELMT Consulting, Inc., June 2019).

The Soboba Stony Loamy Sand consists of an A horizon's dry color of grayish brown, brown or pale brown coarse sand, sand to loamy sand to fine loamy sand with gravels, cobbles having a hue

of Munsell 2.5Y or 10YR with a value of 4 or 6 dry and 4 or 5 moist with a chroma of 2 or 3. The moist, dark grayish brown (Munsell 2.5Y), stony loamy sand is generally loose, very friable, with abundant medium to fine roots and interstitial pores. The C horizon's dry color is generally a grayish brown or a bit lighter in color than the A horizon when dry (Haley & Aldrich, Inc., October 2019).

- **Tujunga gravelly loamy sand, 0-9% slopes (TvC):** The Tujunga gravelly loamy sand (0-9% slopes) consists of somewhat excessively drained soils formed from alluvium derived from granite sources. It is found on alluvial fans. Elevations are recorded at 10 to 1,500 feet amsl (ELMT Consulting, Inc., June 2019).

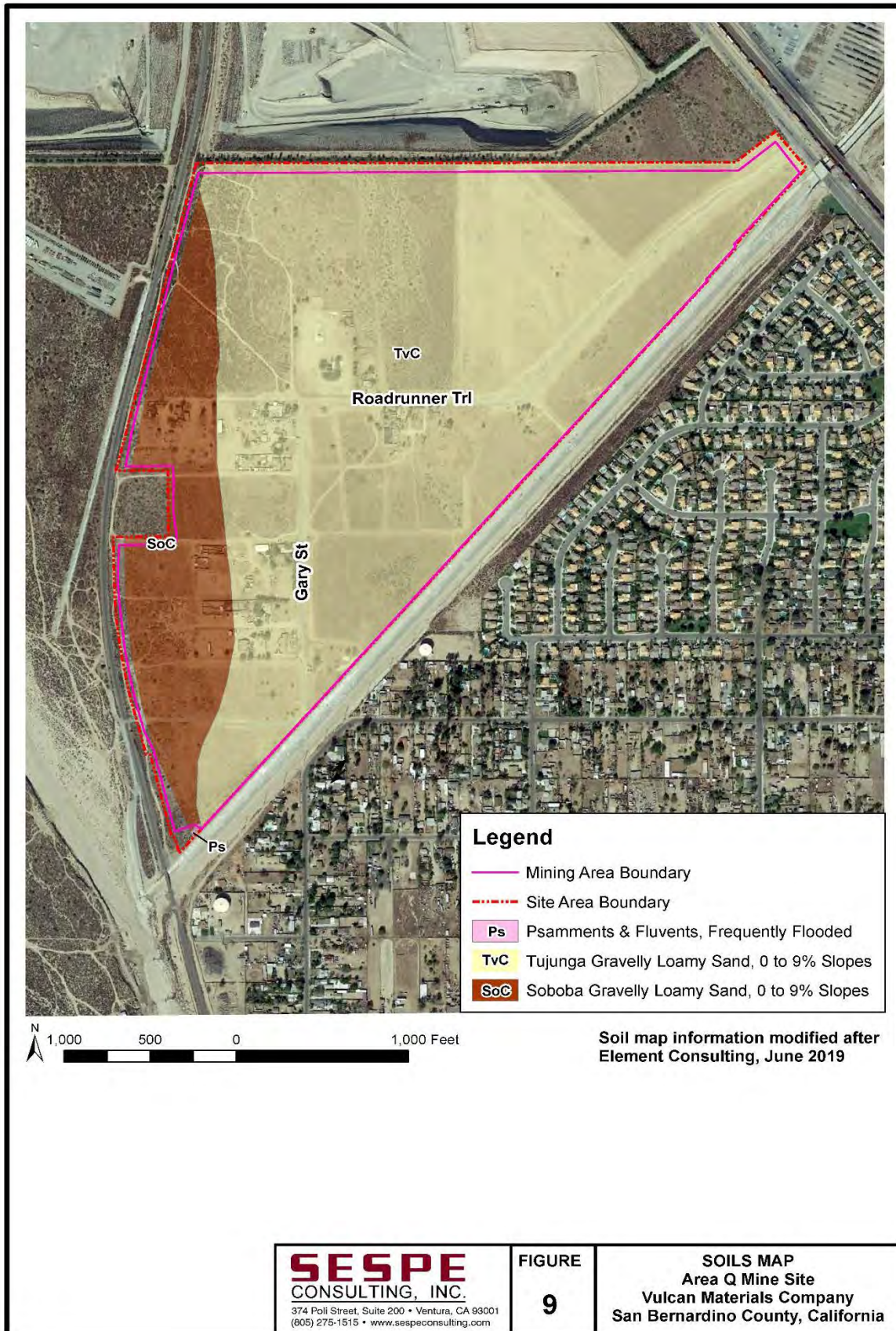
The Tujunga Gravelly Loamy Sand (TvC) consists of an A horizon's dry color of brown to grayish brown fine sand, sand to sandy loam having a hue of Munsell 2.5Y or 10YR with a value of 4 or 7 dry and 3 or 5 moist, with a chroma of 1 to 4 dry and 2 to 4 moist. The moist color is Munsell 2.5Y. The C horizon's dry color is generally pale brown with a Munsell hue of 2.5Y or 10YR with a value of 5 to 8 and a chroma of 1 to 6 when dry and a value of 3 to 5 with a chroma of 2 to 4 when moist. These two (2) soil types have a tonal difference that may explain some of the tonal changes found along concealed faults in the area mentioned in the FER-240. During Haley and Aldrich's May 5th, 2018 site visit, the area near the site where surficial tonal changes and fault features such as lineations and scarps were mapped in FER-240 was visited. The area was disturbed by anthropogenic processes and changes in the wash morphology (Haley & Aldrich, Inc., October 2019).

- **Psamments, Fluvents and Frequently flooded soils (Ps):** Psamments form on terraces or outwash plants and contain well sorted, freely draining soils that contain sand, fine sand, loamy sand or coarse sand in subsoils between 10 and 40 inches in depth. Fluvents are formed by recent water-deposited sediments in floodplains, fans and stream or river deltas and consist of layers of various soil textures. These soils consist of somewhat excessively drained soils formed in sandy alluvium (ELMT Consulting, Inc., June 2019).

SMARA regulations (§3711) require salvage of topsoil and other suitable growth media (subsoil) prior to mining and redistribution in areas to be revegetated. SMARA regulations (§3705) also require soil analysis to determine if the growth media in revegetation areas consists of native topsoil and is otherwise adequate to support successful revegetation. In accordance with §3711, prior to initiation of mining in Area Q, topsoil and subsoil will be scraped off of the excavation area and will be used to construct the berm that will be constructed along the southern perimeter. The topsoil and subsoil will be salvaged and stored in the berm through the duration of mining in Area Q. Please see Section 5.11.1 for more detail related to topsoil and subsoil storage.

3.4.2 Erosion, Sediment Transport, & Windblown Dust

Erosion, sediment transport and windblown dust are controlled by implementation of the storm water Best Management Practices (BMPs), compliance with South Coast Air Quality Management District (SCAQMD) applicable rules and regulations, and site-specific inspections conducted by the operator. BMPs which manage off-site sediment transport during operations and rain events are outlined in the Drainage Report (Appendix B). The Area Q Quarry is within the jurisdiction of the SCAQMD. The SCAQMD Rule 403 (Fugitive Dust) and Rule 1157 (PM₁₀ Emission Reductions from Aggregate and Related Operations) prescribe measures for the management of windblown dust. See Sections 4.5 and 5.12 for summaries of storm water BMPs to be implemented onsite.



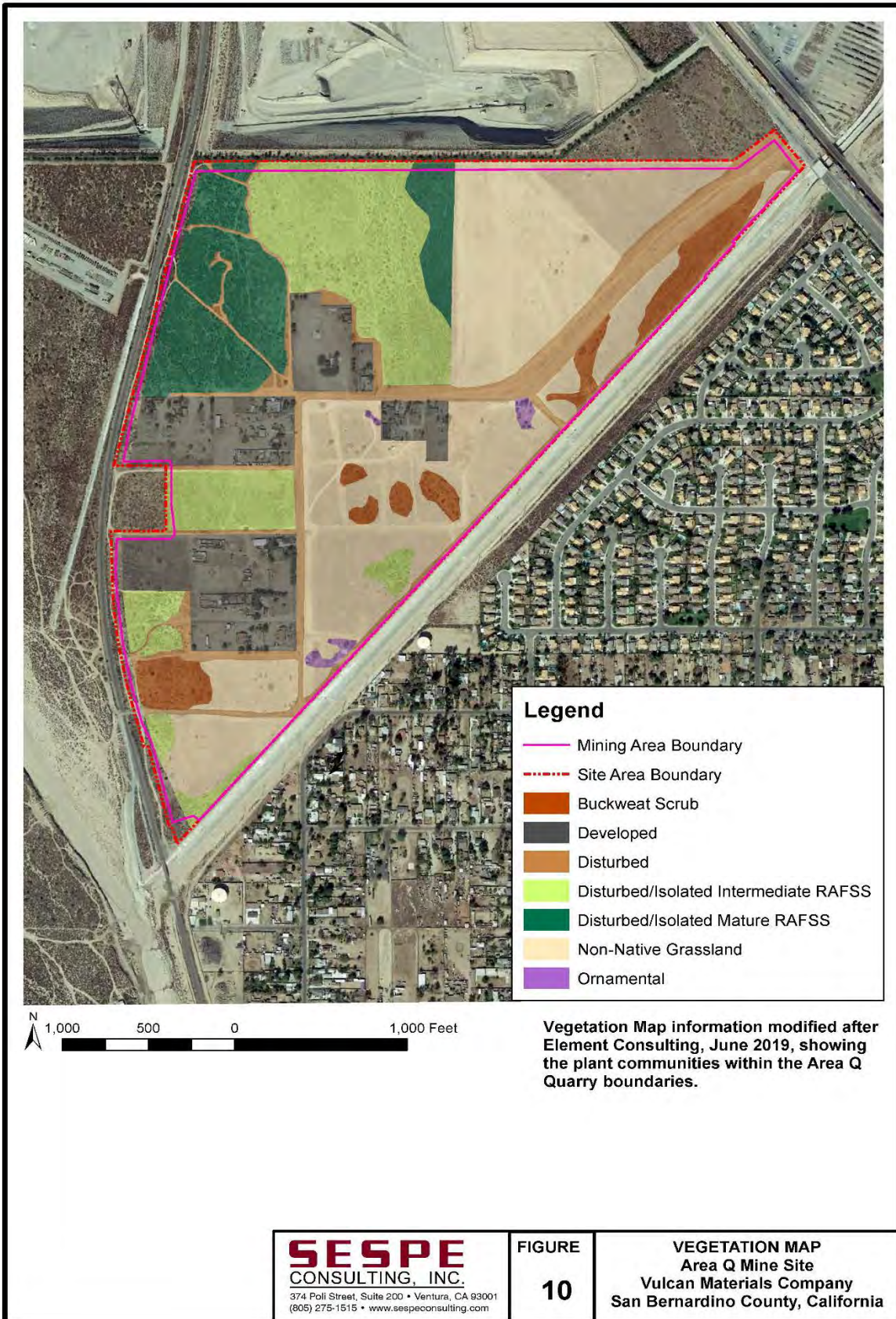
3.5 Vegetation & Biological Resources

A Habitat and Jurisdictional Assessment (HJA) was conducted by ELMT in June 2019 for the Area Q Quarry (ELMT Consulting, Inc., June 2019). Please see Appendix C for the full HJA report prepared by ELMT. A Biological Study Area (BSA) was identified within the HJA that includes both the Area Q Quarry. The BSA is shown on Figure 10 below. The following sections discuss the existing biological and vegetative resources found on the Area Q Quarry.

3.5.1 Vegetation Communities

The pre-mining condition of the Area Q Quarry was characterized by ELMT in May 2017. Available aerial photos and topographic maps of the Area Q Quarry were also reviewed. As described in ELMT's report, the existing Area Q Quarry consists of both developed and undeveloped land that has been subject to a variety of human-related disturbances from existing rural residential developments, weed abatement activities, and unauthorized miscellaneous dumping. These historical land uses have resulted in most of the site being converted to a mosaic of non-native grasses and highly disturbed plant communities that have been cut off from the influences of the Cajon Wash by the SPRR tracks that border the western boundary of the site.

Four (4) plant communities were observed within the boundaries of the Area Q Quarry during the HJA: highly disturbed and degraded Riversidean alluvial fan sage scrub (RAFSS), buckwheat scrub, non-native grassland, and ornamental. The existing site contains land cover types that would be classified as disturbed and developed. The breakdown of the approximate acreages of these existing vegetation communities on the Area Q Quarry are presented on Figure 10. The RAFSS plant community is described in further detail below. Please see the HJA in Appendix C for a detailed discussion of all existing plant communities.



Riversidean Alluvial Fan Sage Scrub

RAFSS is considered a sensitive plant community in the County's General Plan. RAFSS is a community restricted to intermittently or rarely-flooded, low-gradient alluvial deposits along streams, washes, and fans within large canyons on the coastal slopes of the San Gabriel Mountains and San Bernardino Mountains in San Bernardino County. This community is composed of a variety of drought-deciduous subshrubs and large evergreen woody shrubs. Due to intense, periodic flooding and erosion within the alluvial plain, a series of step-like terraces are created above wash channels, each exhibiting a different successional phase. These phases are related to the amount of time elapsed since the most recent flood and occur as a sequential gradation of terrace types with increasing distance from the active channel.

The existing habitats within Area Q have either succeeded to upland chaparral habitat or are no longer functioning as viable RAFSS habitat with long-term conservation value for a number of reasons. First, the site's RAFSS habitat has been extensively disturbed by human activity for decades, and is heavily fragmented by roads, trails, and other human development (e.g. yard storage, unauthorized miscellaneous dumping, vehicle activity, etc.). Second, the RAFSS habitat is isolated from the historic fluvial flow patterns and scouring regimes due to residential and industrial development. Third, the elimination of fluvial processes from within Area by construction of the SPRR has removed the physical and biotic attributes needed to support viable RAFSS habitat and sensitive plant and wildlife species. Fourth, the RAFSS habitat is not occupied by any listed or otherwise sensitive plant or animal species, indicating minimal or no value as biological habitat.

3.5.2 Wildlife

Plant communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. Specifically, the site and surrounding habitat have the potential to support a variety of reptilian and mammalian species adapted to a high level of human disturbances. Additionally, the site provides suitable foraging, nesting, and cover habitat for a variety of resident and migrant bird species. Additionally, the site provides suitable foraging, nesting, and cover habitat for a variety of resident and migrant bird species; however, none of potential habitat is suitable for the special status reptilian, mammalian, or bird species. Fish and amphibian species are presumed absent from the site. Please see the HJA included in Appendix C for a comprehensive list of wildlife species that could potentially occur within the Area Q Quarry (ELMT Consulting, Inc., June 2019).

3.5.3 Special-Status Species

The HJA prepared by ELMT evaluated the conditions of the habitat(s) within the boundaries of the site to determine if the existing plant communities, at the time of the survey, had the potential to provide suitable habitat(s) for special-status plant and wildlife species. Special-status plant and wildlife species were evaluated for their potential to occur within the site based on habitat requirements, availability and quality of suitable habitat, and known distributions. No special-status plant or wildlife species were observed within the Area Q Quarry. Refer to the HJA (Appendix C) for a detailed special-status plant and wildlife species analysis.

Special-Status Wildlife

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a California “Species of Special Concern,” is the only special-status species that was observed on the site. A “Species of Special Concern” is an administrative designation and carries no formal legal status (ELMT Consulting, Inc., June 2019). Due to existing anthropogenic disturbances on-site, the observation of the San Diego black-tailed jackrabbit is assumed to be a fleeting occurrence and no mitigation is proposed. Additionally, the area west of the site, associated with the Cajon Wash, provides high quality habitat for San Diego black-tailed jackrabbit where the animal is expected to occur, and has ample area to disperse into the Cajon Wash from the Area Q site.

Special-Status Plant Communities

Highly disturbed and degraded RAFSS habitat was the only potentially sensitive habitat observed on the site during the HJA. However, as noted in Section 3.5.1 above, the biological assessment determined that the isolated and senescing RAFSS habitats identified on the site have either succeeded to upland chaparral habitat or is no longer functioning as viable RAFSS habitat with long-term conservation value, per the conclusions presented within the HJA prepared by ELMT (ELMT Consulting, Inc., June 2019). More specifically, the RAFSS has been extensively disturbed by human activity for decades, and is fragmented by roads, trails, and development. The site is surrounded to the north, south, and east sides by residential and industrial development. The SPRR tracks and a man-made berm to the west of the site separate the site’s RAFSS habitats from less disturbed vegetation in the Cajon Wash.

4.0 MINING PLAN, CCR §2772, §3502, §3503

4.1 Mining Operations, CCR §2772(c)(3)-(4), (6)

As described previously, Vulcan is proposing to extract sand and gravel (aggregate) from a 182.1-acre portion (mining area) of the 196.0-acre Area Q Quarry. Mining presently occurs at the Cajon Creek Quarry, specifically within Area L north of the Area Q site, which commenced in 1995. Mining in Area Q would be initiated once mining within Area L is completed, which is anticipated to occur in 2023. An estimated total of approximately 40,000,000 tons of aggregate would be extracted over approximately 30-years, depending on market demand and/or at what point mining in Area L ceases. Mining in Area Q would provide a high-quality source of local aggregate materials to serve the regional market, and would provide a continuing source of raw aggregate materials for processing at other permitted Vulcan facilities.

Aggregate would be mined from Area Q using mobile equipment (excavators, loaders, dozers, etc.) transferred from Area L. Aggregates mined from Area Q would be transferred via a conveyor system to the existing conveyance infrastructure in place at Area L. Material would then be processed and shipped from Vulcan's existing permitted locations. Mining would occur in one (1) single phase, beginning in the northeast corner of the Area Q Quarry and progressing until the excavation pit reaches a final depth of 120-feet below ground surface (bgs).

During the life of the mine, if feasible, portions of Area Q not subject to further disturbance would be reclaimed concurrent with mining operations. It is estimated that mining operations in Area Q would cease by approximately the end of 2053, and reclamation of the full site would be completed by approximately 2055 with onsite monitoring until the year 2058.

4.1.1 History of Project Area, CCR §3502 (b)(1)

Mining at Vulcan's existing Cajon Creek Quarry, immediately north of Area Q, was originally approved by the City in 1993 as part of the Cajon Creek Specific Plan and CUP/Reclamation Plan No. 90-01. Based on historical aerials, Vulcan's mining operations within the adjacent Cajon Creek Quarry began in 1995 and have been ongoing since that time (Haley & Aldrich, Inc., October 2019). While Area Q is located within the County, the adjacent Cajon Creek Quarry is located within the City.

Vulcan's Cajon Creek Quarry will be reclaimed per an existing separate CUP/Reclamation Plan (Specific Plan No. 90-01, CUP No. 91-31) approved by the City in 1993. Operations in Area Q will not involve any significant changes to the existing mining and/or processing operations currently occurring within the Cajon Creek Quarry, other than shifting the location of material extraction from Area L to Area Q. There are no proposed changes to the mining methods and equipment, or extraction rates and processing rates currently approved for the Cajon Creek Quarry. The aggregate from Area Q would be transferred via a conveyor system to the existing conveyance infrastructure in place at Area L. Material would then be processed and shipped from Vulcan's existing permitted locations.

The existing Area Q property is generally undeveloped and degraded, but has been subject to a variety of human-related disturbances, including approximately fifteen (15) homes in poor condition. Unauthorized, miscellaneous dumped debris occurs throughout the existing site, as the secluded nature of the site and numerous internal dirt roads and trails facilitate trespassing and dumping.

4.1.2 Site Preparation

Operations in Area Q will commence once mining in Area L to the north is complete. Although dependent upon market demand, Area Q operations are estimated to begin in 2023. Prior to initiating mining, the existing fifteen (15) homes and ancillary structures/debris will be demolished and removed from the site in accordance with local, state and federal regulations. Please note, none of the existing structures to be demolished are considered historic-era buildings or have cultural significance.

Once the buildings and debris are removed, the site will then be stripped of vegetation using existing mobile equipment (i.e. scrapers, dozers, and excavators). The topsoil and subsoil will be removed as a separate layer from the mining area by using existing dozers or scrapers, and will be stored within the minimum 10-foot high earthen berm along the southern boundary of the site for use in later reclamation. If conditions become more difficult or access constraints prevent the use of scrapers, a hydraulic excavator, bulldozer, or front-end loader may be used to remove topsoil/subsoil. Under typical conditions, topsoil/subsoil removal will be completed approximately one (1) month ahead of mining. Approximately 100,000 tons of topsoil and subsoil will be removed as a separated layer, approximately 2-foot thick, from the site. Enough topsoil and subsoil will be removed and placed within the berm to ensure it extends the full length of the site adjacent to the Devil Creek Diversion Channel to the south. Once formed, the berm will be landscaped with native and non-native species to provide visual screening between mining operations and public viewpoints located to the south. Landscaping will also be an effective means for preventing water and wind erosion. Any excess material will be processed at Vulcan's existing San Bernardino facility as salable product.

Site preparation (i.e. removal of structures/debris, removal of soil, and construction of the berm) is expected to take approximately three (3) months to complete. Please see Figure 5 which shows the location of the existing site, and Figure 6 which shows the design of the landscaped perimeter berm.

4.1.3 Mining Operations

Once the topsoil and subsoil have been removed and the minimum 10-foot high perimeter berm constructed, normal mining operations will commence within the Area Q Quarry. As described previously, mining operations will be typical of surface aggregate mining operations, and will be conducted in the same manner as currently occurs at Vulcan's existing Cajon Creek Quarry to the north. There will be no concurrent mining operations in Area L and Area Q, as mining in Area Q would only initiate once the reserves in Area L are either depleted or no longer being mined.

Operations within Area Q consists of one (1) single mining phase to extract construction grade aggregate (sand and gravel) from the site. Mining would commence in the northeast corner of the site and progress to the south and west. The final depth of the excavation pit would be 120-feet bgs. As shown on Figures 6 and 12, the finished cut slopes will be excavated to a maximum 2H:1V (horizontal to vertical) gradient or flatter. Aggregate material in Area Q will be excavated using the same equipment (e.g. hydraulic excavators, dozers, front-loaders, etc.) currently operating at Cajon Creek Quarry to the north. Once mining in Area L is complete, existing equipment would simply be transferred over to Area Q to commence operations. Reclamation would be conducted concurrently during the mining phase if possible, or after mining is complete.

As shown on Figure 6, the existing conveyor system located within Area L will be extended into Area Q once mining commences. Electrical for the conveyor system and related equipment will be served by Southern California Edison. No mined material will be processed within the Area Q Quarry. All excavated

aggregate will be transported via conveyor to the site's northern fence line, at which point it would be transferred over to Vulcan's existing conveyor system located within the Cajon Creek Quarry (i.e. Area L and Area M). From there, material would then be processed and shipped from Vulcan's existing permitted locations. No on-road haul trucks would enter or leave the site onto public roads.

Hours of operation will remain the same as they currently are at Cajon Creek Quarry. Additionally, the number of employees will be consistent with the number of employees needed to operate the Cajon Creek Quarry, and will fluctuate with seasonal demand. Employees working onsite will be moved from the existing Cajon Creek Quarry to work at Area Q.

4.1.4 Buffer Zones/Setbacks

No excavation of material, topsoil or subsoil will take place within 45- to 50-feet of any adjacent public rights-of-way (e.g. SPRR tracks, Cajon Boulevard, etc.) or within 50-feet from other property lines. Excavation will also be setback a minimum of 50-feet from Devil Creek Diversion Channel to the south, however the proposed perimeter berm will be constructed within this setback area (see Figure 6).

As described previously and shown on Figure 6, a minimum 10-foot high landscaped berm will be installed along the site's southern boundary. The berm will be installed within a 50-foot setback along the Devil Creek Diversion Channel and Cajon Boulevard. Visual screening (i.e. landscaping) will be provided along the perimeter berm. This berm and frontage road setback areas will be landscaped with native and nonnative landscape varieties of plants within a 15 to 30-foot planting area. The plant species and planting methods used at Area Q will be similar to those currently employed along the perimeter areas of the Cajon Creek Quarry to the north. The proposed berm will create a noise and visual barrier between mining activities and the residential neighborhoods within the community of Muscoy to the south.

4.2 Mine Wastes, CCR §2772 (c)(8)(A)

Mining waste is all solid, semisolid, and liquid waste materials from the extraction, beneficiation, and processing of ores and minerals. Mining waste includes, but is not limited to, soil, waste rock, and overburden, as defined in Section 2732 of the Public Resources Code, and tailings, slag, and other processed waste materials, including cementitious materials that are managed at the cement manufacturing facility where the materials were generated. There are no mining wastes produced as a result of this project. However, prior to initiating mining in Area Q, the debris and structures currently present at the site will be demolished and disposed of in accordance with local, state and federal regulations.

4.3 Material Processing

As described previously, none of the material extracted from Area Q will be processed onsite. Rather, aggregate extracted from Area Q will be transported from the mine pit via an onsite conveyor located at the northern boundary of the site, which will transfer the material to Vulcan's existing conveyance infrastructure in place at the southern boundary of Area L (see Figure 6). Once excavated, raw material from Area Q will be placed directly into the conveyor feed hopper by front-end loader and transferred to Area L. Material will then be processed and shipped from Vulcan's existing permitted locations.

4.4 Production Water

4.4.1 Fresh Water

During operations, water will primarily be utilized for dust control within Area Q. If needed, minimal quantities will also be used as needed to irrigate the minimum 10-foot landscaped earthen berm along the southern site boundary. An existing water well and 15,000-gallon water tank, located at Vulcan’s Cajon Creek site (Area M), will supply water to Area Q. Water for dust suppression and landscaping will be transported to the site via a mobile water truck. The quantity of water estimated to be used for Area Q is the same as what is currently used at Vulcan’s Cajon Creek Quarry mining activities. There will be no change in water use. On average, Area L uses approximately 19.5 acre-feet (AF) per year (Haley & Aldrich, Inc., October 2019) for dust control and landscaping. Table 4 below describes the estimated maximum and average water usage for Area Q operations.

Table 4: Estimated Water Usage

Usage	Units		Notes
	Gallons per Minute (gal/min)	Acre-Feet per Year (AF/year)	
Average	50.91	19.5	Estimated based on historical water usage in Area L and the proposed operating schedule within Area Q.
Maximum	51.18	29.4	

Source: Water Supply Assessment (Haley & Aldrich, Inc., October 2019)

Water that falls on the Area Q Quarry, either due to dust suppression applications or as a result of a storm event, will be contained onsite and either naturally evaporate or infiltrate into the ground. No permanent waterways, streams, or diversions channels exist within Area Q, and none are proposed as a result of site development. The minimum 10-foot perimeter berm along the southern site boundary will help control stormwater runoff and erosion from impacting the adjacent Devil Creek Diversion Channel. For these reasons, operations within Area Q will not impact any nearby streams or waterways (i.e. Cajon Wash, Cajon Creek, Lytle Creek, and Devil Creek Diversion Channel). Please see the Drainage Report in Appendix B for more detail regarding onsite drainage.

4.4.2 Wastewater

No wastewater will be generated during Area Q operations, as no onsite processing will occur within the site. A mobile water truck will be utilized onsite for dust suppression, and applied water will either naturally evaporate or infiltrate into the ground.

At some point, there may be the need to have temporary portable toilets placed at the Area Q Quarry. If installed within Area Q, portable bathroom facilities will be placed within secondary containment and regularly maintained by a local contractor. Operations in Area Q will not produce any industrial or domestic wastewater discharges onsite.

The final excavation depth of Area Q pit will be 120-feet bgs. As noted in the Haley and Aldrich, August 2019 report, groundwater occurs at depths below 200-feet bgs. Therefore, mining will not reach groundwater and thus dewatering is not warranted. Groundwater levels measured over a six (6) year period (2011 to 2017) ranged between 217.5 to 282.9 feet bgs, as reported by the State of California Department of Water Resources for a well approximately 200-feet south of the site (Haley & Aldrich, Inc., October 2019).

Diesel, gasoline and/or lubricating oil will be used in equipment and vehicles operating onsite. Although not anticipated, there may be dedicated storage of hazardous materials, including fuels, oils, and fluids, within ASTs onsite as needed. Other hydrocarbons, including fuels and lubricants, will be stored “in use” in a mobile fueling and maintenance trucks. Vehicle and equipment maintenance and repairs will primarily occur offsite at Vulcan’s San Bernardino facility. However, if failures occur onsite and the equipment cannot be moved to the San Bernardino facility, onsite maintenance may occur. If required, onsite maintenance activities will utilize good housekeeping and BMPs outlined within the SWPPP to ensure hazardous materials are contained and properly disposed. The following good housekeeping measures for vehicle storage and maintenance will be implemented at the site:

- Prevent oil, grease, or fuel leaks to the ground, storm drains or surface waters.
- Place equipment and vehicles that are to be fueled, maintained, or stored in designated areas with appropriate BMPs installed.
- Clean up spills and leaks immediately and dispose of spilled material and spill cleanup materials properly.
-

Any potentially hazardous wastes generated during cleanup of accidental spills and/or equipment repairs will be properly disposed of in accordance with local, state, and federal regulations.

4.5 Erosion & Sediment Control, CCR §3503(a), §3503(e), §3506

Operations in Area Q will be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit). Prior to commencement of mining, a site-specific SWPPP will be prepared that complies with the Industrial General Permit (IGP). The SWPPP will include the following: specific prohibitions, effluent limitations, source identification, practices to reduce pollutants, assessment of pollutant sources, materials inventory, preventative maintenance program, spill prevention and response procedures, general storm water best management practices (BMPs), training, record keeping, sampling procedures and a description of the monitoring program. Additionally, the SWPPP is considered a living document, and will be updated as needed to address changing conditions on the site. In addition to the SWPPP, the Drainage Report (Appendix B) also presents BMPs that will be implemented onsite to control erosion and sedimentation.

Table 5 summarizes the key erosion control BMPs for Area Q Quarry, as outlined in the Drainage Report prepared by Sespe Consulting (please see Appendix B for detailed descriptions of the BMPs). These BMPs will also be incorporated into the site-specific SWPPP, which will be prepared at a later date prior to commencement of mining operations:

Table 5: Summary of Erosion BMPs

Industrial Activity/Material	Potential Pollutants	BMPs Implemented	Required Equipment & Tools
Excavation and transfer of aggregate materials	Sediment	Erosion control; Sediment control; Stormwater containment.	Silt fencing and fiber rolls; Bulldozer for berm maintenance as needed.
	Dust	Wind erosion control; Erosion control; Sediment control; Tracking control.	Water truck; Soil binders.

Industrial Activity/Material	Potential Pollutants	BMPs Implemented	Required Equipment & Tools
Equipment and vehicle maintenance	Oil & Grease Hydrocarbons Gross Pollutants Trace Metals	Good housekeeping; Spill prevention & maintenance; Interior berms as needed to direct surface flows to pit; Secondary containment.	Covered trash bin; Spill kit; Bulldozer for berm maintenance.

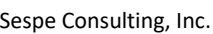
Source: Drainage Report (Sespe Consulting, Inc., November 2019)

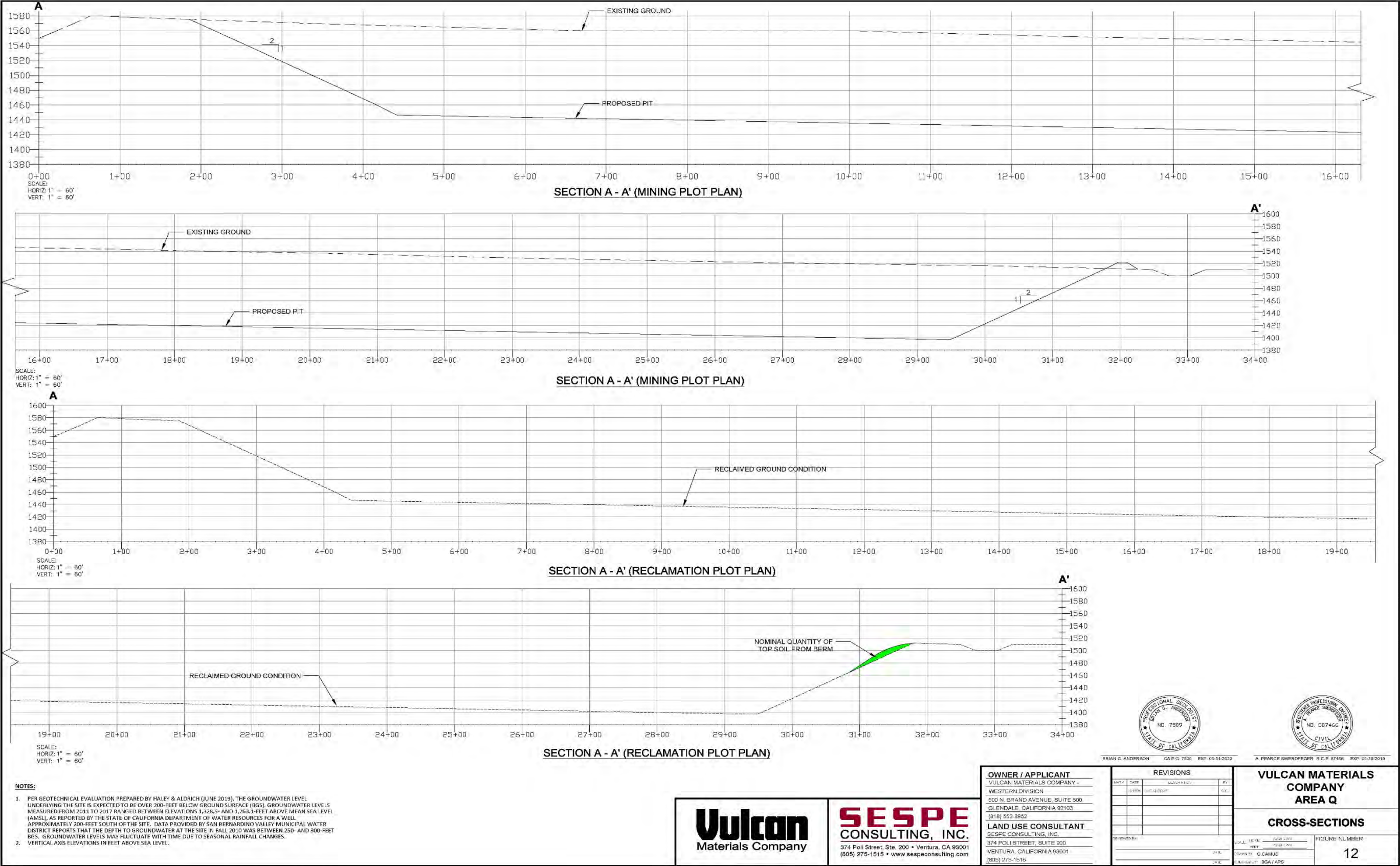
Since no processing will occur onsite, no stockpiling of material is anticipated other than for temporary storage as may be necessary. For example, temporary stockpiles may be formed as part of stripping of topsoil and subsoil materials. As noted previously, the minimum 10-foot high earthen landscaped berm located along the southern site boundary will serve as the storage location for topsoil and subsoil for later use as reclamation cover. If needed, additional BMPs, such as sandbags, fiber rolls, or silt fencing, will be installed along the east side of the berm to ensure sediment does not inadvertently erode into the adjacent Devil Creek Diversion Channel during a large storm event.

Due to the existing topography (e.g. raised SPRR 5-foot-high earthen berm along the western boundary) and the minimum 10-foot high earthen berm along the southern boundary, stormwater runoff and sediment erosion from the Area Q Quarry is considered unlikely. Furthermore, as the pit walls deepen, the excavation area will act as a containment structure further decreasing the potential for offsite discharges as mining progresses to a final depth of 120-feet bgs. Development of Area Q would not add any paving or impervious surface areas. Due to site topography, and through the implementation of BMPs outlined in the SWPPP and Drainage Report (Appendix B), the chances of discharge, erosion, and/or sedimentation from Area Q that could adversely impact adjacent properties is considered very low.

4.6 Blasting

Due to the nature of the aggregate reserves (sand and gravel), blasting is not required. Therefore, no explosives will be stored and/or utilized within the Area Q Quarry.





5.0 RECLAMATION PLAN

The following section has been prepared and organized pursuant to the requirements outlined within the Surface Mining and Reclamation Act (SMARA) and the County’s requirements. The California Code of Regulations (CCR) citations presented within each titled section reference specific SMARA statutes applicable to each section (also see the “Table of Compliance for SMARA Requirements”).

5.1 Existing & Proposed Land Uses, CCR §2772 (c)(7), §3502 (b)(1)

Existing land uses near the site include Vulcan’s Cajon Creek Quarry and auxiliary facilities located immediately north and northwest of the site, and developed residential neighborhoods located to the south and east, across the Devil Creek Diversion Channel. The Devil Creek Diversion Channel runs down the southern boundary of the site, and the residential community of Muscoy is located directly south of the diversion channel. The site’s western boundary is bordered by the SPRR, which lies between the site, Lytle Creek and Cajon Creek. Industrial developments are located to the east of the site, across Cajon Boulevard. Please see Figures 1 through 5, as well as Table 6 below, which describe the surrounding setting. Also see Figure 11 which shows the layout and design of the reclaimed Area Q Quarry, and Figure 12 which shows the reclamation cross-sections.

Table 6: Surrounding Land Uses

Direction	Land Use	Distance from Site (feet)
North	Cajon Creek Quarry (i.e. Area L)	Adjacent
South	Residences / Community of Muscoy	Approximately 200-feet (across Devil Creek Diversion Channel)
East	Industrial Developments	Approximately 225-feet (across Cajon Boulevard/SPRR track)
West	Cajon Creek Quarry (i.e. Area N) Cajon Creek / Lytle Creek	Approximately 90-feet (across SPRR track)

Note: See Figures 1 through 5 which depict the local setting.

As discussed in Section 1.2, the existing Area Q property is generally undeveloped but has been subject to a variety of human-related disturbances and degradation, including approximately fifteen (15) former homes in poor condition. Unauthorized, miscellaneous dumped debris occurs throughout the site, as the secluded nature of the site and numerous internal dirt roads and trails facilitate trespassing and dumping.

The existing County zoning designation of Area Q is Muscoy/Single Residential – 1 Acre Minimum (MS/RS-1). Vulcan is requesting a General Plan Land Use Zoning Designation change as part of their CUP application to rezone the property to Community Industrial (IC). Subject to approval of a CUP, surface mining operations and related facilities and activities are an allowable use within the IC land use designation.

Reclamation of Area Q has been designed to complement the reclamation currently approved and partially implemented for the existing mining operation within Vulcan’s Cajon Creek Quarry to the north. Portions of Area M to the northwest have been successfully reclaimed and revegetated per CUP No. 91-31/Specific Plan No. 90-01, and therefore offers a direct reference standard for comparison. As with Cajon Creek, the proposed end-use of the reclaimed Area Q Quarry is revegetated open space.

5.2 Visibility, CCR §3502 (b)(2)

The site is located in an urban area of unincorporated San Bernardino County, California, immediately west of the City of San Bernardino. Surrounding land uses near the site are described in Section 5.1 and summarized in Table 6 above.

The existing topography immediately surrounding the Area Q Quarry is generally flat. Foothills of the San Bernardino Mountains are located approximately 3.0 miles to the northeast of the site, and foothills of the San Gabriel Mountains are located approximately 4.0 miles to the northwest. The undeveloped Cajon Creek Wash is located just west of the site.

Numerous prominent roadways are located nearby the site. Please see Table 7 below which summarizes nearby public roadways in proximity to the Area Q Quarry.

Table 7: Surrounding Roadways

Direction	Roadway	Distance from Site
North	Interstate 15 (I-15)	3.5 miles
	State Route 138 (SR-138)	5.8 miles
South	State Route 210 (SR-210) / East Highland Avenue	1.8 miles
East	Cajon Boulevard	Adjacent
	Interstate 215 (I-215)	0.5 miles
	State Route 18 (SR-18)	4.4 miles
West	Riverside Avenue	1.8 miles

The areas surrounding the site are mostly flat with existing vegetation and buildings/structures that generally obscure views of Area Q from most distant viewpoints. For this reason, the Area Q viewshed is generally limited to the publicly accessible areas and roadways located adjacent to the perimeter of the site. Specifically, reclamation activities at the Area Q Quarry have the potential to be visible from the nearby neighborhoods in the community of Muscoy to the south, and to a lesser extent from adjacent Cajon Boulevard to the east. Visual screening will be installed along portions of the Area Q Quarry prior to mining, as described in Section 5.2.1 below.

5.2.1 Berms & Screens

The Area Q Quarry has been designed to reduce potential visual impacts. Specifically, during site preparation, a minimum 10-foot high earthen berm will be constructed along the southern boundary of Area Q Quarry. As discussed previously, this berm will not only serve to store topsoil and subsoil, but once constructed this berm will also provide visual screening between mining and reclamation activities and the residences to the south within the community of Muscoy. Proposed visual screening in this area will include native and non-native landscape varieties of plants established within a 15-to-30-foot-wide planting area along the site perimeters. Please see Figure 6, which shows the location of the proposed screening berm and landscaping. Furthermore, operations will generally occur below grade as mining progresses and the excavation pit deepens to a final depth of 120-feet bgs, which will further reduce visual impacts. Ultimately, installation of the berm and native vegetation along the site boundaries is expected to improve the overall visual quality within the Area Q vicinity during mining operations, as the existing site with miscellaneous dumped debris and outdoor storage will no longer be visible.

Prior to reclamation/revegetation, the perimeter berm will be deconstructed and the topsoil and subsoil will be spread throughout the area to be reclaimed to facilitate revegetation.

5.2.2 Fencing

The entire perimeter of the Area Q Quarry will be fenced with 6-foot high wire fencing. The entrance gate located at the northeast corner of the site along Cajon Boulevard will be a minimum 24-feet wide. Signs will be placed at the access road and as necessary on the perimeter fencing to identify the mining operation (in English and Spanish, as necessary). Please see Figure 6 which shows the location of perimeter fencing and road signs.

5.2.3 Lighting

Lighting for nighttime operations and security will be provided as needed. Lighting within Area Q will be installed in a manner so as to minimize glare onto adjacent sites. The lights will comply with all applicable County standards and industry practices. High pressure sodium and/or cut-off fixtures (or equivalent IDA-approved fixtures) will be used instead of mercury-vapor fixtures for any required nighttime lighting. The lighting will also be designed to confine illumination to the site and/or to areas that do not include light-sensitive uses.

5.3 Existing Vegetation, CCR §3502 (b)(1), §3503 (c), §3703

As described in Section 3.5, historical land uses have resulted in the majority of the site being converted to a mosaic of non-native grasses and highly disturbed plant communities that have been cut off from the influences of the Cajon Wash by the SPRR railroad tracks that border the western boundary of Area Q.

As described in the HJA prepared by ELMT in 2018 (ELMT Consulting, Inc., June 2019), four (4) plant communities are currently found within the boundaries of the Area Q Quarry: highly disturbed and degraded Riversidean alluvial fan sage scrub (RAFSS), buckwheat scrub, non-native grassland, and ornamental (see Figure 10). In addition, the site contains a land cover type that would be classified as disturbed and developed. Please see the HJA in Appendix C for more details.

There are very few existing trees found within the Area Q Quarry. Per the HJA prepared by ELMT, the only trees observed were ornamentals, consisting of various pine trees (*Pinus* sp.), china berry (*Melia azedarach*), Peruvian pepper (*Schinus molle*), Brazilian pepper (*Schinus terebinthifolius*), and jacaranda (*Jacaranda mimosifolia*). None of these existing trees have trunks greater than 6-inches in diameter, and none are considered protected and/or special-status tree species (e.g. Joshua/Yucca trees).

5.3.1 Special-Status Plant Species

The Area Q Quarry is unoccupied by special-status plant species. As noted previously, the highly disturbed RAFSS community was observed by ELMT within the middle portion of the western boundary of the site (see Figures 5 and 6). However, the existing habitats within Area Q have either succeeded to upland chaparral habitat or are no longer functioning as viable RAFSS habitat with long-term conservation value. The site's RAFSS habitat has been extensively disturbed and degraded by human activity for decades, and is heavily fragmented by roads, trails, and other human development (e.g. yard storage, illicit dumping, vehicle activity, etc.). Additionally, the RAFSS habitat is isolated from the historic fluvial flow patterns and scouring regimes due to residential and industrial development. The elimination of fluvial processes from within the site area has removed the physical and biotic attributes needed to support viable RAFSS habitat

and sensitive plant and wildlife species. No other federally or State listed wildlife species were observed within the Area Q Quarry. Please see the HJA in Appendix C for more detail.

5.4 Wildlife, CCR §3503 (c), §3703

The Area Q Quarry is unoccupied by special-status wildlife species. As part of the HJA completed June 2019, ELMT assessed the potential for wildlife species to be found within the site. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation. ELMT also utilized field guides to assist with identification of species during surveys.

ELMT determined there was a potential for various reptiles, birds, and mammal species to be found within the Area Q Quarry. However, none of these wildlife species were identified as special-status species. Based on existing conditions, fish and amphibians are presumed absent from the site, as there is no habitat to support these species. Please see Section 3.5.2 above for more detail on wildlife species found within the site. Also, please see the HJA provided in Appendix C for a comprehensive list of wildlife species that could potentially occur within the area.

5.4.1 Special-Status Wildlife Species

Thirty-one (31) special-status wildlife species have been reported in the San Bernardino North and Devore USGS 7.5-minute quadrangles (refer to Appendix C). San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a California “Species of Special Concern,” is the only special-status species observed on the site. A “Species of Special Concern” is an administrative designation and carries no formal legal status.

Due to existing anthropogenic disturbances on-site, the observation of the San Diego black-tailed jackrabbit is assumed to be a fleeting occurrence and no mitigation is proposed. Additionally, the area west of the Area Q Quarry, associated with the Cajon Wash, provides high quality habitat for San Diego black-tailed jackrabbit where the animal is expected to occur, and has ample area to disperse into the Cajon Wash from the Area Q Quarry.

5.5 Reclamation Specifics & Schedule, CCR §2772 (c)(8)

5.5.1 Reclamation Slopes, CCR §3502 (b)(3), §3704

Once mining in Area Q is complete, a 120-foot deep excavation pit with side slopes of 2H:1V (horizontal: vertical) will remain. Because all excavated material will be transported offsite for processing, no excess material (e.g. tailings, overburden, sediment, waste rock) will be generated and/or stored within Area Q, other than the topsoil and subsoil stored in the berm along the southern boundary. As such, backfilling of the pit will be limited to placement of a nominal quantity of material, and therefore the reclaimed site will be essentially the same depth and grade as described above.

A Geotechnical Evaluation for the Area Q Quarry was performed by Haley and Aldrich (Haley & Aldrich, Inc., October 2019). A copy of the report is provided in Appendix A. As discussed in Section 3.4, the slope stability analysis determined the static and seismic factors of safety for the proposed reclamation slopes are 1.87 and 1.34 for static and seismic conditions, respectively. These factors of safety are considered acceptable for the proposed site design features and considered representative of stable slope configurations. Furthermore, proposed revegetation will help further stabilize the reclaimed side slopes and prevent erosion once roots are established. See Section 3.4 above for more detail.

5.5.2 Reclamation Backfilling, CCR §3502 (b)(4), §3704

Other than the placement of the topsoil and subsoil stored in the berm at the southern site boundary, no backfilling of the 120-foot excavation pit will occur as part of site reclamation. The bermed material, which totals approximately 100,000 tons, is anticipated to be spread across the excavation areas to help facilitate revegetation efforts. Please see Section 5.9 below for more detail.

5.5.3 Proposed Time Schedule of Reclamation, CCR §2772 (c)(6)

Mining operations in Area Q will be conducted in one (1) phase followed by reclamation. If feasible, portions of Area Q may be reclaimed and revegetated concurrent with mining in other areas. Mining in Area Q will commence once operations in Area L are complete, which is estimated to occur in 2023. Assuming operations in Area Q commence in 2023, it is estimated that mining activities in Area Q will terminate by approximately the end of 2053. Final site reclamation and revegetation is estimated to take approximately two (2) years to complete following termination of mining. Revegetation monitoring is anticipated to require an additional three (3) years, with final site reclamation completed around 2058. Please see Table 8 below, which summarizes the estimated Area Q mining and reclamation schedule.

Table 8: General Mining & Reclamation Schedule

Phase/Activity	Approximate Size (Acres)	Anticipated Schedule		Land Use/End Use
		Time Start	Time End	
Site Preparation ¹	187.6	January 2023	March 2023	Cleared Site
Mining Phase ²	182.1	March 2023	December 2052	Excavation Pit
Reclamation	187.6	January 2053	December 2055	Open Space
Reclamation Monitoring	187.6	January 2055	December 2058	Revegetated Open Space
<p>Note: Timeframes shown above are estimations, and may change depending on market demands, etc. Mining in Area Q will commence once mining in Area L is complete.</p> <p>1 – Site preparation will involve clearing the site of vegetation, and removing topsoil/subsoil to construct the minimum 10-foot high earthen perimeter berm. Landscaping along the perimeter berm will also be planted during the site preparation phase.</p> <p>2 – Once mining is complete; all areas will be reclaimed to open space. The perimeter berm will be deconstructed and topsoil/subsoil spread throughout the site to facilitate revegetation.</p> <p>3 – Dates and corresponding timeframes are approximate.</p>				

5.6 Revegetation Plan, CCR §3703 (g), §3705

The proposed revegetation approach and methods for the Area Q Quarry are consistent with those already approved and partially implemented at Vulcan’s Cajon Creek Quarry to the north. Specifically, portions of Area M to the northwest have been successfully reclaimed and revegetated per CUP No. 91-31/Specific Plan No. 90-01. Accordingly, test plots are not being proposed pursuant to SMARA Regulation Section 3750(b), as discussed below in Section 5.6.2. The revegetation plan is based on proposed final reclamation of the 120-foot deep mining pit floor and undulating side slopes, with a gradient of 2:1 (H:V), for use as open space. The proposed revegetation seed mix for Area Q is identical to the approved seed mix for Vulcan’s Cajon Creek Quarry, which includes a large percentage of native grassland species. The following sections outline the specifics related to proposed revegetation efforts for Area Q.

Following completion of mining operations, the following typical sequence of revegetation activities will be undertaken:

- Re-contouring of planting areas, if necessary;
- Control of invasive weeds;
- Placement of topsoil and subsoil;
- Installation of temporary irrigation systems, if necessary;
- Installation of erosion control devices;
- Planting and seeding;
- Maintenance and monitoring; and
- Reporting.

Revegetation of the Area Q Quarry will be achieved by using a combination of site preparations, planting activities, and ongoing maintenance procedures. This revegetation plan generally addresses and defines the following components; description of planting zones, timing, soil preparation, weed control, planting and seeding materials and techniques, implementation monitoring, establishment maintenance, horticultural monitoring and biological monitoring.

5.6.1 Revegetation Personnel & Methods

Revegetation activities will be conducted under the supervision of an experienced revegetation specialist. The revegetation specialist will work closely with Vulcan operations personnel to assure that revegetation is accomplished according to applicable plans (e.g. County Conditions of Approval, Reclamation Plan, etc.) and is consistent with revegetation efforts at Cajon Creek Quarry to the north. Any deviation from the applicable revegetation plans will be approved by the revegetation specialist prior to implementation. The revegetation specialist will be onsite during initiation of each revegetation task (e.g., site preparation, plant installation, seeding, etc.), and work will be monitored on a regular basis. The revegetation specialist will be required to keep activity logs to document the work accomplished and any issues encountered. These logs will be reviewed with the revegetation specialist on a weekly basis. The revegetation specialist will also prepare field memos to document the progress of revegetation.

5.6.2 Site Preparation for Revegetation, CCR §3503 (f), §3711

The soils in the areas to be reclaimed will consist of placed layers of topsoil and subsoil, which will serve as the growing medium for revegetation. The objectives of the soil preparation are to loosen the soil surface to prepare a seedbed for the hydroseeding. After the final grade has been established (i.e. 120-foot pit, 2H:1V side slopes) and just prior to planting and seeding the soil surface will be prepared. In areas where access is possible, the planting areas will be cross-ripped. The soil will be ripped to a depth of 10-inches to 12-inches and ripping will be performed in two (2) directions. The first pass will be contrary to the contour and the second pass with the contour. On steep slopes, where cross-ripping is not feasible, the soil surface will be either track walked vertically or rolled with a sheep's foot roller to create a rough surface. Soil surfaces will be left in as rough a condition as possible. The intent is to create small cracks, crevices and "micro-habitats" for the seeds to lodge and to improve water infiltration/retention, which will reduce erosion. Should areas become compacted or eroded prior to hydroseeding, re-roughening of the soil surface will be monitored.

Prior to hydroseeding, the final contours, hydrology, and soils composition of the revegetation areas will be reviewed by the revegetation specialist to determine the best locations for the plantings and to make any appropriate modifications to the overall revegetation plan.

Topsoil

As described in Section 5.5.2 above, an estimated 100,000 tons of topsoil and subsoil is present throughout the Area Q mining area. Prior to mining, topsoil and subsoil will be removed as a separate layer from the site using existing mobile equipment (i.e. front-loaders, scrapers and/or hydraulic excavator), and stored within the minimum 10-foot tall earthen landscaped berm along the site's southern boundary. Materials stored within the berm will serve as the final reclamation cover for the areas to be revegetated.

Prior to revegetation, the perimeter berm will be deconstructed and topsoil/subsoil spread throughout the area to be reclaimed.

Planting Method

Prior to starting revegetation efforts, the revegetation specialist will establish and stake the limits of planting areas. These efforts may involve making adjustments from plan locations as dictated by field conditions. All access routes, staging areas, and similar features will be located and staked in the field. Although not anticipated, if necessary, orange construction fencing will be installed to delimit sensitive areas adjacent to construction areas. Areas to be revegetated will be prepared as follows:

- Vegetation, trash, debris, and weeds will be cleared. All weeds will be removed from the area and properly disposed of offsite.
- Any eroded areas will be repaired uniformly without leaving pits, holes, or depressions that would potentially prohibit plant growth.

Seeds will be sown by hydroseeding using the same methods approved for the Cajon Creek Quarry. Hydroseeding will consist of a hydraulic application of a homogeneous slurry mixture consisting of water, organic soil stabilizer, cellulose wood fiber, and seed. Unless recommended by the revegetation specialist, fertilizer will not be included as an additive to the slurry mix, since native plants have very low nutrient requirements and application of fertilizer encourages the establishment of non-native, weedy species. Hydroseeding will be performed only at times when winds are calm. The slurry will be mixed in the hydroseeder tank just prior to the application and will not be allowed to remain in the tank for more than one (1) hour before application. The following specification will apply for areas to be hydroseeded:

- The seed mix in Table 9 will be applied.
- No fertilizer will be added to the hydroseed mix, unless recommended by the revegetation specialist.
- At the time of hydroseeding, all hydroseed mixing will be performed in a tank, with a built-in, continuous agitation and recirculation system of sufficient operating capacity to produce a homogeneous slurry; and a discharge system that will apply the slurry to designated areas at a continuous and uniform rate. Water will be provided using the existing groundwater well and the 15,000-gallon tank located in Area M. This water source is free of impurities, excess chlorine, and salts. Irrigation of revegetated areas will be applied by a mobile water truck. The tank and all hoses will be rinsed before entering the Area Q Quarry.
- The hydroseeder will spray designated areas with the slurry in a sweeping motion and in an arched stream, until a uniform coat is achieved with no slumping or shadowing. The material will be spread at the application rate recommended by the revegetation specialist.

- The following materials will be applied in a one (1) step hydroseed operation:
 - Seed mixes and application rates specified in Table 9.
 - 2,000 lbs./acre – virgin cellulose wood fiber.
 - 160 lbs./acre – soil stabilizer.

Once hydroseeded, the revegetation areas will be watered as needed with a watering truck and/or by hand. The revegetation specialist will be responsible for identifying equipment and personnel for watering the revegetation areas as deemed appropriate. Once the plants are established, further artificial irrigation will not be necessary and will be discontinued.

Although not anticipated, a temporary irrigation system may be installed to facilitate establishment of the plants. If a temporary irrigation system is used, the revegetation specialist will be responsible for the design and initial installation of equipment necessary for temporary irrigation. The design of an irrigation system is subject to the approval of the revegetation specialist. This temporary irrigation system will be monitored by the revegetation specialist, if it is needed.

Timing

In general, hydroseeding in revegetation areas will be performed and completed between November 30th and January 30th of any given calendar year. However, due to yearly variations in weather patterns, planting may be performed earlier or later than these dates if conditions are deemed favorable. The revegetation specialist will be responsible for monitoring weather patterns and determining the best time for planting. All efforts will be made to plant during the time when beneficial temperatures and soil moisture will promote germination, establishment and growth of seeds and container plants. Ideally hydroseeding will be performed after the first substantial rainfall of the season.

Reference Areas

Because Area M within the Cajon Creek Quarry has already been, in part, successfully revegetated, it will be used as a reference area for the establishment of revegetation at Area Q.

In addition to the revegetated areas within Cajon Creek Quarry, specifically Area M, nearby naturally occurring habitat areas (e.g. Cajon Wash/Lytle Creek) will be examined by the revegetation specialist for potential use as reference sites prior to the completion of mining in Area Q. Proposed revegetation standards, including plant palettes, plant densities and performance standards, will be evaluated and revised by the revegetation specialist as appropriate based on the observed reference areas.

Test Plots

SMARA regulations require test plots be established to determine appropriate planting procedures to assure successful revegetation (14 CCR §3705(b)). However, this requirement may be waived if success can be documented from previous experience with similar species and conditions, or based on competent professional advice.

As described above, Vulcan has successfully revegetated portions of the existing Cajon Creek Quarry site directly northwest of Area Q, specifically Area M, with the native seed mix shown in Table 9. This work was completed as part of the approved reclamation and revegetation programs implemented at the Cajon Creek Quarry. Due to the age of the Cajon Creek Quarry Reclamation Plan, specific revegetation success criteria were not prescribed. However, successful performance in these revegetated/reclaimed areas has

been demonstrated based on achieving: 1) high survivorship of the plants through the first year after installation; 2) progressively higher rates of cover from the first year through the fifth year after planting; 3) normal growth rates for trees; and 4) adequate germination of seeded species to exclude weeds and control erosion.

Based on knowledge of previous and successful revegetation efforts in Area M, as well as ongoing revegetation efforts at Area L, test plots are not necessary. Rather, the revegetation efforts at Cajon Creek Quarry have shown which methods are most effective at achieving successful revegetation. Methods and plant species will be used in Area Q that have been previously demonstrated most effective at achieving survival of plantings in the local area. Therefore, it is unlikely that additional test plots would yield any new information that would help assure successful revegetation. Consequently, no additional test plots are proposed within Area Q.

5.6.3 Seed Mixes

The seed mix shown in Table 9 will be applied to all Area Q revegetation areas indicated on Figure 11. Please note, this seed mix is identical to what is approved and currently being implemented for revegetation efforts at Vulcan's existing Cajon Creek Quarry to the north.

Research has established that plant materials genetically adapted to the particular environmental conditions of a given site are critical to the success of revegetation. Seeds for hydroseeding can either be purchased from a commercial vendor, or collected from the Area Q area. If commercial seed sources are unavailable for the selected species, the revegetation specialist can choose to use local seed propagules collected from the general area of the site. Propagule collection sites will have similar characteristics, such as elevation, slope, aspect and soil type, if selected as the revegetation site to ensure genetically appropriate source materials. Site-specific propagule and seed collections will begin a minimum of two (2) years in advance of installation to ensure availability of adequate quantities of plants and seed for revegetation planting. The preliminary seed collections of species for hydroseeding will be tested to determine the purity and germination rates of the materials collected. The final seed mix species and application rates to be used for hydroseeding will be determined based on the actual quantity and quality of the seed materials collected.

The seed mix application rates listed below define a minimum to maximum application rate (pounds/acre) for each revegetation species. These application rates are based in part on average seed counts, quality, success rates and amounts normally available for collection. Just prior to hydroseeding, the revegetation monitor will determine the final species type and application rates based on the amount and quality of the seeds collected. Detailed information of the type and amount of seed planted will be recorded.

All seeds, of only native species, will be either purchased commercially or collected from the site area. To ensure adequate quantities of appropriate species a seed collection contract will be initiated by Vulcan with a native seed supplier no sooner than two (2) years in advance of revegetation implementation. Seed purchasing and/or collecting will be overseen by the revegetation specialist.

Table 9: Revegetation Seed Mix – Area Q Quarry

Common Name	Scientific Name	Seeding Rate (lbs./acre) ¹	
		Minimum	Maximum
California sagebrush	<i>Artemisia californica</i>	1.0	2.0
chamise	<i>Adenostoma fasciculatum</i>	2.0	4.0
flattopped buckwheat	<i>Eriogonum fasciculatum</i>	8.0	12.0
scalebroom	<i>Lepidospartum squamatum</i>	3.0	5.0
black sage	<i>Salvia mellifera</i>	1.0	2.0
golden aster	<i>Chrysopsis villosa</i>	0.25	0.5
slender buckwheat	<i>Eriogonum gracile</i> (E. davidsonil)	1.0	2.0
California croton	<i>Croton californicus</i>	0.25	0.5
mountain mahogany	<i>Cercocarpus betuloides</i>	0.5	1.5
California everlasting	<i>Gnaphalium californicum</i>	0.5	1.0
showy penstemon	<i>Penstemon spectabilis</i>	0.5	1.5
deerweed	<i>Lotus scoparius</i>	4.0	8.0
chia	<i>Salvia columbariae</i>	0.5	2.0
white sage	<i>Salvia apiana</i>	1.0	2.0
branching phacelia	<i>Phacelia ramosissima</i>	0.25	1.0
red berry	<i>Rhamnus crocea</i>	1.0	2.0
butterweed	<i>Senecio douglasii</i>	0.25	0.5
giant stipa	<i>Stipa coronata</i>	1.0	2.0
chaparral yucca	<i>Yucca whipplei</i>	1.0	2.0
Total:		27.0	51.5
Source: <i>Revegetation Plan and Monitoring Program – Cajon Creek Project</i> (Martha Blane, November 1992)			
Notes:			
1) Reclamation area is approximately 187.6-acres total.			
2) Range shown represents minimum and maximum seeding rate (lbs./acre) that should be utilized during hydroseeding.			

5.6.4 Control of Weeds & Non-Native Vegetation

The predominance of exotic, invasive weed species throughout California has presented a formidable challenge to most revegetation projects. Weed species are opportunistic and have mechanisms for dispersal and establishment that can eventually lead to displacement of native species. At the Area Q Quarry, potential problem weed species will not be known until after mining is completed. To ensure that weed species competition is controlled, the site will be inspected prior to revegetation implementation by the revegetation specialist. The monitor will also determine the most effective treatments for control of invasive species. If weed control activities are necessary, they will likely include a combination of treatments such as herbicide application, hand removal, and soil solarization. All weed control activities will be observed by the revegetation specialist. The monitor will instruct the weed eradication personnel in identification of native and weed species.

Herbicide Application

If deemed necessary, a systemic herbicide will be applied to exotic plants and noxious weeds that may re-sprout from underground roots or rhizomes, therefore requiring root kill. Species likely to occur onsite which may require herbicide treatment are: giant reed (*Arundo donax*), castor bean (*Ricinus communis*) and tree tobacco (*Nicotiana glauca*). If needed, the targeted vegetation will be sprayed with an herbicide

such as glyphosate (trade name Roundup). The herbicide treatments will employ conservative application methods, such as spot spraying or “painting”. Extreme care will be exercised to ensure that herbicides are used properly and only when necessary. The actual type and amount of herbicide to be used will be based on recommendations by a licensed pest control advisor and product labels. If required, herbicides will be applied prior to revegetation implementation.

Hand Removal

Just prior to the revegetation planting, the site will be reviewed by the revegetation specialist to determine if any additional weed control is required. If weeds are present onsite, then the weeds will be removed by manual methods. Hand removal will employ the use of tools, hand pulling and possibly weed whipping.

Soil Solarization

Soil solarization, a nonchemical technique used to control many weeds, soil-borne pathogens, and pests, may be used as recommended by the revegetation specialist. This technique captures radiant heat energy from the sun, thereby causing physical, chemical, and biological changes in the soil. Based on the results of revegetation efforts at Cajon Creek Quarry, this weed control treatment may be most practical and effective within Area Q for large stands of weeds where the soil surface and gradient are suitable. To properly utilize soil solarization, transparent polyethylene plastic is placed on moist soil during the hot summer months to increase soil temperatures. In general, for warm inland areas, two (2) to four (4) weeks of hot weather are required to reach the soil temperatures needed for effective soil solarization. As the plastic lays on the soil, surface temperatures rise to levels lethal to many weed seeds, soilborne plant pathogens, seedlings, nematodes, and some soil-residing mites. The main benefit of using soil solarization will be effective weed control without the use of soil fumigants. Soil fumigants used for pest control are often undesirable due to unfavorable effects on animals or humans, resulting toxic plant and soil residues, complexity of treatments, and high costs. Seed and seedlings of many annual and perennial weeds have been effectively controlled with soil solarization in farming applications. Some weed species are very sensitive to solarization while others are moderately resistant. Control of winter weed species is often evident for more than one (1) year after treatment. Winter annual grasses seem to be especially sensitive to solarization.

Invasive Plant Species

Non-native invasive plants that threaten California’s wildlands have been categorized by the California Invasive Plant Council (Cal-IPC). Invasive plants that have been classified by Cal-IPC as “High” (severe ecological impacts on physical processes, plant and animal communities, and vegetation structure) or “Moderate” (substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure) in terms of ecological threat will be controlled as necessary within the revegetation areas for a minimum of three (3) years in order to prevent aggressive weeds from out-competing native plant species for resources (e.g., space, water, nutrients, and light). These invasive weeds will be removed mechanically, if feasible. In circumstances where mechanical control is not effective, EPA-approved systemic herbicides may be used. Herbicides will be applied under the direction of a licensed applicator.

Prior to initiation of revegetation efforts, the revegetation specialist will consult the most recent Cal-IPC list, and a list of specific species to be controlled under this Reclamation Plan will be developed. Additional

species may be added to the list based on actual conditions and the recommendation of the revegetation specialist.

5.6.5 Revegetation Success Criteria (Performance Standards), CCR §3705(m)

The basic goal of revegetation is to re-establish self-sustaining native plant communities within the areas disturbed by mining activities. California Code of Regulations (CCR) Section 3705(m) requires that reclaimed revegetated sites be "similar to naturally occurring habitats in the surrounding area." Additionally, SMARA also requires the operator to demonstrate that vegetation on reclaimed sites is self-sustaining without irrigation, fertilization, or weeding for a minimum of two (2) years prior to release of a performance bond.

Specifically, the goal for the mined areas of Area Q is to provide surface erosion control through revegetation using native plant species. This goal will be achieved by hydroseeding with the seed mix shown in Table 9 along with fiber mulch and soil stabilizer. When applied, the hydroseed mix should establish a quick-growing native plant cover to retard the downward movement of soil. The revegetation plantings are intended to provide the foundation for which natural successional patterns may develop into mature habitat.

The existing 1992 Revegetation Plan approved for the Cajon Creek Quarry was used to determine the appropriate vegetation community types, and initial planting diversities, and densities for this Reclamation Plan. However, prior to determining the final planting and seeding densities and diversities, quantitative baseline measurements will be collected from naturally occurring habitats within the Cajon Creek watershed habitat to the west. In addition, quantitative baseline measurements will be collected yearly from previously revegetated reference areas within Cajon Creek Quarry to the north, to document current vegetation density, species abundance and diversity. The revegetated areas within Area Q are expected to ultimately achieve a vegetation cover similar to vegetation in these reference areas. Within the three (3) to five (5) year monitoring period following revegetation, trend analyses will be performed to assess whether the revegetation plantings are progressing toward a mature reference habitat.

Generally, revegetation success is based on achieving: 1) acceptable survivorship of plants through the first year following planting; 2) vigorous growth resulting in progressively higher rates of cover from the first year through the fifth year after planting; and 3) adequate germination of seeded species to control weed growth and erosion. Specific SMARA performance standards for revegetation success are based on achieving vegetation density, cover, and species richness comparable with pre-mining conditions, or with naturally occurring habitats in the area based on appropriate reference sites. As described in Section 5.6.4 above, due to the high percentage of undesirable nonnative species currently found within the existing Area Q Quarry, areas to be restored to native habitats will be reclaimed to conditions that differ from the pre-mining condition (14 CCR §3705 (a), §3705 (m)). The pit floor and side slopes will be reclaimed to open space grassland similar to current conditions, but with a larger percentage of native perennial species. Ultimately, performance in these areas will be based on a combination of establishing vegetative cover and species richness.

The goal of revegetation is to establish land suitable for use as open space as well as provide erosion control. The combined seed mix described in Table 9 above should create a vegetative cover suitable for this proposed end use. Table 10 below presents the specific performance criteria that will be utilized to determine the success of revegetation efforts at Area Q. Please note, success criteria may be revised by the revegetation specialist depending on the future results of revegetation within Cajon Creek Quarry

and/or measurements collected from naturally occurring reference habitats within the Cajon Creek watershed habitat.

Table 10: Five-Year Performance Standards for Revegetation

Performance Criteria	Monitoring Method	Success Criteria (5-Years)¹	Management Response
Vegetative Cover	Transect/Plot or Aerial Photos Analysis	25% cover all native perennials combined per 50-meter by 1-meter transect	Reseed and/or identify and repair influencing variable
Density	Transect/Plot	5 native perennial species per 50-meter by 1-meter transect	Substitute failing species with planted species that is thriving
Species Richness	Transect/Plot	20 native perennials per 50-meter by 1-meter transect	Reseed and/or identify and repair influencing variable

1 – Within the 187.6-acre reclamation area, six (6) randomly placed 50-meter by 1-meter transects will be utilized to determine the success of revegetation efforts at Area Q. Data for all transects will be averaged to produce the final success criteria results.

As shown in Table 10, data will be collected using the line-intercept method along each 50-meter by 1-meter transect. Specifically, monitoring will include sampling along six (6) randomly placed 50-meter by 1-meter transects per reclaimed area, which will cover approximately 187.6 acres total. Data for all transects will then be averaged to produce the results. Success criteria are based on the overall quality of the revegetation results compared to recorded vegetation data collected from either Cajon Creek Quarry or nearby areas within the Cajon Creek watershed. From completion of the revegetation for a specific area, the surviving perennial plant species will be evaluated annually by the revegetation specialist. The first 2 to 3 years will measure survival of hydroseeded areas, need for weeding, and successful establishment of seeded native plants. In later years (i.e. years 4 to 5), monitoring will focus on the site's resemblance to undisturbed vegetation in terms of the criteria presented in Table 10. This schedule may be revised depending on the results of the revegetation effort and the meeting of the success criteria. Monitoring data will be reviewed by the revegetation specialist and reviewed annually by the County through submittal of the annual SMARA report (see Section 5.14).

5.7 Site Cleanup, CCR §3502 (b)(5)

5.7.1 Building Structure & Equipment Removal, CCR §3709

There are no permanent buildings or structures proposed within the Area Q Quarry. Temporary structures, such as the conveyor system connecting to Area L, will be dismantled and removed during final reclamation. No other temporary and/or permanent structures that would require specific reclamation will be installed in Area Q.

All mobile equipment (e.g. loaders, dozers, scrapers, water truck, etc.) will be removed following the completion of reclamation activities. Any residual wastes (debris, revegetation materials, etc.) will also be removed and properly disposed of in accordance with applicable health and safety regulations and/or local ordinances.

5.7.2 Tailing & Mine Waste Management, CCR §3712

As described previously, no mine wastes and/or tailings will be generated by mining operations in Area Q.

5.7.3 Closure of Surface Openings, CCR §3713

No drill holes, water wells, or other underground workings (e.g. portals, shafts, tunnels, etc.) that would require closure are proposed within Area Q. An existing water well and 15,000-gallon water tank, located on Vulcan's Cajon Creek Area M, will supply water to the site using mobile water trucks. The existing offsite well found within Area M will be abandoned in accordance with applicable local and state regulations per the approved Cajon Creek Quarry (CA Mine ID# 91-36-0137) reclamation plan for that site.

5.8 Post-Reclamation & Future Mining, CCR §2772 (c)(7)

The proposed end use of the final reclaimed Area Q Quarry will be revegetated open space. As discussed above, the 120-foot deep excavation pit will remain post-reclamation and will not be backfilled. Final reclaimed side-slopes will not exceed the SMARA criteria of 2:1 (H:V). The site will be revegetated using the seed mix shown in Table 9, which is the identical seed mix approved for the Cajon Creek Quarry. The reclaimed Area Q Quarry will be compatible with adjacent properties, including Vulcan's reclaimed Cajon Creek Quarry to the north which will also be open space. Please see Figures 11 and 12 above, which displays the final design of the reclaimed Area Q Quarry.

5.8.1 Impact of Reclamation on Future Mining, CCR §2772 (c)(9)

The proposed end use of the final reclaimed Area Q Quarry will be open space. As such, the implementation of the reclamation plan will not preclude or impact future mining in the area.

5.9 Slopes & Slope Treatment, CCR §3502 (b)(3)

5.9.1 Backfilling, Regrading, Slope Stability, and Recontouring, CCR §3704

As discussed in Section 5.5.2, no backfilling will be required. Once mining operations are complete, the final reclaimed site will remain a 120-foot deep pit with 2:1 (H:V) side-slopes. To ensure the pit walls will not exceed the SMARA criteria of 2:1 (H:V), and to prepare the site for revegetation, minimal regrading/recontouring may be required. The reclaimed side-slopes will be stabilized through the hydroseeding and the establishment of native vegetation.

As part of the Geotechnical Evaluation completed by Haley and Aldrich (Haley & Aldrich, Inc., October 2019), a slope stability analysis was performed for both the proposed mine and reclamation slope designs. During mining and following reclamation, the side slopes will not exceed a maximum inclination of 2H:1V. The analysis was performed on a single, design mine slope cross-section at Area Q, set back at a maximum inclination of 2H:1V. While mining in Area Q is planned to terminate at a depth of 120-feet bgs, the excavation modeled in this cross-section was conservatively divided into 120-foot, 150-foot, and 200-foot-deep mine slope scenarios. The stability analysis was performed using RocScience™ *Slide* 7.0, a limit-equilibrium software program for analyzing static and pseudo-static (seismic) factors of safety for soil slopes.

The following sections describe the results of the slope stability analysis performed by Haley and Aldrich (Haley & Aldrich, Inc., October 2019). Also see the full Geotechnical Evaluation in Appendix A for more detail.

Materials Properties

Material properties for the slope stability analysis performed by Haley and Aldrich is based on subsurface logs provided by Vulcan, observations of the adjacent Areas L and M, and the results of limited laboratory

testing on bulk samples collected from Area L. Subsurface materials within the Area Q mining limits are expected to include granular alluvial deposits consisting of sand, gravel, cobbles, and boulders. For the slope stability analysis, the design subsurface profile was simplified to consist of layers of well-graded sand with gravel (“sand”) and well-graded gravel with sand (“gravel”), consistent with the boring logs prepared by TerraMins (2004), and described in Section 3.1.2 (see Appendix A).

Soil shear strength properties for the sand and gravel layers were selected based on laboratory shear strength testing. Samples of the sand and gravel materials were retrieved from the southern sidewall of Area L, just north of the Area Q Quarry. A design friction angle and adhesion value for each material was selected based on the peak strengths. The unit weight of each soil type was estimated based on typical values for similar materials in this region. The material properties used for the analysis are presented in Table 11 below. Full laboratory test results are presented in the Geotechnical Evaluation report (see Appendix A).

Table 11: Material Properties Used for Slope Stability Analysis

Material Name	Unit Weight (lbs. per cubic feet (pcf))	Friction Angle (degrees)	Adhesion (pounds per square foot (psf))
Sand	130	37	180
Gravel	130	41	0

Source: Geotechnical Evaluation (Haley & Aldrich, Inc., October 2019).

Seismic Coefficient for Pseudo-Static Slope Stability Analysis

Static conditions evaluate long-term open cut excavation slope configurations and pseudostatic conditions evaluate the effect of a seismic event on the open excavation slope configuration. County and SMARA regulations require that static and pseudo-static factors of safety (FOSs) for excavation and fill slopes are suitable for the proposed end use and conform to the surrounding topography and uses (see 14 CCR § 3704(d)).

The pseudo-static (seismic) stability of the five (5) cross-sections was analyzed by Haley and Aldrich in accordance with the recommendations presented in California Geological Survey’s (CGS’s) Special Publication 117A, specifically the method developed by Seed (1979). Using this method, a horizontal seismic coefficient, k_h , equal to 0.15 was applied to each section to determine that a FOS of at least 1.15 could be achieved. This FOS marks an acceptable level of pseudo-static slope stability, defined by Seed (1979) as slope movement limited to approximately 3.3 feet (1 meter).

Additionally, a supplemental analysis of seismic slope stability was performed by Haley and Aldrich (Haley & Aldrich, Inc., October 2019) using the Franklin and Chang (1977) Method. With this method, the yield acceleration of the slope (i.e., pseudo-static acceleration where the slope FOS is equal to one) was calculated and compared to a peak ground acceleration (PGA) of 0.82g, or the PGA for a seismic event with a 475-year return period.

The proposed sidewall slopes were analyzed by the limit equilibrium (method of slices) method, using circular searches with the Simplified Bishop’s Method to calculate the FOS against sliding. A static FOS of 1.5 or greater for slopes analyzed using this method is typically considered adequate for demonstrating stability. The minimum FOS for each slope height scenario under static and pseudo-static conditions is shown in Table 12. Graphical depictions of each analysis scenario and associated critical failure surface are provided in the Geotechnical Evaluation report (see Appendix A).

Table 12: Results of Slope Stability Analyses (by limit equilibrium method)

Slope Height (ft.)	Factor of Safety	
	Static	Pseudo-Static
120	1.87	1.34
150	1.76	1.26
200	1.75	1.25

Source: Geotechnical Evaluation (Haley & Aldrich, Inc., October 2019).

As shown in Table 12 above, Haley and Aldrich’s analysis demonstrates that the calculated static and seismic FOS for the proposed mine and reclamation slopes are or will be in excess of 1.87 and 1.34, respectively, indicating stable conditions. These FOSs are considered acceptable for the proposed design features of Area Q and considered representative of stable slope configurations. Although not part of the design, Haley and Aldrich anticipated that 2H:1V mine slopes at lower depths of 150-feet bgs and 200-feet bgs would also generate acceptable stability results (Haley & Aldrich, Inc., October 2019). Please see Appendix A for more detail.

5.10 Ponds, Reservoirs, Tailings & Wastes, CCR §3706, §3712

No ponds, tailings, and/or mine waste basins or impoundments will be present within the Area Q Quarry. Additionally, no dams, embankments, or foundations will be present onsite.

5.11 Soil & Fine Textured Waste

Please see Section 3.1, which describes the site geology and soils found within the Area Q Quarry. The following section describes how topsoil and other fine soils will be managed as part of site reclamation.

5.11.1 Topsoil Salvage, Maintenance, & Redistribution, CCR §3711

As discussed previously, prior to mining topsoil and subsoil will be salvaged from Area Q and stored onsite during operations. There is an approximately 2-foot thick layer of topsoil/subsoil at the Area Q Quarry. The soil will be removed as a separate layer prior to normal mining. Approximately 100,000 tons of topsoil and subsoil will be salvaged and stored within the minimum 10-foot landscaped earthen berm along the southern boundary of the site. The berm will be maintained and BMPs implemented to minimize soil erosion.

After final grading of mine areas to be reclaimed, the topsoil and subsoil will be redistributed throughout the site to help facilitate revegetation.

5.12 Drainage & Erosion Controls

5.12.1 Drainage, Diversion Structures, & Erosion Control, CCR §3706

As described in Section 4.5 and the Drainage Report (see Appendix B), mining and reclamation activities in Area Q will not impact nearby waterways. There are no existing or proposed drainage or stream features within Area Q.

Per the Drainage Report prepared by Sespe Consulting in November 2019 (Appendix B), the site is not expected to create an increased potential for stormwater runoff that could adversely impact adjacent areas. Due to the existing topography and land uses, the site is not expected to receive significant local runoff from neighboring properties. Generally, stormwater that falls on the site will be contained by the

120-foot deep mine pit and the minimum 10-foot high earthen berm along the southern site perimeter. Contained stormwater will either naturally evaporate or infiltrate into the ground. Because runoff will ultimately decrease due to containment provided by the pits walls/berm, post-reclamation runoff and erosion sedimentation will also decrease.

Drainage and erosion control during and after reclamation activities will be managed using best management practices (BMPs) identified in the Drainage Report (Appendix B) and the site-specific SWPPP. For further detail on drainage and erosion control measures, please refer to Section 4.5 and the Drainage Report (Appendix B).

5.12.2 Stream Protection, Including Surface Water, & Groundwater, CCR §3710

Approved BMPs to protect the surface water quality of areas surrounding Area Q are identified in the site-specific SWPPP and the Drainage Report (Appendix B). Many of these BMPs are currently being implemented at Vulcan's Cajon Creek Quarry to the north. As shown on Figure 5, the Area Q Quarry is east of the Lytle Creek and north of Devil Creek Diversion Channel. Per the Drainage Report (Appendix B), mining and reclamation within Area Q will not directly encroach into the adjacent creek or existing floodplain. The approved BMPs identified in the SWPPP and Drainage Report (Appendix B) will be implemented at the Area Q Quarry to prevent runoff and control erosion that could impact nearby surface waters (i.e. Cajon Creek, Lytle Creek, Devil Diversion Channel).

As previously discussed, groundwater is expected to occur at depths below 200-feet bgs. The final depth of excavation is anticipated to be 120-feet bgs; therefore, it is not anticipated that groundwater will be encountered during mining operations. Therefore, dewatering of the excavation pits will not be required.

5.13 Public Health & Safety, CCR §3502 (b)(2)

Vehicles will access the Area Q Quarry using the existing access road off of Cajon Boulevard in the northeast corner of the site (see Figure 6). This access will serve as the single ingress and egress point for all employees and other work vehicles, which includes small work trucks, and employee/visitor passenger vehicles. No mined materials will be transported off-site from this access point. A security gate with required signage will be located on the access road at the boundary of the site, and will be locked during non-working hours.

Public access to the site will be restricted with perimeter fencing and locked gates along Cajon Boulevard. The gates will have signs reading "NO TRESPASSING." The 6-foot high perimeter fence and gates will restrict access to foot traffic and motor vehicles from the public roads, and will remain in place during mining and reclamation activities.

Mining and reclamation activities will comply with all Federal Mine Safety and Health Administration (MSHA) and State Occupational Safety and Health Administration (OSHA) mine safety regulations concerning operating standards and operation of equipment.

Workers, including contract labor, will be trained in mine safety and first aid. Refresher courses will be conducted periodically in accordance with applicable regulations.

Mine operators will carry portable cellular phones for offsite communication. All visitors, outside vendors, and truck drivers will be required to check-in and check-out with the site manager. Conditions affecting safety will be continually monitored by onsite operations personnel.

The Area Q Quarry is private property. During mining and after reclamation of the site is complete, the general public will not be admitted to these lands without prior permission of the onsite manager.

When mining has concluded and reclamation is complete, there will be no open shafts or any hazardous materials remaining on the reclaimed lands.

5.13.1 Control of Potential Contaminants & Non-Marketable Material, CCR §2772 (c)(8)

Water Quality

Groundwater underlying Area Q is estimated to be below 200-feet bgs (Haley & Aldrich, Inc., October 2019). The proposed final depth of the excavation area is 120 feet bgs. Therefore, groundwater will not be encountered during mining and/or reclamation operations. As such, no impacts to groundwater quality are expected.

Approved BMPs to protect the surface water and the water quality will be identified in the SWPPP. BMPs are also outlined in the Drainage Report (Appendix B). These site-specific BMPs will be implemented onsite during the life of the mining and reclamation activities. Additionally, the minimum 10-foot tall earthen berm adjacent to the Devil Creek Diversion Channel will contain stormwater and prevent runoff. As discussed in the, Drainage Report (Appendix B), the Area Q Quarry is east of the Lytle Creek/Cajon Wash area and will not directly encroach into the creek or existing floodplain.

5.14 Monitoring, Maintenance, & Reporting

Performance monitoring will include both qualitative and quantitative assessment. Qualitative monitoring will occur during periodic inspections of the reclamation and revegetation areas. These inspections will occur frequently (approximately every month) during the first year of reclamation, and less often in subsequent years. Quantitative monitoring will typically occur annually, beginning during the first year after planting.

5.14.1 Qualitative Monitoring

Qualitative monitoring methods will include visual observation and photo documentation. There are no specific performance criteria associated with this monitoring.

During monitoring events, the revegetation specialist will document the conditions, potential issues (i.e. vandalism, fence damage, presence of exotic species, herbivory, erosion, etc.), and recommended actions will be documented in a field memo. Copies of all field memos will be included in each year's annual SMARA report, which will be submitted to the County for review.

Annual photographs of revegetation areas will be taken from preset photo stations during data collection events. Additional photographs will be taken of any potential problem areas. All photographs will be logged and included in each annual report.

5.14.2 Quantitative Monitoring

Vegetative cover and species composition will be assessed using the sampling methods described below and the success criteria described in Section 5.6.5. Sampling will generally be conducted at the end of the growing season. Following each annual data collection event, the revegetation specialist will compile data and prepare an analysis of the results.

As discussed in Section 5.6.5, quantitative data will be collected using the line-intercept method along each 50-meter by 1-meter transect. Success monitoring will include sampling along six (6) randomly placed 50-meter by 1-meter transects per the approximately 187.6-acre reclaimed area. Data for all transects will then be averaged to produce the results. Success criteria are based on the overall quality of the revegetation results compared to recorded vegetation data collected from either Cajon Creek Quarry or nearby reference areas within the Cajon Creek watershed. Following completion of revegetation for a specific area, the surviving perennial plant species will be evaluated annually by the revegetation specialist. The first 2 to 3 years will measure survival of hydroseeded areas, need for weeding, and successful establishment of seeded native plants. In later years (i.e. years 4 to 5), monitoring will focus on the site's resemblance to undisturbed vegetation in terms of the criteria presented in Table 10. This schedule may be revised depending on the results of the revegetation effort and the meeting of the success criteria. Monitoring data will be reviewed by the revegetation specialist and reviewed annually by the County.

5.14.3 Annual Monitoring Reports

Annual monitoring reports will be prepared that include a summary of the revegetation effort, site conditions, any issues encountered, evaluation of the data collected and success achieved, and recommendations for meeting the performance criteria. Reports will be submitted to the County for review and annually.

5.15 Reclamation Assurance, CCR §2773.1 (a)

A detailed Financial Assurance Cost Estimate (FACE) will be prepared prior to commencement or operations in Area Q, "Financial Assurance Cost Estimate." The FACE will include detailed descriptions and spreadsheets estimating the cost for reclamation of the site to the specifications established in this Reclamation Plan.

A performance bond payable to the County and, in the alternative, the California Department of Conservation (DOC), Office of Mine Reclamation (OMR), will be provided to the County in the amount of the estimated cost of reclamation. Alternatively, if provided for by future regulations, other forms of equivalent surety may be substituted.

Please see Section 8.0 below for more detail.

6.0 OTHER SMARA RECLAMATION STANDARDS

6.1 Protection of Fish and Wildlife Habitat, CCR §3503(c)

As discussed in Section 3.5, a HJA was performed by ELMT in June 2019 (ELMT Consulting, Inc., June 2019). The only plant community of note found within the site is an isolated and highly disturbed and degraded RAFSS (see Figure 10). No federally or State listed wildlife or plant species were observed within the Area Q Quarry. ELMT concluded that RAFSS within Area Q have either succeeded to upland chaparral habitat or are no longer functioning as viable RAFSS habitat with long-term conservation value for a number of reasons. First, the site's RAFSS habitat has been extensively disturbed by human activity for decades, and is heavily fragmented by roads, trails, and other human development (e.g. yard storage, unauthorized miscellaneous dumping, vehicle activity, etc.). Second, the RAFSS habitat is isolated from the historic fluvial flow patterns and scouring regimes due to residential and industrial development. Third, the elimination of fluvial processes from within Area by construction of the SPRR has removed the physical and biotic attributes needed to support viable RAFSS habitat and sensitive plant and wildlife species. Fourth, the RAFSS habitat is not occupied by any listed or otherwise sensitive plant or animal species, indicating minimal or no value as biological habitat.

Additionally, removal of any trees, shrubs, or any other potential nesting habitat will be conducted outside the avian nesting season as warranted during mining and reclamation. The nesting season generally extends from early February through August, but can vary slightly from year to year based upon seasonal weather conditions. Therefore, if ground disturbance and vegetation removal cannot occur outside of the nesting season, a pre-construction clearance survey for nesting birds will be conducted within thirty (30) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. As part of the nesting bird clearance survey, a pre-construction burrowing owl clearance survey will be conducted within thirty days of the start of ground disturbing activities. Please see the HJA in Appendix C for more detail related to the pre-construction nesting birds and burrowing owl surveys recommended by ELMT.

6.2 Prime Agricultural Land Reclamation, CCR §3707

Per the California Department of Conservation's Farmland Mapping and Monitoring Program, the proposed Area Q Quarry is not located within Prime Agricultural land.

6.3 Other Agricultural Land Reclamation, CCR §3708

The reclaimed area will be returned to open space.

6.4 Other Lead Agency Requirements, CCR §2772(c)(11)

In addition to the SMARA requirements addressed in this Reclamation Plan, the following San Bernardino County zoning/land use requirements and California Environmental Quality Act (CEQA) requirements are applicable to the Area Q Quarry:

- County of San Bernardino – 2007 Development Code, Division 8 (Resource Management & Conservation), Chapter 88.03 (Surface Mining & Reclamation).
- CEQA Appendix G Environmental Checklist and subsequent CEQA documents.

7.0 STATEMENT OF RESPONSIBILITY, CCR §2772(C)(10)

As required by Public Resources Code §2772 (c)(10), the owner and operator accept responsibility for reclaiming the mined lands in accordance with the provisions of this Reclamation Plan.

I, the undersigned, hereby acknowledge that all of the provisions of said permit and reclamation plan, and any and all conditions appended thereto will be faithfully performed and completed within the time therein provided, or within any additional time as may be allowed pursuant to the Surface Mining Ordinance Code of the lead agency and with the applicable requirements of Articles 1 and 9 (commencing with section 3500 et seq., respectively) of Chapter 8, Division 2, Title 14, of the California Code of Regulations, the Surface Mining and Reclamation Act of 1975 (SMARA), as amended (Section 2710 et seq. of the Public Resources Code) which are incorporated herein by reference.

I, the undersigned, hereby agree to perform and complete the provisions of said permit and/or plan, including any and all conditions appended thereto, shall be subject to the provisions of said Ordinance Code and SMARA and the State Mining and Geology Board's implementing regulations and guidelines.

That the place of performance by the undersigned of the covenants herein, shall be the area managed by the lead agency in the State of California.

That, pursuant to Public Resources Code section 2774.1 (a) notice procedures, any notice required to be given, or otherwise given to the undersigned may be by personal service or by certified mail.

Signature _____

Name _____

Signed this ____ day of _____, 20____

8.0 FINANCIAL ASSURANCES, CCR §2773.1 (A)

A Financial Assurance Cost Estimate (FACE) will be prepared for the Area Q Quarry. This FACE will be reviewed annually and updated accordingly.

9.0 REFERENCES

- BRC Consulting LLC. (April 2018). *Cultral Resources Assessment*. Claremont, CA: BRC Consulting LLC. Retrieved 2019
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- Miller, F., & Matti, J. (2001). *Geologic Map of the San Bernardino North 7.5' Quadrangle, San Bernardino County, California*. *Open-File Report 01-131*. Menlo Park, CA, San Bernardino: U.S. Geological Survey. Retrieved from <https://pubs.usgs.gov/of/2001/0131/>
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- TerraMins, Inc. (2004). *Preliminary Drilling Results for "Area Q", Muscoy, San Bernardino County, California*. San Bernardino, CA: TerraMins, Inc.
- Tetra Tech, Inc. & Amec. (2009). *Devil Creek Diversion Channel - PAL Response Report*. County of San Bernardino, Flood Control District. San Bernardino: San Bernardino County.

APPENDIX A

Geotechnical Evaluation – Vulcan Materials Company Area Q Project (Haley & Aldrich, Inc. – October 2019)

APPENDIX B

Drainage Report – Area Q Mine (Sespe Consulting, Inc. – November 2019)

APPENDIX C

Habitat and Jurisdictional Assessment – Vulcan Area Q (ELMT Consulting, Inc. – June 2019)

APPENDIX D

Legal Descriptions – Area Q Property
(Chicago Title Company, Thienes Engineering, Inc., Johnson-Frank & Associates,
Inc. – 2004-2016)

EXHIBIT G

Mining Plan

2.4 Mine Operations

2.4.1 Baseline

CEQA Guidelines section 15125 defines a project's baseline as those environmental conditions existing at the time of environmental review. (CEQA Guidelines, § 15125 (a).) "This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." (*Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 320.)

When a project involves continuation of ongoing or past activities "the established levels of a particular use and the physical impacts therefore are considered to be part of the existing environmental baseline." (*North Coast Rivers Alliance v. Westlands Water District* (2014) 227 Cal.App.4th 832, 872 [hereinafter "*North Coast*"].) The baseline thus reflects "the current operative condition" of the area being assessed. (*Citizens for East Shore Parks v. California State Lands Commission* (2011) 202 Cal.App.4th 549, 558 ["*Citizens for East Shore Parks*"].) Accordingly, "a proposal to continue existing operations without change would generally have no cognizable impact under CEQA." (*North Coast, supra*, at 872-873.) This approach to baseline is the same for mining projects. (see *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 658 ["In the situation of an existing mining operation, a description of baseline environmental setting may reasonably include the mine's established levels of permitted use."].)

A lead agency cannot analyze a project against hypothetical future conditions that do not incorporate the existing environmental conditions. This is true even if the existing environmental conditions would change in the future because, for example, a use would cease in the future due to expiration of a permit. (see *Citizens for East Shore Parks, supra*, at 560-61.)

In summary, where a project simply extends an existing operation, the continuation will not result in an environmental impact absent any change to or intensification of the existing use. (*World Business Academy v. State Lands Commission* (2018) 24 Cal.App.5th 476, 500-503.)

The aggregate extracted from the Project site would be transferred to a continuation of the existing conveyance infrastructure in place at Area L. Thus, the ongoing Cajon Creek Operations are the environmental conditions against which the Project's potential impacts are analyzed. Accordingly, the analysis will focus on the new location (e.g., the physical area where mining operations will take place), rather than analysis of existing conditions that continue into the future. The Project will not modify the existing production levels, hours of operation, materials to be mined, equipment types or mining methods, or the number of employees.

2.4.2 Mine Operations Summary

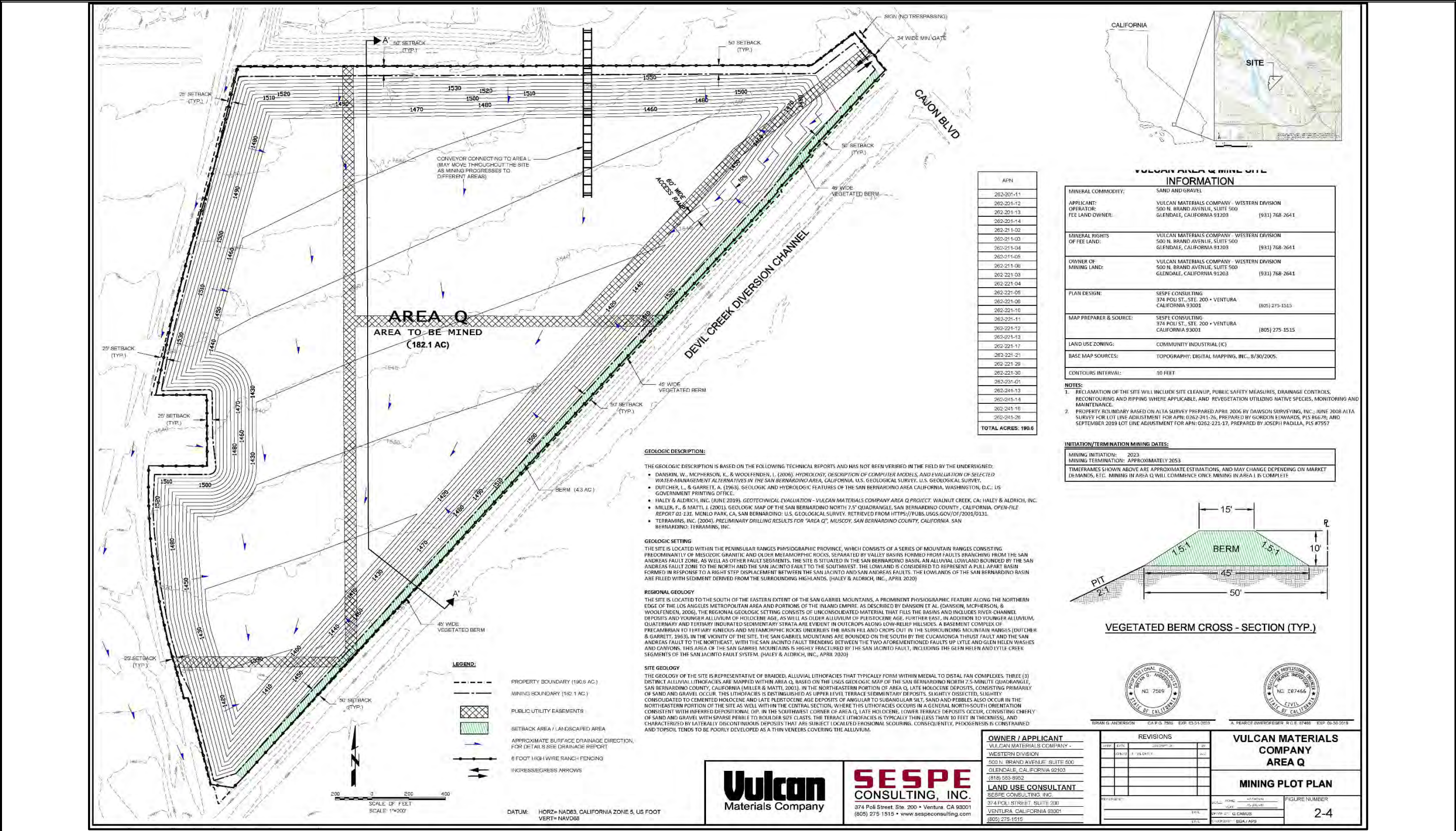
As described previously, Vulcan is proposing to extract sand and gravel (aggregate) from a 182.1-acre portion (mining area) of the 196.0-acre Area Q Quarry. Mining presently occurs at the Area L north of the Project site, which commenced in 1995. Mining in Area Q would be initiated once mining within Area L is completed, which is anticipated to occur in 2023. Mining would be conducted in the same manner as

currently being conducted at the Cajon Creek Quarry Area L. There would be no concurrent mining operations between Area L and the Project site because the mining at the Project site would not initiate until the mining in Area L is completed. Aggregate would be mined from the Project site using mobile equipment (excavators, loaders, dozers, etc.). Aggregates mined from the Project site would be transferred from the excavated areas via an extension to the existing conveyance infrastructure in place at Area L, as shown on Figure 2-4. The exact location of the conveyor within the Project site may change as mining progresses through the site. Material mined would then be processed and shipped from Vulcan's existing permitted processing facilities. No mined material would be processed within the Project site. Additionally, no haul trucks would enter or leave the Project site by public roads, and the proposed operations would not result in any increase of trucks or employee vehicles on public roads.

Prior to initiating mining, the existing fifteen homes and ancillary structures/debris would be demolished and removed from the site. Once the buildings and debris are removed, the site would then be cleared of vegetation using existing mobile equipment (i.e., scrapers, dozers, and excavators). Approximately 100,000 tons of topsoil and subsoil would be removed as a separated layer, approximately 2-feet thick, from the Project site. The topsoil and subsoil would be removed by using existing dozers or scrapers. If conditions become more difficult or access constraints prevent the use of scrapers, a hydraulic excavator, bulldozer, or front-end loader may be used to remove topsoil and subsoil. Enough topsoil and subsoil would be removed and placed within the berm to ensure it extends the full length of the site adjacent to the Devil Creek Diversion Channel to the south. Once formed, the berm would be landscaped with species common to the area to provide visual screening between mining operations and public viewpoints located to the south. Landscaping would also be an effective means for preventing water and wind erosion. Site preparation (i.e., removal of structures/debris, removal of soil, and construction of the berm) is expected to take approximately three months to complete.

Once site preparation is completed and the topsoil/subsoil storage berm constructed, mining of the Project site would commence in the northeast corner of the site, reaching a final depth of 120-feet bgs. As discussed in Section 2.1, mining would occur above groundwater and dewatering of the excavation area would not be required. Due to the nature of the aggregate reserves (sand and gravel), blasting would not be required. Project site reclamation would be conducted concurrently during mining if possible, or after mining is complete. No excavation of material, topsoil or subsoil would take place within 25- to 50-feet of any adjacent public rights-of-way. Excavation would also be setback a minimum of 50-feet from Devil Creek Diversion Channel to the south; however, the southern berm would be constructed within this setback area. Figure 2-4 shows the setbacks and boundaries found on the Project site.

Figure 2-4 and Figure 2-5 display schematics of the Project mine and reclamation plans respectively. Section 2.5 provides a detailed description of the Project reclamation plan.



Source: Area Q – Reclamation Plan (Sespe Consulting, Inc., 2020) Note: Full size figures are provided in the Surface Mining and Reclamation Plan located in Appendix B of the DEIR.

Figure 2-4 Mine Plan

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2.4.3 Commencement of Operations and Employment

Operations would begin once mining in Cajon Creek Quarry Area L is complete, and after all the necessary County approvals and entitlements have been obtained (CUP, the Surface Mining and Reclamation Plan, acceptance of Financial Assurances, and CEQA compliance). Project site clearing, topsoil and subsoil removal, the installation of the southern berm, and other preparation activities would precede excavation of the aggregates at the Project site.

The number of employees would be consistent with the number of employees needed to operate the Cajon Creek Quarry Area L and would fluctuate with seasonal demand. The average number of employees would be 5 to 6, and it is anticipated that the same employees working at the existing Cajon Creek Quarry would work at the Area Q Quarry. Employees working onsite would be moved from the existing Cajon Creek Quarry to work at Area Q once operations commence.

2.4.4 Hours of Operation

Hours of operation would remain from 6:00 a.m. to 10:00 p.m., as they currently are at Cajon Creek Quarry Area L. Operations would occur six days a week, Monday through Saturday, for approximately 300 days a year. Typical operating hours for the Project are shown on Table 2-3. As currently being done at Area L, mining could be conducted between 6:00 a.m. and 10:00 p.m.; however, within that time span operations would only be allowed for twelve continuous hours in a single day (e.g., if starting at 8:00 a.m. operations would be required to cease at 8:00 p.m.). This twelve-hour operating schedule would be the same as the current schedule at Vulcan's Cajon Creek Quarry. Actual daily mining hours within the 6:00 a.m. to 10:00 p.m. operating timeframe, including nighttime operating hours, would vary depending on market demand or other external constraints.

Table 2-3. Typical Hours and Days of Operation

Activity	Current Area L and Project Days/Week	Project Hours – Area Q Quarry	Current Operating Hours – Cajon Creek Quarry Area L
Excavation of Aggregate	Monday – Saturday (except holidays)	6:00 a.m. – 10:00 p.m. 12-Hour Continuous Period	6:00 a.m. – 10:00 p.m. 12-Hour Continuous Period

2.4.5 Estimated Production and Duration of Mining

It has been estimated through geologic and geotechnical analysis that 40 million tons of economically viable aggregates material exists at the Project site. The estimated average annual extraction (production) rate is 1.9 to 2.6 million tons/year. The estimated maximum annual extraction rate of aggregate is approximately 3.1 million tons/year. These extraction rates are consistent with the average and maximum extraction rates at Area L. Total and annual production depends on market conditions, geologic characteristics of the reserve, environmental conditions/weather, and the terms of the permit(s). Therefore, production necessarily fluctuates based on these conditions (which are outside of Vulcan's control) and would continue to do so under this Project.

Mining at the Project site would be initiated once mining within Area L is completed, which is anticipated to occur in 2023. Aggregate would be extracted from the Project site over approximately 30-years, depending on market demand. During the life of the mine, if feasible, portions of Area Q not subject to further disturbance would be reclaimed concurrent with mining operations. It is estimated that mining operations at the Project site would cease by approximately the end of 2053, and reclamation of the full site would be completed by approximately 2055 with onsite monitoring until the year 2058.

2.4.6 Onsite Vehicular Circulation and Parking

Access Road and Entry

Employee vehicular access to the mine site would be at the northeast corner of the Project site, and would connect to Cajon Boulevard. This access would serve as the single ingress and egress point for all employees and other work vehicles, which would include small work trucks as well as employee and visitor passenger vehicles. A security gate with required signage would be located at the front of the access road at the boundary of the Project site, and would be locked during non-working hours. As discussed previously, no mined materials (haul trucks) would be transported offsite from this access point.

Onsite Parking

Vehicular parking onsite would generally be discouraged so as not to interfere with mining operations. Parking would be provided for commercial, employee and visitor passenger vehicles as needed. No paved parking areas would exist onsite.

Onsite Roads and Vehicular Circulation

No on-road vehicles are expected to routinely operate within the Project site. However, if needed, some on-road vehicles could come onto the Project site. These could include support trucks, employee vehicles, outside services and miscellaneous visitor vehicles. In addition, off-road vehicles (i.e., dozers, scrapers, excavators, loaders, water trucks, etc.) would be used at the Project site in the active mining and reclamation areas. The estimated type and number of equipment and support vehicles to be used onsite are listed in Table 2-4 below.

Table 2-4. Representative Off-Road Vehicle List

Equipment	Make & Model ¹	Quantity	Average Horsepower	Average Hours/Day ²	Average Days/Year ²
Loader	Cat 990 or 992	1	764	8 to 12	250 to 312
Water Truck	Cat 773 & Peterbilt 357	2	537	8 to 12	250 to 312
Dozer	Cat D9	1	410	6 to 10	200 to 300
Grader	Cat 14H	1	240	4 to 6	150 to 250

Source: Air Quality and Climate Change Impact Assessment (Appendix D)

No paved roads would be installed onsite. The unpaved roads would be maintained by a grader and water truck (to control fugitive dust emissions).

2.4.7 Offsite Transport and Travel Routes

Mined materials would be transported via a conveyor to Vulcan's existing Cajon Creek Quarry conveyor system located at the northern boundary of the Project site. As discussed previously, no haul trucks would enter or leave the site from public roadways.

2.4.7.1 Materials Deliveries and Outside Services

Outside materials would not typically be delivered to the Project site. If needed, small amounts of fuels, lubricating oils, or other equipment/maintenance supplies may be required to conduct minor/routine maintenance on offroad vehicles and equipment located at the Project site. These activities would be consistent with the material deliveries, fueling and outside services currently occurring at the Cajon Creek Quarry Area L. If major maintenance is required, equipment would be transported to Vulcan San Bernardino facility located off of Highland Avenue for servicing.

2.4.7.2 Project Trip Generation

As described previously, no haul trucks would enter or leave the Project site from public roadways; therefore, there would be no increase in off-site haul trucks. Since the number of employees would not change from the number currently working at Area L, there would also be no increase in offsite employee vehicles.

2.4.8 Utilities and Support Services

2.4.8.3 Domestic Wastewater

No septic systems or commercial bathrooms would be located onsite. Project employees would utilize portable bathroom facilities onsite, or use existing portable bathrooms located at Area L. If a portable bathroom is placed onsite, it would be regularly serviced by a local contractor and would utilize secondary containment (i.e., tray). This waste would be disposed offsite by the vendor servicing the portable toilet. The Project would not produce any industrial wastewater discharges.

2.4.8.4 Electrical Service

Electrical service required for the conveyor system or other equipment requiring electricity would be obtained from the existing connection at the Cajon Creek Quarry, provided by Southern California Edison (SCE). The electrical demand for the conveyor system at the Project site would be consistent with the electrical demand at Area L. Although not anticipated, portable lighting may be required for safety purposes during evening or nighttime operations. If used, portable lights would be powered by small portable generators. The generators would comply with applicable air quality permitting requirements and be consistent with portable lighting currently used at Cajon Creek Quarry Area L.

2.4.8.5 Propane and Natural Gas Service

No natural gas or propane would be utilized at the Project site.

2.4.8.6 Diesel and Gasoline Fuels

There would be no permanent storage of fuel, lubricants, or hazardous materials on the Area Q site. The only hazardous materials present onsite would be fuels and oils within the engines of mobile equipment (e.g., scrapers, excavators, dozers, loaders, etc.) operating in the Project site. This equipment would be re-fueled and receive minor maintenance (lubed and greased) onsite by mobile fueling (diesel) and maintenance trucks. If needed, small amounts of fuels, lubricating oils, or other equipment/maintenance supplies may be brought onsite to conduct minor/routine maintenance on off-road vehicles. Handling and transfer of fuel and lubricating oils would follow Vulcan's fueling procedures and practices as identified in the Area Q Stormwater Pollution, Prevention Plan (SWPPP). A site specific SWPPP would be prepared for the Project site. The SWPPP is further discussed in Section 2.4.11.1 Surface Runoff and Drainage Plan.

2.4.8.7 Removal of Existing Utility Infrastructure/Easements

Existing utility infrastructure and related easements found on Area Q would be vacated and structures removed in accordance with applicable regulations prior to commencement of mining operations. Please see Figure 2-3 which shows the location of existing utilities easements to be vacated.

2.4.9 Site Preparation

As discussed previously, Project site clearing, removal of the existing structures and debris, topsoil and subsoil removal, the installation of the southern berm, and other preparation activities, would precede excavation of the aggregate reserves. Once site preparation is completed (up to three months), mining of the Project site would commence. The mining equipment (dozers, scrapers, excavators, loaders, water trucks, etc.) would be brought onsite from Cajon Creek Quarry Area L. The number and type of mining equipment would be consistent with what is currently being used at the Cajon Creek Quarry Area L or upgraded to comply with applicable regulatory standards (i.e., diesel regulations).

2.4.10 Mining Operations

As described previously, operations would be typical of surface aggregate mining operations, and would be conducted in the same manner as currently occurs at Vulcan's existing Cajon Creek Quarry site to the north. There would be no concurrent mining operations in Area L and the Project site (Area Q), as mining at the Project site would only initiate once the mining in Area L is completed.

Operations within the Project site consists of one mining phase to extract construction grade aggregate (sand and gravel) from the site. Mining would commence in the northeast corner of the site and progress to the south and west. The final depth of the excavation pit would be 120-feet bgs. As shown on Figure 2-4 and Figure 2-5, the finished cut slopes would be excavated to a maximum 2H:1V (horizontal to vertical) gradient or flatter. Reclamation would be conducted concurrently during mining if possible, or after mining is complete.

2.4.11 Water Management

2.4.11.1 Surface Runoff and Drainage Plan

There are no streams or riparian areas located within the Project site. The closest surface waters are the Lytle Creek and Cajon Creek to the west. A series of certified groins (levees) along the eastern edge of Cajon Wash serve as flood control levees, which direct surface flow away from the Project site. The Muscoy Groin #3 is located west of the SPRR track next to the site's western boundary. The Devil Creek Diversion Channel is located to the south of the Area Q site and would be separated from the mining areas by the southern berm. Operations at the Project site would not produce any industrial or domestic wastewater discharges onsite.

The Project would be included within and subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit 2014-0057-DWQ). Prior to commencement of mining, a Notice of Intent (NOI) would be filed and a site-specific SWPPP would be prepared for the site that complies with the Industrial General Permit (IGP). The SWPPP would include: specific prohibitions, effluent limitations, source identification, practice to reduce pollutants, assessment of pollutant sources, materials inventory, preventative maintenance program, spill prevention and response procedures, general storm water management practices, training, record keeping, sampling procedures and monitoring program. Best management practices (BMPs) which manage off-site sediment transport during operations and rain events are also outlined in the SWPPP. Additionally, there are no stormwater drains located within the Project site and the development of the Project site would not add any impervious surface area that could increase runoff potential.

Drainage Concept Summary

Schematic exhibits of the drainage pattern are provided in the Drainage Report (Sespe Consulting, Inc., 2019) provided in Appendix H and Section 3.8 – Hydrology and Water Quality. The overall approach for managing stormwater runoff for the Project is summarized below:

- Direct precipitation within active mining areas would be retained within the mine pit (excavation area).
- Stormwater that falls on the site would either infiltrate into the ground or would naturally evaporate.
- The excavation which would reach a final depth of 120-feet bgs and would not reach groundwater. Groundwater levels measured over a six-year period (2011 to 2017) ranged between 217.5- to 282.9-feet bgs, as reported by the State of California Department of Water Resources for a well approximately 200-feet south of the Project site (Haley and Aldrich, Inc., 2020)
- Runoff from the access road would be managed using appropriate BMPs, as specified in the SWPPP. If a discharge were to occur, it would be sampled and monitored in accordance with the applicable SWPPP.

2.4.11.2 Groundwater Quality

According to the Basin Plan for the SARWQCB, the Project site is located within the Bunker Hill sub-basin of the Upper Santa Ana River groundwater basin. This groundwater has beneficial uses for municipal and domestic water supply, agricultural water supply, industrial service water supply and industrial process water.

The final depth of the pit would be approximately 120-feet bgs. A *Geotechnical Evaluation* was prepared by Haley and Aldrich in 2019 (Appendix H). Groundwater levels measured over a six-year period (2011 to 2017) ranged between 217.5- to 282.9-feet bgs, as reported by the State of California Department of Water Resources for a well approximately 200-feet south of the Project site (Haley and Aldrich, Inc., 2020). Therefore, mining activities would take place above groundwater and dewatering of the excavation would not be required.

The Project site is located within the boundaries of the Source Operable Unit (OU) of the United States Environmental Protection Agency (USEPA) Newmark Groundwater Contamination Superfund Site. However, the site itself is not part of the superfund cleanup site. The water used for dust control at the Area Q Quarry would be obtained from a groundwater well at Area M, which is also located in the Source OU and is adjacent to the site on the northern boundary just west of Area L. Water at the Area M groundwater well has been sampled and the results reported non-detect for both perchloroethylene (PCE) and trichloroethylene (TCE), which are the constituents addressed in the Newmark cleanup (Integrated Resource Management, Inc., 2018). Concentrations are considered non-detect when they are below the method reporting limit (MRL). Both constituents have a MRL of 0.5 microgram per liter ($\mu\text{g/L}$), which is the lowest amount of an analyte in a sample that can be quantitatively determined with stated, acceptable precision and accuracy under stated analytical conditions (i.e., the lower limit of quantification). The EPA identified a cleanup level of 5 $\mu\text{g/L}$ for the Superfund site, which is referred to as the Maximum Contaminant Levels (MCL). This is the level that the EPA considered is protective of public health. Therefore, the groundwater from the well in Area M is not contaminated.

In addition, as part of the Superfund remediation program, several remediation monitoring wells are located on and just north (up gradient) of the Project site and the Area M groundwater well. The samples collected from these remediation monitoring wells also show that the concentrations of PCE and TEC up-gradient of the Project area are below applicable MCL of 5 $\mu\text{g/L}$. Also, because proposed mining activities would not encounter groundwater, mining within the Project site would also not affect ongoing clean-up efforts at the Newmark Superfund site (U.S. Environmental Protection Agency, 2014) and USEPA Final Record of Decision (U.S. Environmental Protection Agency, 2015). Prior to the construction phase, the well nest located at the corner of Gray and 5th Streets will be decommissioned by the well owner or its designee in accordance with Public Health and Safety Code, Part 9.5, Section 115700 and the standards for well deconstruction set forth in Department of Water Resources (DWR) Bulletin 74.

Material extraction activities at the Project site would involve the use of existing mobile equipment (e.g., excavators, dozers, scrapers, loaders, etc.) transferred from Area L. If needed, this equipment would be

refueled and receive minor maintenance (lubed and greased) onsite by mobile fueling (diesel) and maintenance trucks. Because compounds such as diesel fuel, oil, and grease would not be stored in large amounts onsite, potential releases to the ground surface would be limited in extent. Should such a release occur, implementation of the cleanup measures prescribed in the BMPs identified in a site-specific SWPPP would control potential surface spill from impacting groundwater quality. In addition, as discussed above, the groundwater is approximately 100-feet deeper than the proposed excavation which minimizes the potential that a surface spill of limited extent could impact the underlying groundwater.

2.4.11.3 Water Requirements and Consumption

The Project operations would require water for dust suppression and minimal qualities to irrigate perimeter landscaping and future revegetation. Water would be provided by an existing private groundwater well and associated 15,000-gallon water tank located on Cajon Creek Quarry Area M site, located northwest of Area Q. The Area M well currently provides the water used for dust control, landscaping and revegetation at Vulcan's existing Cajon Creek Quarry mining operations. The quantity of water estimated to be used for the Project is the same as what is currently used for Area L's mining activities. On average, historic records show that Area L's water demand during the pit mining operations is approximately 19.5 AF per year. Because the mining operations at the Project site (Area Q) would be the same as those in Area L, and mining at the Project site would not be initiated until mining in Area L is completed, the anticipated water use for the site is the same as what has historically been used at Area L (i.e., approximately 19.5 AF/year). Please see the *Water Supply Assessment* (WSA) prepared Haley and Aldrich for the site (Haley and Aldrich, Inc., 2020), included as Appendix H.

2.4.11.4 Flood Water

A *Drainage Report* was prepared by Sespe Consulting, Inc. dated June 2019 for the Area Q Quarry (Appendix H). As discussed in the report, according to the FEMA FIRM No. 06071C7940J, (Effective Date - September 2, 2016), the Project site is impacted by a Zone A and Zone X floodplain. The above-referenced FIRM can be found in the *Drainage Report* (Appendix H).

Zone A is identified by FEMA as areas subject to inundation by the 1% (100-year) annual chance of flood. Zone X is identified by FEMA as areas of 0.2% (500-year) annual chance of flood; areas of 1% (100-Year) annual chance of flood with depths of less than 1 foot or areas with drainage areas less than 1 square mile; and areas protected by levees from 1% (100-year) annual chance of flood (Sespe Consulting, Inc., 2019).

However, as identified in the December 26, 2018 letter from Chang Consultants (Appendix H), "*Zone A floodplain is an approximate 100-year floodplain... The FEMA mapping shows the floodplain extending beyond the [Devil Creek Diversion] Channel and into a portion of Area Q. [Chang Consultants] have performed research to assess the accuracy of the FEMA floodplain... 100-year and greater flows will be contained within the Channel and will have no impact on, or be impacted by, Vulcan's future operations in Area Q.*" Based on the Chang report findings a request has been submitted to update the flood zone designation for the Project site. The process includes the submittal of a Letter of Map Change (LOMC)

which initiates the issuance of a Letter of Map Revision (LOMR). A LOMR is a document that officially revises a portion of the effective National Flood Insurance Program (NFIP) map according to requirements and procedures outlined in Part 65 of the National Flood Insurance Program (NFIP) regulations. A LOMR allows FEMA to revise flood hazard information on an NFIP map via letter without physically revising and reprinting the entire map panel. Please see the Drainage Report (Appendix H) for the complete analysis from Chang Consultants (Chang Consultants, 2018).

2.4.12 Setbacks

As shown of Figure 2-4, no excavation of material, topsoil or subsoil would take place within 25- to 50-feet of any adjacent public right-of-way's (see Figure 2-4).

2.4.13 Berms, Screens, Fencing and Lighting

Berms and Screens

As discussed previously, an approximately 10-foot high berm (i.e., southern berm) would be constructed along the southern site boundary using the topsoil and subsoil removed from the Project site. The berm would be installed prior to the initiation of excavation, after clearing the site of structures and debris. The berm would be located along the entire southern boundary of the Project site, adjacent to Devil Creek Diversion Channel. Approximately 100,000 tons of topsoil and subsoil stored within the berm would be used as revegetation cover during post-mining reclamation. The berm would also be vegetated and act as a visual screen and noise buffer between Project mining operations and the residential community of Muscoy to the south. Figure 2-4 shows the location and design of the southern berm and vegetative screening.

Fencing

The entire perimeter of the Project site would be fenced with 6-foot high wire ranch fencing. The entrance gate located at the northeast corner of the site along Cajon Boulevard would be at a minimum 24-feet wide. Signs would be placed at the access road and as necessary on the fencing to identify the mining operation (in English and Spanish, as necessary) and warn the public that no public access/trespassing is allowed. Figure 2-4 shows the location of perimeter fencing and access road signs.

Lighting

Although not anticipated, portable lighting may be required for safety purposes during evening or nighttime operations. Lighting for nighttime operations (i.e., evening hours prior to 10:00 p.m.) and security would be installed in a manner so as to minimize glare onto adjacent sites. If used, portable lights would be powered by small portable generators. The lights would comply with all applicable County standards and industry practices. High pressure sodium and/or cut-off fixtures (or equivalent International Dark-Sky Association (IDA)-approved fixtures) would be used instead of mercury-vapor fixtures for any required nighttime lighting. The lighting would also be designed to confine illumination to the site and/or to areas that do not include light-sensitive uses.

2.4.14 Project Design Features and Protective Measures

Project design features have been incorporated into the mine design to avoid, minimize and/or eliminate potential environmental impacts. These include BMPs, pollution prevention plans, environmental permits and regulations, operating practices and other types of protective measures. In addition to the Project design features, the Project would be in compliance with applicable local, state and federal regulations and requirements. These regulatory requirements as well as additional details on the Project design features are provided in the Environmental Impact Analysis (Section 3.0) for each of the potentially affected resource areas. Employee training programs would be conducted to educate personnel on the environmental responsibilities associated with their specific job, including but not limited to regulatory requirements, preventative inspection and maintenance, spill response, emergency response, etc.

The following identifies some of the key Project design features that would be implemented during the Project. More detailed discussions of the Project design features, as well as additional aspects of the Project that would minimize potential impacts, are provided in Section 3.0 – Environmental Impact Analysis and the technical support documents located in the appendices of the DEIR.

1. Local, state and federal regulations would be followed during the removal of structures and debris from the Project site (i.e., asbestos containing material and lead based paint regulations). (Air Quality, Hazardous Materials, Wildfire)
2. Prior to removal of topsoil and subsoil and during mining activities, the affected area would be sprayed by water trucks, as necessary to control dust and comply with air quality regulations. (Air Quality, Hazardous Materials, Dust)
3. The excavation and associated equipment would operate in compliance with applicable air quality regulations. (Air Quality, Greenhouse Gas)
4. Conveyors used to transport aggregate materials would be powered by grid electricity and replace some of the existing conveyors within the current mining site (Area L). (Air Quality, Greenhouse Gases)
5. The Project site would be designed to address stormwater runoff and drainage as described in the *Drainage Plan* (Appendix H) and per the requirements of the site-specific SWPPP. (Water Quality, Hazardous Materials)
6. The Project site would be graded to prevent sediment from leaving the site. (Hazardous Materials, Water Quality, Geology and Soils)
7. Equipment and vehicle parking/storage areas would be graded to prevent stormwater from leaving the site. (Water Quality, Hazardous Materials)
8. The design slope configurations were evaluated under both static and pseudo-static conditions and would be stable according to appropriate factors of safety. (Geology and Soils)
9. Mining and reclamation activities would occur outside of the Cajon Creek drainage, and would not change drainage patterns or induce soil erosion. (Geology and Soils)

10. Topsoil would be stored on site (within the berm) for future use during site reclamation in accordance with the Project's Surface Mining and Reclamation Plan (Appendix B). (Geology and Soils)
11. The Project site would be designed to address surface runoff and drainage as described in the *Drainage Report* (Sespe Consulting, Inc., 2019), and in accordance with the Industrial General Permit (IGP) and applicable County stormwater program requirements. (Geology and Soils, Water Quality)
12. Best management Practices (BMPs) (e.g., gravel bag or rock check dams along drainage swales, silt fencing or fiber rolls to contain drainage and sediment, lined swales, etc.) would be implemented to prevent stormwater runoff in accordance with the SWPPP. (Water Quality, Biology, Geology and Soils, Hazardous Materials)
13. Excavation equipment would be inspected, maintained and repaired to ensure that the equipment is operating properly and leaks are prevented to the maximum extent feasible. (Water Quality, Hazardous Materials, Wildfire)
14. Minor/routine maintenance and fueling activities conducted on-site would be done in accordance with the BMPs identified in the SWPPP. (Water Quality, Hazardous Materials)
15. Major maintenance and repairs of equipment and vehicles would be conducted off-site. (Water Quality, Hazardous Materials, Wildfire)
16. Hazardous materials and hazardous waste would be managed in accordance with applicable local, state and federal regulations. Any hazardous waste generated at the site would be disposed of at a permitted off-site facility. (Air Quality, Water Quality, Hazardous Materials, Wildfire)
17. The Project would not store hazardous substances or acutely hazardous substances in quantities that would be subject to chemical accident prevention provisions of the Clean Air Act (CAA) or the implementing regulation (40 CFR Part 68). (Air Quality)
18. Personnel would be trained in surveillance and control of mosquitoes in case there is standing water after storm events. (Hazardous Material)
19. Blasting would not be used for the proposed mining operations. (Air Quality, Noise, Vibration, Biology, Cultural Resources, Hazardous Materials, Wildfire)
20. Prior to mining, an approximately 10-foot high earthen vegetated berm would be constructed using topsoil/subsoil removed from the site along the southern boundary of the site separating the Project from Devil Creek Diversion Channel and the community of Muscoy. The berm would be landscaped with low-lying vegetation (e.g., shrubs and grasses). Landscaping will be regularly maintained and trimmed so as not to exceed approximately 4-feet in height above the berm. (Aesthetics, Noise, Water Quality, Biology)
21. The approximately 10-foot high earthen vegetated berm would serve as the primary storage location for topsoil and subsoil removed from the Area Q Quarry site. (Aesthetics, Noise)

22. No excavation of material or overburden would take place within twenty-five (25) to fifty (50) feet from the public right-of-way or other property lines. (Aesthetics, Air Quality, Noise)
23. Except for vegetated berms established for the purpose of visual screening and/or noise attenuation, no stockpiles would be placed closer than twenty-five (25) to fifty (50) from a property boundary. (Aesthetics)
24. The berm along the southern boundary of the Project site would be planted with a vegetation cover or would be protected by other equally effective means if necessary, to prevent water and wind erosion. (Water Quality)
25. Operations would occur primarily during daylight hours. Operations during the time of year when daylight hours are shorter, or for any evening/nighttime operations, would require lighting to provide a safe operating environment. For evening/nighttime lighting, high pressure sodium and/or cut-off fixtures (or equivalent International Dark-Sky Association (IDA)-approved fixtures) would be used instead of mercury-vapor fixtures for any required nighttime lighting. The lighting would also be designed to confine illumination to the Project site, and/or to areas that do not include light-sensitive uses. (Aesthetics, Biology)
26. In the unlikely event that an abandoned underground storage tank is discovered, the County would be notified, and the tank would be removed in accordance with applicable regulations and requirements. (Water Quality, Hazardous Material)
27. The Project site would be reclaimed to open space and wildlife habitat. (Biology)
28. Employee training programs would be conducted to educate personnel of sensitivity issues including but not limited to biological resources/habitat and cultural resources. (Biology, Cultural Resources)
29. Topsoil and subsoil would be carefully removed, stored and protected so that it can be used to recover reclaimed areas. (Biology)
30. The mine plan includes a maximum pit depth well above the water table, and therefore mining would not pose a risk to groundwater quality. (Geology and Soils)
31. There would be no off-site on-road haul truck trip leaving or entering the Project site from public roads. (Air Quality, Greenhouse Gases, Transportation, Noise)
32. Excavation/production rate of aggregates and equipment used to excavate would remain the same or decrease from existing conditions, subject to market conditions. (Air Quality, Greenhouse Gases)
33. Existing utility infrastructure and related easements found on Area Q would be vacated and structures removed in accordance with applicable regulations prior to commencement of mining operations. (Hazardous Material)
34. Loading and unloading of materials would take place in designated areas that would be designed to prevent stormwater runoff from leaving the site (Water Quality).