



CORONA QUARRY

Amended Mining & Reclamation Plan

**Surface Mine Permit 12-001 (Formerly SMP 93-01)
Surface Mine Reclamation Plan 12-001**

State of California Mine ID No. 91-33-0027

Prepared for:

Vulcan
Materials Company
West Region

500 North Brand Avenue, Suite 500
Glendale, CA 91203

Prepared by:

RGP
Planning & Development Services
8921 Research Drive
Irvine, CA 92618

Revised by:

SESPE Consulting, Inc.
9070 Irvine Center Drive, Ste. 150
Irvine, CA 92618

Submitted to:

City of Corona
Community Development Department
400 South Vicentia Avenue
Corona, CA 92882

March 2013 (Revised April 2014)

CORONA QUARRY

Amended Mining and Reclamation Plan

Surface Mine Permit 12-001 (Formerly SMP 93-01)

Surface Mine Reclamation Plan 12-001

State of California Mine ID No. 91-33-0027

Prepared For:

Vulcan Materials Company, West Region

500 North Brand Avenue, Suite 500

Glendale, CA 91203

(818) 553-8800

Prepared By:

RGP Planning & Development Services

8921 Research Drive

Irvine, CA 92618

(949) 450-0171

Revised By:

SESPE Consulting, Inc.

9070 Irvine Center Drive, Ste. 150

Irvine, CA 92618

(949) 450-0171

Submitted To:

City of Corona

Community Development Department

400 S. Vicentia Ave.

Corona, CA 92882

(951) 736-2262

March 2013 (Revised April 2014)

Table of Contents

1.0	General Project Information	6
1.1	Purpose and Scope	6
1.2	Entitlement History	6
1.3	Objectives of Amended Project	10
1.4	PCC-Quality Aggregate Regional Needs Assessment.....	11
1.5	Comparison of 1989 Permit to the Current Proposed Plan.....	13
1.6	Owner, Applicant and Operator Information.....	17
1.7	Lead Agency Information	18
2.0	Project Location & Setting.....	19
2.1	Project Location.....	19
2.2	Surrounding Land Uses	20
2.3	General Plan Designation	24
2.4	Zoning Classification	26
2.5	Mineral Resource Zone Classification	28
2.6	General Description of Vegetation	28
2.7	Sensitive Species and Habitats	28
2.8	Surface Drainage and Groundwater Characteristics.....	29
2.9	Regional Geology.....	31
2.10	Site Geology.....	31
2.11	Site Topography	32
2.12	Views and Aesthetics	34
	2.12.1 Off-Site to On-Site Views.....	35
	2.12.2 On-Site Views	37
3.0	Mining & Operations Program	39
3.1	Date of Commencement.....	39
3.2	Mineral Commodity to be Mined.....	39
3.3	Estimated Annual Production	39
3.4	Estimated Total Production & Mining End Date.....	39
3.5	Method of Extraction.....	40
3.6	Method of Processing.....	40
3.7	Total Number of Acres to be Disturbed by Mining	40
3.8	Proposed Mine Phasing	40
3.9	Maximum Anticipated Depth of Mining.....	41
3.10	Hours of Operation and Noise Monitoring.....	49
3.11	Dust Control Methods	49
3.12	Truck Access Routes	50
3.13	Surface Mining Permit Compliance	50
3.14	Biological Resource Design Components	50
4.0	Reclamation Program	52
4.1	Proposed Reclamation End-Use.....	52
4.2	Reclamation Phasing.....	52
4.3	Reclamation Visualization (Outside Looking In)	52
4.4	Effects on Future Mining in the Area.....	60
4.5	Disposal of Mine Waste	60
4.6	Reclamation Standards.....	60
	4.6.1 Wildlife Habitat.....	61
	4.6.2 Regrading and Slope Stability	61

4.6.3	Health and Safety	61
4.6.4	Handling of Non-PCC Quality Material and Topsoil	62
4.6.5	Revegetation.....	62
4.6.6	Drainage, Diversion Structures, Waterways, and Erosion Control	64
4.6.7	Building, Structure, and Equipment Removal.....	65
4.6.8	Stream Protection, Including Surface and Groundwater	66
4.6.9	Weed Management.....	66
4.7	Financial Assurance	66
4.8	Reclamation Plan Amendment Compliance.....	66
5.0	Certification	67
5.1	Lead Agency Certification	67
5.2	Statement of Responsibility	67

List of Figures

Figure 1:	Regional Location	21
Figure 2:	Local Vicinity.....	22
Figure 3:	Surrounding Land Uses	23
Figure 4:	General Plan Land Uses	25
Figure 5:	Zoning Map	27
Figure 6:	Temescal Wash Location.....	30
Figure 7:	Current Site Topography.....	33
Figure 8:	View from the West.....	35
Figure 9:	View from the North.....	35
Figure 10:	View from the East.....	36
Figure 11:	View from the South.....	36
Figure 12:	Existing Phase 2 Mining Operations.....	37
Figure 13:	Material Processing and Conveyor Facilities.....	37
Figure 14:	Material Sorting and Stockpiling.....	38
Figure 15:	Market-Ready Product Load-Out Stations	38
Figure 16:	Corona Quarry Site Plan.....	42
Figure 17:	Proposed Mining and Reclamation Program: Phase 2.....	43
Figure 18:	Proposed Mining and Reclamation Program: Phase 3.....	44
Figure 19:	Proposed Mining and Reclamation Program: Phase 4.....	45
Figure 20:	Proposed Mining and Reclamation Program: Phase 5.....	46
Figure 21:	Proposed Mining and Reclamation Program: Phase 6.....	47
Figure 22:	Maximum Anticipated Mine Depth	48
Figure 23:	Simulation of Proposed Reclamation – View from the West	53
Figure 24:	Simulation of Proposed Reclamation – View from the North	53
Figure 25:	Simulation of Proposed Reclamation – View from the East	54
Figure 26:	Simulation of Proposed Reclamation – View from the South	54
Figure 27:	Viewpoint A – Residential Views from the West.....	55
Figure 28:	Viewpoint B – Residential Views from the North	56
Figure 29:	Viewpoint C – Residential Views from the East	57
Figure 30:	Viewpoint D – Residential Views from the South	58
Figure 31:	Viewpoint E – Views from the I-15 / SR-91 Freeways	59

List of Tables

Table 1: Summary of Historical Milestones	7
Table 2: Summary of Improvements, Permits & Fees Paid	8
Table 3: Agency Permits and Approvals	9
Table 4: Summary of Proposed Changes	13
Table 5: Project Site Assessor’s Parcel Numbers	19
Table 6: Mining Phase Summary	41
Table 7: Revegetation Palette	62

List of Attachments

- Attachment 1: SMARA Conformance Matrix
- Attachment 2: Legal Description
- Attachment 3: Map Sheet 52: Aggregate Availability in California (2006)
- Attachment 4: Phasing Comparison – 1989 Reclamation Plan and 2012 Amendment Proposal
- Attachment 5: Geotechnical Evaluation
- Attachment 6: Review of Noise Impact Assessment
- Attachment 7: Air Quality and Climate Change Impact Assessment
- Attachment 8: Visual Impact Assessment
- Attachment 9: General Biological Report, CEQA & MSHCP Consistency Analysis
- Attachment 10: City of Corona Surface Mining Permit No. 93-01 Conditions of Approval and Resolution No. 93-44
- Attachment 11: City of Corona Pre-Annexation Agreement (March 20, 1991)
- Attachment 12: Mining and Reclamation Drawings/Plans (Full Scale – 42” x 30”)

List of Abbreviations and Acronyms

---A---

amsl above mean sea level

---B---

bgs below ground surface
BMPs Best Management Practices

---C---

CDFW California Department of Fish and Wildlife
CEQA California Environmental Quality Act
CGS California Geological Survey
City City of Corona
CUP Conditional Use Permit

---D---

DOC California Department of Conservation

---E---

EIR environmental impact report

---F---

FEMA Federal Emergency Management Agency

---H---

HMA Hot Mix Asphaltic-Concrete

---L---

LAFCO Local Agency Formation Commission

---M---

MRZ Mineral Resource Zone
MRP (Amended) Mining and Reclamation Plan
MSHCP Multiple Species Habitat Conservation Plan

---N---

NPDES National Pollutant Discharge Elimination System

---P---

PCC Portland cement concrete
P-C Production-Consumption

---R---

RMC Ready-Mixed Concrete

---S---

SARWQCB Santa Ana Regional Water Quality Control Board
SCH State Clearinghouse
SCAQMD South Coast Air Quality Management District
SKR Stephens' kangaroo rat
SMARA Surface Mining and Reclamation Act of 1975
SMGB State Mining and Geology Board
SMP Surface Mining Permit
SWPPP Storm Water Pollution Prevention Plan

---U---

USACE United States Army Corps of Engineers
USFWS United States Fish and Wildlife Service

---V---

VMC Vulcan Materials Company, West Region

---W---

WDID Waste Discharge Identification

1.0 General Project Information

1.1 Purpose and Scope

This document amends the Corona Quarry Surface Mining Permit and Reclamation Plan, previously approved by the County of Riverside in 1989 (implemented through Surface Mining Permit No. 168), and subsequently by the City of Corona in 1993 (Surface Mining Permits 92-01 and 93-01), after the site was annexed into the city.

The purpose of the proposed amendments to the Surface Mining Permit and Reclamation Plan is to allow for continued operation of the Corona Quarry for 100 years (to December 31, 2113) or to depletion of aggregate resources, whichever occurs first. This extension of the mine life would involve a six-phase mining process, largely consistent with that evaluated in the 1989 Corona Quarry Environmental Impact Report (EIR). There are several important benefits associated with the amendments:

- The project description has already been fully evaluated under the California Environmental Quality Act (CEQA, Public Resources Code §21000 et seq., as amended) for environmental impacts associated with the full six-phase design. Except for visual aesthetic and biological resource impacts, all impacts have already been mitigated to below a level of environmental significance. Corona Quarry visual aesthetic impacts and biological resource impacts were issued overriding considerations, which carry forward under this project description. However, new project design components described in Section 3.14, *Biological Resource Design Components*, are incorporated into the project and reduce the level of biological resource impacts to less than significant under CEQA.
- The project will reduce the need for the development of new mines in the region to serve future demand for PCC-quality construction aggregate. New 'greenfield' mines would produce as-yet unknown environmental impacts.
- Corona Quarry has operated for over 70 years and has proven itself a "good neighbor" to Corona residents. Complaints regarding mine operations are rare, and those few reported were quickly investigated and effectively handled. Continued operation of the mine in a like manner would, therefore, not pose a risk of negative impacts on quality of life in the city.

This document has been prepared pursuant to the content requirement and processes prescribed under the Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code §2710 et seq., as amended), the State Mining and Geology Board (SMGB) Reclamation Regulations (California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1, 3500-3800), and the City of Corona Surface Mining Ordinance (City of Corona Municipal Code, Title 19 "Surface Mining and Regulations").

1.2 Entitlement History

Quarry operations have been ongoing at the Corona Quarry site since the 1940s, when L.E. Sprague initially operated it. In its early years, the operations were conducted lawfully within the jurisdiction of Riverside County without a use permit. In 1956, L.E. Sprague applied for a permit for a "multi-bench, side-hill, drill-and-blast quarry operation." The Riverside County Board of

Supervisors approved permit M3-269 in 1956, which authorizes the operator to “establish, operate and maintain a commercial borrow pit and rock crushing and screening plant for decomposed granite and rock” over a large permit area that includes substantially all of the current site. L.E. Sprague and other operators subsequently conducted quarrying operations on the site pursuant to permit M3-269. The permit does not expire.

In 1978, as required by SMARA, then-operator L.S. Hawley Corporation submitted a reclamation plan for the site to Riverside County, which Riverside County approved as reclamation plan RP 117. RP 117 addressed ongoing drill-and-blast, multi-bench, side-hill quarry operations as authorized under permit M3-269. The RP 117 reclamation boundaries covered approximately 310 acres of the larger M3-269 permit area, in substantially the same configuration as the current site boundaries, except, however, that the M3-269 and RP 117 western boundaries did not extend to Cajalco Street (now Sherborn Street), as do the Quarry’s current entitlements.

CalMat Co. later acquired operation rights in the 1980s. Based on further plan refinements, CalMat Co. (a predecessor of Vulcan Materials Company) applied to Riverside County for a surface mining permit and reclamation plan in 1989. Even though the site was already subject to permit M3-269 and reclamation plan RP 117, the applied-for permit covered a smaller geographic area than permit M3-269 and was necessary to incorporate acreage reaching westward to Cajalco Street, and to authorize additional material processing facilities, including an asphaltic concrete plant, a concrete batch plant and a rail load-out facility, which were not authorized under M3-269. The application was prepared pursuant to Riverside County Ordinance 555 and SMARA for an aggregate production and distribution facility, and accessory uses, on a 336-acre site. An EIR was prepared to analyze the effects that the project would have on the environment.

Table 1 provides a summary of key dates and salient approvals for the Corona Quarry operations:

Table 1: Summary of Historical Milestones

Milestone	Date
L.E. Sprague begins mining operations prior to Riverside County Zoning Ordinance adoption	1940s
L.E. Sprague continues mining operations under County of Riverside permit No. M3-269	1956
Following SMARA’s enactment, L.S. Hawley Corporation obtained Riverside County approval of reclamation plan RP 117 to address ongoing mining operations under County of Riverside permit No. M3-269.	1978
Riverside County Certifies FEIR 316 (SCH 88081517)	January 1990
CalMat Co receives Riverside County Entitlement/SMP No. 168	January 1990
City of Corona/CalMat Co Pre-Annexation Agreement Signed	March 20, 1991
Corona Quarry Annexed into the City of Corona	October 9, 1991
City of Corona grants SMP 92-01 by Resolution No. 93-13	February 17, 1993
City of Corona grants SMP 93-01 amending SMP 92-01 by Resolution No. 93-44	May 19, 1993

Table 2 provides a summary of permits obtained and fees paid in the development of site improvements.

Table 2: Summary of Improvements, Permits & Fees Paid

Permit	Fees Paid	Date
<i>Building Department</i>		
Drum replacement for HMA plant – Building Permit No. B0202381	Fee receipt lost	June 2002
Foundations for secondary plant – Building Permit No. B0405517	\$45,777.80 Total Fees Paid Including \$31,472 for MSHCP, \$1,300 For Kangaroo Rat, and \$9,213 For PW Fees	April 5, 2005
Foundations for primary plant – Building Permit No. B0406541	\$20,695.89 total fees paid including \$17,120.40 Development Impact Fee	June 13, 2005
Foundations for aggregate processing equipment for finish plant – Building Permit No. B0501278	\$3,987.15	April 17, 2006
Underground fire line – Building Permit No. B0506632	\$418.17	October 24, 2005
Keystone retaining wall at primary – Building Permit No. B0507027	\$401.36	November 18, 2005
Aggregate finish processing equipment (finish plant surge vault, control tower, reclaim tunnel) – Building Permit No. B0601237	\$5,458.22	July 14, 2006
Aggregate loadout system (loadout tower, screen tower ST5 & conveyors LB4 & LB5) – Building Permit No. B0603583	\$5,080.13	April 25, 2007
Shop/lab building – Building Permit No. B0703001	\$17,054.96 total fees paid including \$1,764 school fees & \$11,088 Public Works fees	May 5, 2008
240-square foot scale house – Building Permit No. B0703131	\$1,737.58 total fees paid including \$100.80 School fee & \$633.60 Public Works fee	December 17, 2007
Above ground fuel tanks – Building Permit No. B0802197	Fee receipt lost	February 6, 2009
For pole line instead of underground – Underground Utility Waiver	\$1,290	July 7, 2005
New aggregate plant – Electrical	Fee receipt lost	2005
Drum replacement for HMA plant – Electrical	Fee receipt lost	June 2002

Permit	Fees Paid	Date
<i>Public Works Department</i>		
Phase 3 grading (i.e. grading at finish plant area) – Grading Permit No. 05-089R	\$27,693.20	December 7, 2005
Sherborn street improvements including water & sewer lines – Construction Permit No. 05-089U	\$17,350 Engineering & Inspection fee	July 27, 2006
Phase 4 grading (i.e. grading at loadout area) – Grading Permit No. 06-092P	\$8,853.62	March 21, 2007
Road improvements mitigation fee	\$670,000	January 17, 2003
<i>Water Department</i>		
Fee for domestic water line meter – Water meter connection	\$51,146	January 16, 2007
<i>Riverside County Road Department</i>		
Traffic signal impacts mitigation fee	\$26,250	February 27, 1990
<i>Stephens' Kangaroo Rat Mitigation Fee</i>		
19.10 acres of disturbance	\$9,550	July 9, 1999
98.73 acres of disturbance	\$49,365	August 10, 2000
2.60 acres of disturbance	\$1,300	April 7, 2005
2.47 acres of disturbance	\$1,235	November 10, 2008
115.9 acres of disturbance	\$57,950	May 26, 2010

Table 3 lists the permits and approvals received to-date from other agencies.

Table 3: Agency Permits and Approvals

Agency	Date
South Coast Air Quality Management District (SCAQMD)	Permit #D53180, D53226, D53228, F63117 – Issued October 1989, and renewed annually thereafter
Santa Ana Regional Water Quality Control Board (SARWQCB)	Project operates under an industrial Storm Water Pollution Prevention Plan (WDID No. 8 33S001931) pursuant to a Notice of Intent filed in 1992

1.3 Objectives of Amended Project

The 1989 and subsequent amendments to the Corona Quarry Surface Mining Permit and Reclamation Plan estimated an on-site aggregate resource of approximately 400 million tons. Ultimately, as approved, SMP 168 granted approval to extract a maximum of 90 million tons by the year 2023. This resulted in nearly 300 million tons of reserves being left for future consideration although the environmental impacts of removing this material were analyzed and mitigated in 1989. Notwithstanding the permit limits, the approved mine has been subject to one minor and two major economic recessions since it was approved. This has significantly affected VMC's ability to recover and market the resource, and the full 90 million tons of reserves has not been realized.

The project's conditions and mitigation measures have been met, but economic return has not been achieved due to the depressed market conditions. To date, approximately 35 million tons have been recovered; thus, approximately 351 million tons¹ of aggregate remain for recovery.

VMC is now seeking City of Corona approval to modify the existing approved surface mining permit and reclamation plan through the approval of an amended Surface Mining Permit for Mining Operations and a separate approval of an amended Reclamation Plan. The modification would represent an operationally superior plan, which is either unchanged or improved in terms of its effects on the environment (as identified in the 1989 certified EIR and as proposed in the 2014 Addendum to the EIR). The Amended Mining and Reclamation Plan (Amended MRP) would achieve the following objectives:

- a. Re-establish the original mining and reclamation footprint, which was analyzed in the 1989 EIR and mitigated to the greatest degree feasible;
- b. Establish a new phasing and reclamation layout to reduce energy consumption, greenhouse gas emissions, and air quality impacts;
- c. Establish a mine plan consisting of mining layers in-lieu of the existing phases on the property;
- d. Extend the permit expiration to allow for the exhaustion of permitted reserves, or an end-date of December 31, 2113, whichever occurs first;
- e. Continue to provide a reliable supply of Portland cement concrete (PCC)-quality construction aggregate to meet the existing and future local and regional market demands identified by the California Department of Conservation for the Temescal Valley-Orange County Production-Consumption (P-C) Region;
- f. Maintain an essential supply of locally available aggregates, thereby offsetting the need for remote (import) transportation of materials from distant locales, and to consequently reduce air pollution emissions; and,
- g. Adhere to the California Building Standards Commission voluntary standards for green construction material sources.

¹ Recent analysis employing a more sophisticated and precise methodology for calculating tonnage of aggregate material has provided a refined calculation of approximately 351,050,000 tons of aggregate material existing within the site.

No other substantial changes to the permit and reclamation plan are proposed, including no change to processing capabilities or throughput. The proposal specifically does not seek to expand mining operations onto other areas of the project site not previously examined by the 1989 EIR, nor does it seek to increase total aggregate tonnage or annual production rates beyond the approximately 400 million tons identified in and mitigated through the EIR and its mitigation monitoring program. **Table 4** summarizes the proposed changes and compares key elements of the 1989 EIR and approved permit with the Amended MRP, followed by a discussion of plan differences.

This amended plan provides a number of benefits, including (but not limited to):

- Establishing a smaller carbon footprint from a modified mining and reclamation design;
- Generating greater efficiency in the mining and reclamation methods;
- Developing a mining design that progresses down slope in a uniform, efficient manner as opposed to the inefficient mine phasing approach currently implemented;
- Utilizing the full economic resources of the property;
- Permitting the operator to respond to the market over a longer period without fear of investment losses through a short mining and reclamation window; and
- Maintaining a construction aggregates facility adjacent to the regional highway and rail networks, which made the permit attractive in 1989 as it was initially filed and granted.

1.4 PCC-Quality Aggregate Regional Needs Assessment

The California Department of Conservation (DOC) monitors and reports on the availability and production of the State's mineral assets, including aggregate materials used for construction purposes throughout the State of California. Annually, since 1880, the California Geological Survey (CGS) has tracked the State's mines and mineral production and has published those results.

For the last 24 years, under provisions of the Surface Mining and Reclamation Act, CGS has conducted on-going studies that specifically identify and evaluate aggregate permitted reserves, production and available resources. In 2006, CGS published a report and accompanying map, commonly referred to as Map Sheet 52², which analyzed aggregate availability within 31 defined aggregate "production-consumption" (P-C) regions across the state. The report provides reliable information to local agencies on the status of aggregate assets, and projects a demand for those assets over a 50-year time horizon. The State Mining and Geology Board provide the criteria by which these studies are performed.

Map Sheet 52 (2006) identified a significant shortage of permitted aggregate reserves in the Temescal Valley-Orange County P-C Region to meet projected demand over the next 50 years. The study found that based on the population projections provided by the California Department of Finance, that the P-C region would be expected to consume more than one billion

² State of California, Department of Conservation, California Geological Survey, *Map Sheet 52: Aggregate Availability in California*, 2006 (Attachment 5).

(1,000,000,000) tons of aggregate by the end of year 2055. Additionally, the study found that permitted aggregate reserves in the P-C region are approximately thirty-two percent (32%) of the 50-year projected demand; stated alternatively, a mere 16-year supply for the region.

Map Sheet 52 specifically notes that the 50-year demand for PCC-quality aggregate resource in the Temescal Valley-Orange County P-C Region is 1.122 billion tons, while the existing inventory of permitted resource is but 355 million tons. The same data source notes that in the period between its updated reports of 2002 and 2006 (the most recent report) the availability of permitted reserves has fallen by 52% with no commensurate increase in permitted resource in the same P-C region.

CGS' multi-decade historical production and population data projects the average annual demand for aggregate across the state is about 7 tons per person. To put this demand into perspective, the following list provides the average need of aggregate material per use:

- Average 50-unit, single-family subdivision requires 20,000 tons of aggregate material.
- A 10-mile stretch of 4-lane highway requires 380,000 tons of aggregate material.
- School or hospital facilities require at least 15,000 tons of aggregate material.

1.5 Comparison of 1989 Permit to the Current Proposed Plan

Table 4: Summary of Proposed Changes

Feature	1989 Corona Quarry EIR¹	1989 Surface Mining Permit & Reclamation Plan²	Amended Mining and Reclamation Plan	Change from 1989 Approved Permit	Change from 1989 EIR Analysis
Site Acreage	336 acres	336 acres	336 acres	No	No
Mining Acreage	260 acres	160 acres	250-260 acres	Yes	No
Total Reserves	400,000,000 tons (est.)	90,000,000 tons (est.)	351,050,000 tons (est.)	Yes	No
Non-PCC quality marketable material	3,500,000 tons (est.)	2,000,000 tons (est.)	33,163,000 tons (est.) (based on more precise measuring techniques)	Yes	Yes
Type of Material Mined	PCC-grade aggregate materials	PCC-grade aggregate materials	PCC-grade aggregate materials	No	No
Mining Method	Loosening of the rock by dozer unit and/or drilling and blasting	Loosening of the rock by dozer unit and/or drilling and blasting	Loosening of the rock by dozer unit and/or drilling and blasting	No	No
Mine Phasing	Two phases: Initial phase (approximately 7,000,000 tons of aggregate material) mined to clear area for a permanent processing plant along the western portion of the site. Phase two consists of aggregate extraction on the remainder of the site to total depletion of aggregate resource.	Three phases: First phase consists of mining the processing plant area in order to establish a permanent processing plant. Phase two finalizes the processing plant area and begins mining operations at the center of the site. Phase three continues on phase two at the center of the site.	Six phases: Proposed mine phasing covers the similar extent of mining as was applied for, and analyzed by, the 1989 Corona Quarry Project-Level EIR. Proposed phasing consists of layered mining approach throughout the entire mining area.	Yes	Yes
Mining Depth	Down to approximate elevation of 500' amsl	Down to approximate elevation of 950' amsl	Down to approximate elevation of 500' amsl	Yes	No
Reclamation Sequence	Where possible, reclamation shall occur concurrently with mining. As one phase of mining is completed the exposed mine faces and ledges shall be reclaimed. Reclamation may occur across multiple phases simultaneously.	Where possible, reclamation shall occur concurrently with mining. As one phase of mining is completed the exposed mine faces and ledges shall be reclaimed. Reclamation may occur across multiple phases simultaneously.	Where possible, reclamation shall occur concurrently with mining. As one phase of mining is completed the exposed mine faces and ledges shall be reclaimed. Reclamation may occur across multiple phases simultaneously.	No	No

Feature	1989 Corona Quarry EIR¹	1989 Surface Mining Permit & Reclamation Plan²	Amended Mining and Reclamation Plan	Change from 1989 Approved Permit	Change from 1989 EIR Analysis
Slope Reclamation Type	Step Benching or traditional benching method	Step Benching or traditional benching method	Step Benching or traditional benching method	No	No
Revegetation	Establishment of a permanent, self-perpetuating vegetative ecosystem to closely mimic the natural environment, through resoiling and revegetation, with monitoring and specific assurance mechanisms to guarantee successful completion in a hard rock setting.	Establishment of a permanent, self-perpetuating vegetative ecosystem to closely mimic the natural environment, through resoiling and revegetation, with monitoring and specific assurance mechanisms to guarantee successful completion in a hard rock setting.	Establishment of a permanent, self-perpetuating vegetative ecosystem to closely mimic the natural environment, through resoiling and revegetation, with monitoring and specific assurance mechanisms to guarantee successful completion in the hard rock setting.	No	No
Estimated Years to Completion	76-102 years	34 years	Sooner of exhaustion of permitted reserves or 100 years, December 31, 2113	Yes	Yes
Backfilling	No on-site backfilling. Available Non-PCC quality material will be made available for market use as well as stockpiled and used as revegetation medium during reclamation process	No on-site backfilling. Available Non-PCC quality material will be made available for market use as well as stockpiled and used as revegetation medium during reclamation process	No on-site backfilling. Available Non-PCC quality material will be made available for market use as well as stockpiled and used as revegetation medium during reclamation process	No	No
Material Processing	Materials are loaded and transported to the processing area via conveyors and mining vehicles. The materials are processed by a series of crushers and screens by a conveyor system. Resulting materials are placed in a series of structures and stockpiles for sale and distribution.	Materials are loaded and transported to the processing area via conveyors and mining vehicles. The materials are processed by a series of crushers and screens by a conveyor system. Resulting materials are placed in a series of structures and stockpiles for sale and distribution.	Materials are loaded and transported to the processing area via conveyors and mining vehicles. The materials are processed by a series of crushers and screens by a conveyor system. Resulting materials are placed in a series of structures and stockpiles for sale and distribution.	No	No
On-site production	Processed aggregate material; Hot-mix asphalt; Concrete batch plant	Processed aggregate material; Hot-mix asphalt; Concrete batch plant	Processed aggregate material; Hot-mix asphalt; Concrete batch plant	No	No
Quarry Production	Up to approximately 5,000,000 tons per year (16,025 tons per operating day) ³	Up to approximately 5,000,000 tons per year (16,025 tons per operating day) ³	Up to approximately 5,000,000 tons per year (16,025 tons per operating day) ³	No	No

Feature	1989 Corona Quarry EIR¹	1989 Surface Mining Permit & Reclamation Plan²	Amended Mining and Reclamation Plan	Change from 1989 Approved Permit	Change from 1989 EIR Analysis
Blasting	May occur between 12 noon and 4 pm, Monday through Friday	May occur between 12 noon and 4 pm, Monday through Friday	May occur between 12 noon and 4 pm, Monday through Friday	No	No
Material Stockpiling	Materials are stockpiled at the processing plant area in various stockpiles based material size.	Materials are stockpiled at the processing plant area in various stockpiles based material size.	Materials are stockpiled at the processing plant area in various stockpiles based material size.	No	No
Process Water	Water controls air emissions at crushing and transfer points. Also necessary during the screening and washing process of aggregates.	Water controls air emissions at crushing and transfer points. Also necessary during the screening and washing process of aggregates.	Water controls air emissions at crushing and transfer points. Also necessary during the screening and washing process of aggregates.	No	No
On-Site Material Conveyance	Materials are loaded and transported to the processing area via heavy-duty equipment and mining vehicles.	Materials are loaded and transported to the processing area via heavy-duty equipment and mining vehicles.	Materials are loaded and transported to the processing area via heavy-duty equipment and mining vehicles.	No	No
Off-Site Material Conveyance	Vehicular transport on public streets and optional rail loadout	Vehicular transport on public streets and optional rail loadout.	Vehicular transport on public streets and optional rail loadout.	No	No
End Use	Open space, with a goal to provide a site suitable for post-mining uses such as residential, commercial, industrial, public service or recreational/open space.	Open space, with a goal to provide a site suitable for post-mining uses such as residential, commercial, industrial, public service or recreational/open space.	Non-special habitat open space for subsequent future land use designation as appropriate for City land use goals in 2113.	No	No
Accessory Uses & Activities	HMA / RMC / Rail Loadout	HMA / RMC / Rail Loadout	HMA / RMC / Rail Loadout	No	No

1. The 1989 Corona Quarry EIR analyzed the original proposal, which was to mine the full extent of aggregate resources located on the site in two phases. Subsequent to completion of the EIR, the applicant redesigned the project to consist of six phases rather than two phases while maintaining the analyzed operational characteristics. The six-phase proposed project became the project considered by the County.
2. County of Riverside approved the 1989 Corona Quarry Surface Mining Permit and Reclamation Plan No. 168 under the condition that only the first three phases (Phases One, Two, and Three) would comprise the mining operations. Phases Four through Six were not a part of the approved permits.
3. The daily quarry production rate described above is not a limit on throughput, but a description of typical daily activity based on the permitted annual maximum throughput. Actual daily production varies based on product demand. Production is capped at 480,000 tons per month in Permit to Operate A/N 523143 issued by the SCAQMD.

Discussion of Plan Differences

Mining Acreages:	The difference is the result of returning to the original application acreage as compared to the existing permit acreage.
Total Reserves:	The difference is the volume of material available under the original application footprint of 1989 as compared to the short-term permit granted by the County.
Non-PCC quality material Volume:	The substantial volume difference between the current calculation and past calculations is due to the fact that weathered rock tonnage is also included with non-PCC quality market product tonnage. The difference from the 1989 certified EIR to the proposed amendment is the result of significantly deeper drilling and geotechnical testing to ascertain a more accurate portrayal of the non-PCC quality material volume. Volume change is partially definitional.
Mine Phasing:	The difference from the 1989 application to the permitted phases is the result of modifications requested to the application by the County. The change from the existing permit to the amendment is the desire to achieve full recovery of the resource in lifts, herein referenced as mining phases.
Mining Depth:	The difference results from the County approving a permit of a lesser depth than contained in the application and project-level EIR. The difference from the existing permit to the proposed amendment is the essence of this application -- a desire to return to full recovery of the resource available.
Years to Completion:	The difference is the time required to fully recover the MRZ-2 resource available on-site, given the additional tons and the expectation of long-term national and State economic uncertainty.

1.6 Owner, Applicant and Operator Information

Applicant/Operator:	CalMat Co, dba, Vulcan Materials Company – West Region 500 North Brand Avenue, Suite 500 Glendale, CA 91203 (818) 553-8800 Contact: Jim Gore, Permitting Manager
Owners of Surface Rights:	AVMGH Corona LLC 12139 Paramount Blvd. Downey, CA 90242 Hawley Trust 79190 Bog Walk Bermuda Dunes, CA 92203 Pacific Industrial Properties 1715 Midwick Dr. Altadena, CA 91001
Owners of Mineral Rights:	AVMGH Corona LLC 12139 Paramount Blvd. Downey, CA 90242 Hawley Trust 79190 Bog Walk Bermuda Dunes, CA 92203 Pacific Industrial Properties 1715 Midwick Dr. Altadena, CA 91001
Applicant’s Counsel:	Harrison, Temblador, Hungerford & Johnson, LLP 980 9th St., Suite 1400 Sacramento, CA 95814 (916) 382-4377 Contact: Mark Harrison, Partner
Applicant’s Agent	RGP Planning & Development Services 8921 Research Drive Irvine, CA 92618 (949) 450-0171 Contact: Rick Goacher, Founder

1.7 Lead Agency Information

Lead Agency/Contact	City of Corona, California Community Development Department 400 S. Vicentia Ave. Corona, CA 92882 (951) 736-2262 Contact: Joanne Coletta, Community Dev. Director
State Mine ID No:	State of California Mine ID No. 91-33-0027
CUP/Reclamation Plan No:	City of Corona Surface Mine Permit 12-001 (formerly SMP 93-01) and Surface Mine Reclamation Plan 12-001 (Original permit Riverside County Surface Mining Permit No. M3-269, Reclamation Plan 117, and Permit No. 168)

2.0 Project Location & Setting

2.1 Project Location

Corona Quarry is located on approximately 336 acres in the eastern portion of the City of Corona, Riverside County. The Interstate 15 Freeway (I-15) is located approximately three-quarters of a mile to the west of the site with Magnolia Avenue being the closest major on-ramp/off-ramp to the I-15. This highway access point is approximately one and a half miles northwest from the quarry. Access to the site from Magnolia Avenue is via Sherborn Street. **Figures 1 and 2** illustrate the project's regional and local setting. The mine site includes seven parcels; **Table 5** lists the Assessor's Parcel Numbers contained within project boundaries.

Table 5: Project Site Assessor's Parcel Numbers

Assessor's Parcel No.	Acreage
107-070-015	1.42
135-270-002	24.72
135-270-003	5.50
135-270-005	46.71
135-270-006 ¹	177.88
278-120-001	40.00
278-130-001	40.00
<i>Total</i>	<i>336.23</i>

¹ This APN was different in 1989 but the predecessor APN refers to the same parcel, as confirmed by the Riverside County Land Information System (RCLIS).

The existing visual character of the site is that of an active surface mine including active mining areas, on-site mobile equipment movement, stationary equipment, wash water recycling, structures necessary for processing materials for off-site transport, and open space. Public roadways and the adjacent BNSF rail lines are used to transport material to the market.

A network of internal paved and un-paved access and mine roads are located throughout the site. These include access roads around the processing plant and administration area, as well as an access road leading up to the active mining area along the eastern portion of the site. Several portable structures housing the administrative office and employee restrooms, break and lunchroom are located near the entrance area. The site additionally features a 4,200-square-foot permanent metal building used for shop and lab functions.

2.2 Surrounding Land Uses

As illustrated in **Figure 3**, a variety of industrial land uses are located adjacent to the Corona Quarry facility, including the All American Asphalt mining and processing facility directly to the north of the property, and the 3M Company (previously known as Minnesota Mining & Manufacturing) mining and processing facilities directly to the south. Residential development exists approximately half a mile to the northeast of the site and three-quarters of a mile to the west of the site, and very low density residential has recently been developed to the east of the site in Riverside County jurisdiction. A single, more isolated residence structure (non-conforming use) is additionally situated to the west-southwest approximately one-quarter mile distant in the City of Corona.

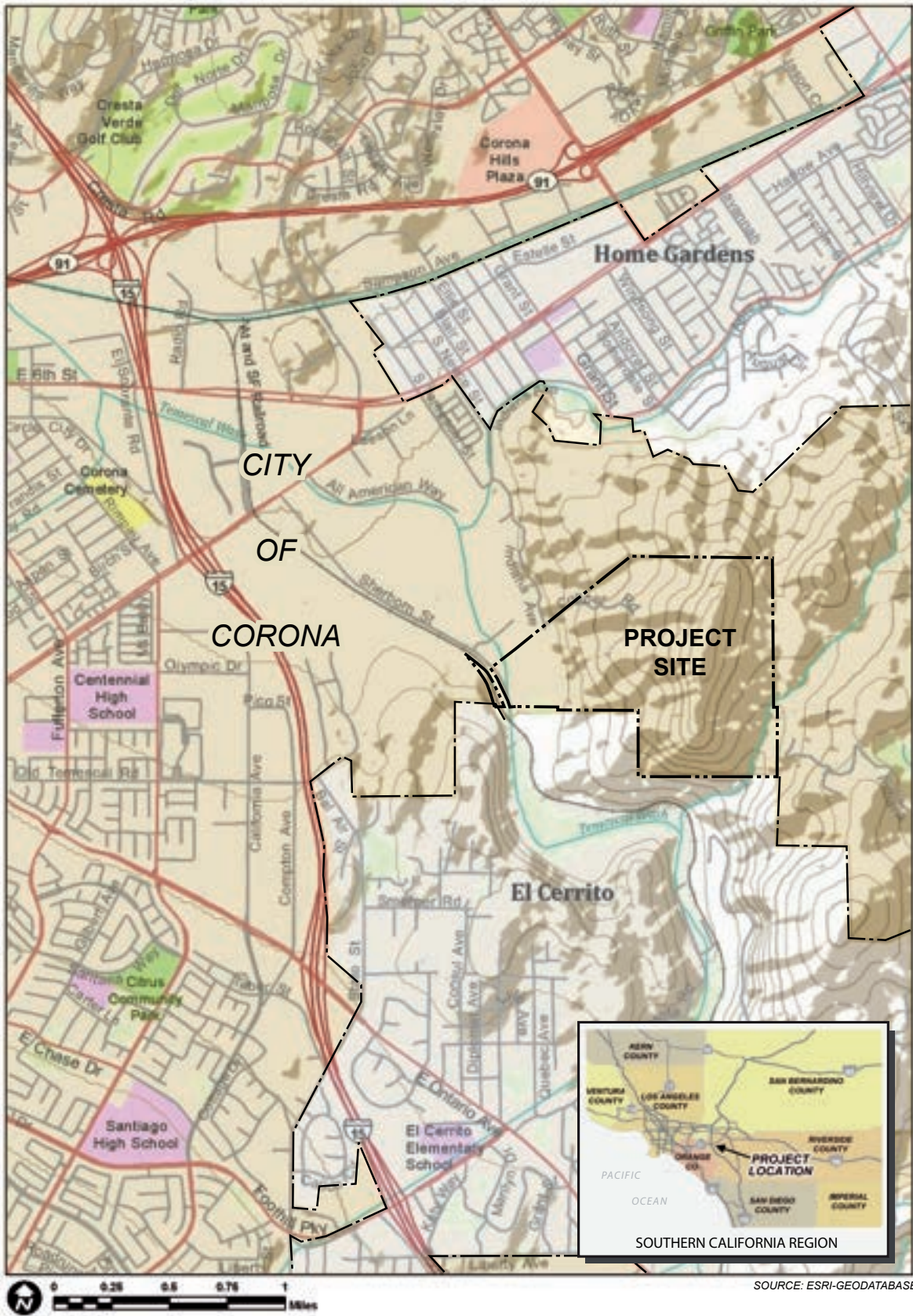


Figure 2:



SOURCE: GOOGLE EARTH 2010

Figure 3:

2.3 General Plan Designation

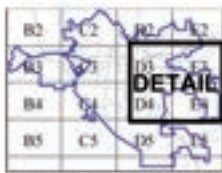
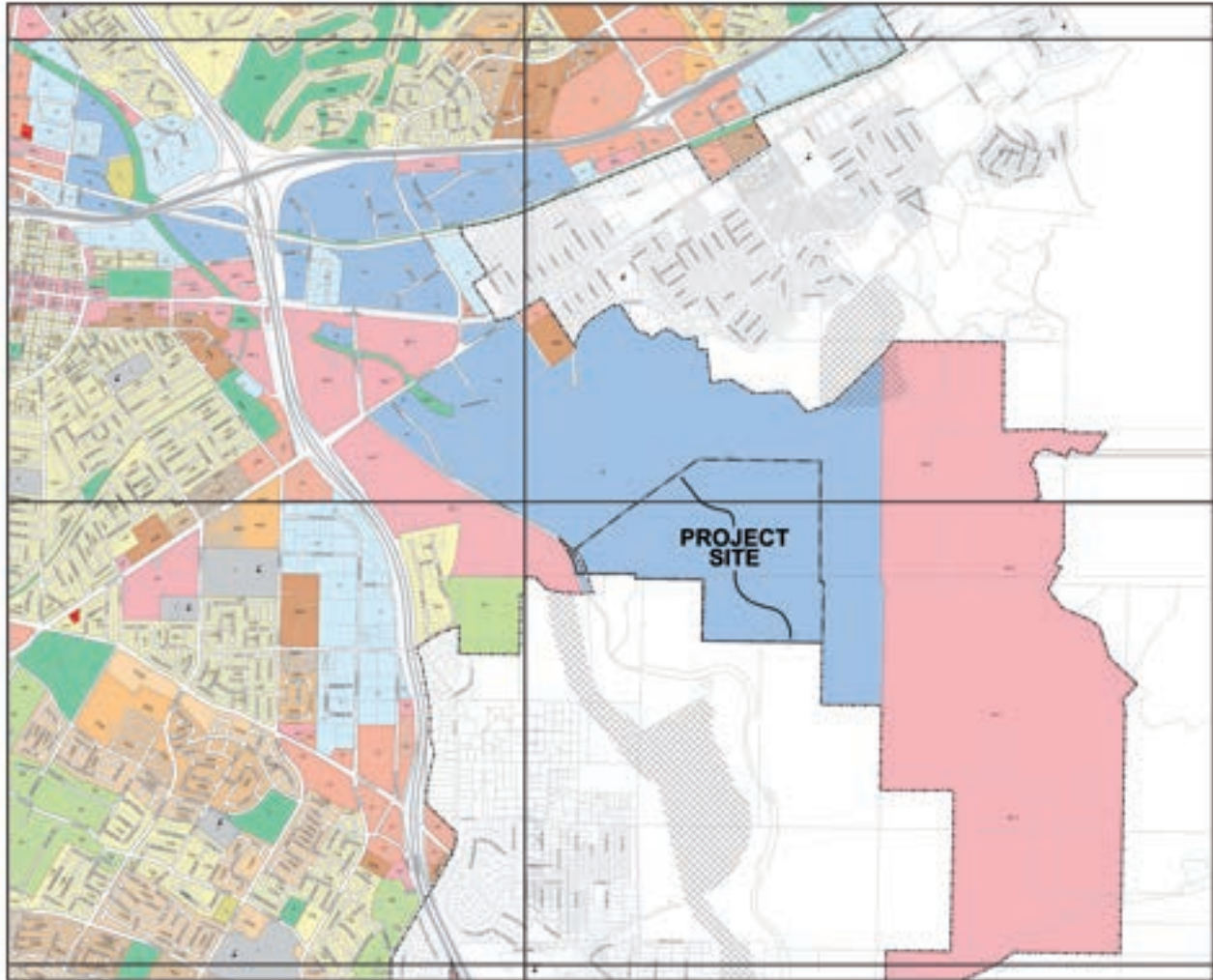
The City's 2004 General Plan Land Use Map designates the site as General Industrial (GI), as depicted in **Figure 4**. State planning law (Government Code §65300) requires cities and counties to adopt comprehensive, long-term general plans for the physical development of their jurisdictions. A general plan must contain the following seven mandatory elements: land use, circulation, housing, open space, conservation, safety, and noise.

Complying with State law, in 2004 the City completed an update of its 1978 General Plan and combined the mandatory elements into a single general plan document organized into four major chapters: Community Development, Infrastructure and Public Services, Environmental Resources, and Environmental Hazards and Public Safety.

The Environmental Resources Chapter contains goals and policy discussion regarding Hydrological Resources, Biological Resources, Agricultural and Mineral Resources, Air Quality, and Visual Resources. The applicable goals of the Mineral Resources section are:

- Encourage exploration of Mineral Resources within the City of Corona's boundaries and Sphere of Influence;
- Honor surface mining permits and reclamations plans that were issued by Riverside County for sites annexed into the City of Corona;
- Recognize and protect valuable mineral resources in a manner that does not create land use conflicts;
- Consider all mineral resources classified and/or designated by State Classification Reports as a resource to protect and utilize and to consider the protection of mineral resources that are significant, but do not have the State Classification of MRZ-2.

The Corona General Plan, created and adopted subsequent to the establishment of the surface mine, is consistent with and supports the planned use of the property without exception.



**CITY OF CORONA
GENERAL PLAN
LAND USE ELEMENT**

- | | |
|---|----------------------------|
| AG Agriculture | GI General Industry |
| E Estate 1 - 3 du/acre | P Parks |
| RR 1 Rural Residential I 0.2 - .05 du/acre | OS/G Open Space General |
| RR 2 Rural Residential II 0.5 - 1 du/acre | OS/R Open Space Recreation |
| LDR Low Density Residential 3 - 6 du/acre | S School |
| LMDR Low-Medium Density Residential 6 - 8 du/acre | FS Fire Station |
| MDR Medium Density Residential 6 - 15 du/acre | U Utility |
| HDR High Density Residential 15 - 36 du/acre | Slope Management |
| OP Office/Professional | Geologic Hazard Zone |
| GC General Commercial | Schools |
| MUD Mixed Use: Downtown | Corona City Boundary |
| MU 1 Mixed Use: Commercial and Residential | Corona Sphere of Influence |
| MU 2 Mixed Use: Industrial and Commercial | Railroad |
| LI Light Industry | |



Figure 4:

2.4 Zoning Classification

As shown in **Figure 5**, the site and entitled operations are located within the City's Heavy Manufacturing (M-3) zoning classification with a Mineral Resource (MR) overlay on the City's Zoning Map. Section 17.44.010(C) and Section 17.62.310 of the Development Code describes the intent of the Heavy Manufacturing (M-3) zone and the Mineral Resource (MR) Overlay zone as follows:

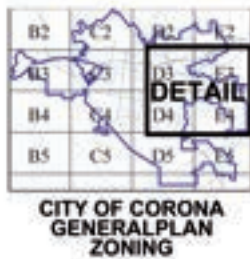
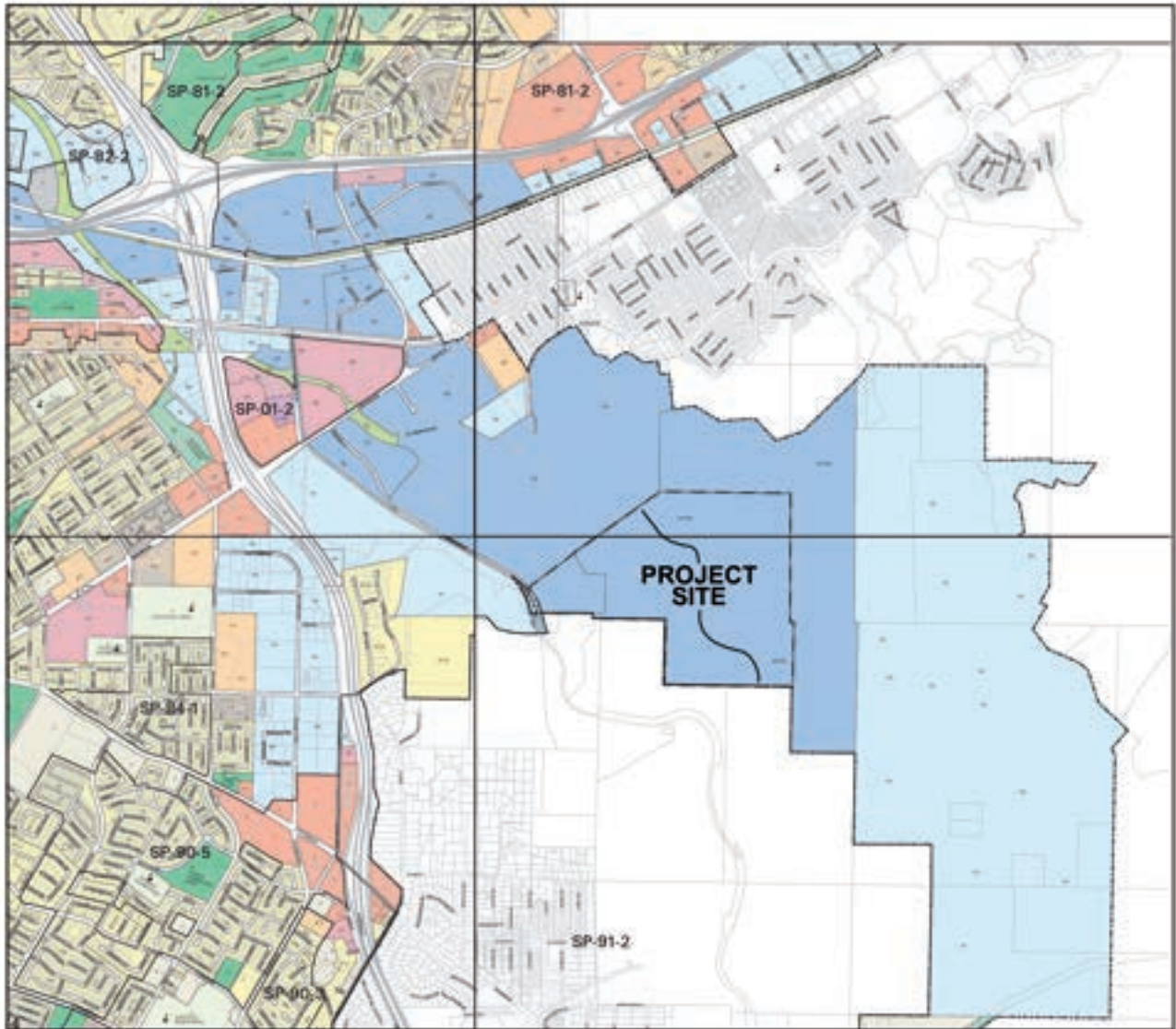
"The M-3 (Heavy Manufacturing) Zone is intended for heavy manufacturing and industrial uses. The M-3 zone allows for manufacturing uses that may produce noise, dust and heat and for uses that require the utilization or mixing of toxic chemicals. The M-3 zone is primarily established at locations removed from commercial and residential areas."

"The purpose of the Mineral Resource (MR) Overlay Zone is to provide supplemental standards for surface mining and related activities. The MR overlay zone, when shown on the zoning map of the city in combination with a symbol such as M-2 or M-3, permits certain uses not otherwise permitted in the underlying zone and restricts certain uses otherwise permitted in the underlying zone."

Section 17.62.320 of the Development Code contains definitions for the purposes of Chapter 17.62 (Overlay Zones Open Space – Sales of Agricultural Products) Mineral Resource Overlay Zone. These definitions imply that ancillary uses, such as rock crushing and material handling, are to be located within the MR Overlay Zone. Furthermore, any use permitted in the underlying zone is also permitted in the MR Overlay Zone, subject to a finding by the Community Development Director that:

1. The use will not continue for more than one year beyond the mine life,
2. The use is directly related to on-site surface mining, or
3. The use will not inhibit the extraction of underlying minerals in the future.

The City of Corona Zoning Code supports the planned use of the property without exception.



- | | | |
|-----------------------------|-------------------------------|---------------------------------|
| Single Family Residential | Utility | North Main Street Specific Plan |
| Multiple Family Residential | Schools | Garretson Avenue Overlay Zone |
| Commercial/Industrial | Planned Community Development | Golf Course |
| Heavy Industrial | Open Space | Schools |
| Mixed Use | Flood Control | Corona City Boundary |
| Commercial | Parks | Specific Plans Boundaries |
| Office | Agricultural | |

N.T.S.

Figure 5:

2.5 Mineral Resource Zone Classification

The Surface Mining & Reclamation Act, 1975 (SMARA) includes a process whereby the State formally acknowledges geographical areas that contain mineral resources and the significance of the resources to the state and/or region. The State Department of Conservation through the California Geological Survey (CGS) and the SMGB implements the mineral land classification/designation process for mineral resource conservation. Under this process, the CGS reviews applications submitted by landowners/mining operators and determines if an area contains economically important mineral resources of regional or statewide significance. Through this process, the Temescal Region, which includes Corona Quarry, has been recognized as Mineral Resource Zone 2 (MRZ-2), confirming the presence of a significant mineral deposit.³ The CGS also declared the Corona Quarry site as an area of regional significance, confirming the economic importance of the mineral deposit to the entire region. Today, the Corona Quarry site remains designated MRZ-2 and an area of regional significance, and the City has incorporated certain land use policies into the General Plan to ensure that these essential mineral resources are available for future use.

In the case of construction aggregates, the SMGB designation identifies aggregate resources needed for a region's 50-year supply. The SMGB provides this information to local governments for inclusion into their General Plans and mineral resource/conservation policies. This process ensures that jurisdictions recognize and consider the presence of significant aggregate resources prior to making land use decisions that may preclude future mining of these vital resources. (See aggregate needs assessment discussion in Section 1.4, herein)

2.6 General Description of Vegetation

The mine site is highly disturbed by current, previous, and historic mining activities dating to the 1940s, stock grazing, and frequent wildfires. The dominant vegetation is degraded non-native grasslands and Riversidean sage scrub plant communities. The dominant Riversidean sage scrub species on the site include brittlebush and California sagebrush, with lesser quantities of California buckwheat, laurel sumac, white sage, and grassland goldenbush.

Limited riparian communities occur on-site, including 0.01 acre of mule fat scrub and approximately 0.12 acre of southern willow scrub associated with ephemeral drainages.

2.7 Sensitive Species and Habitats

The subject property is within the boundary of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), which was fully approved in June 2004. The MSHCP Final EIR/EIS states, "*The existing [mineral] extraction sites are locally important resources and would not be affected under the proposed MSHCP. The sites currently in use would not be restricted in any way. The potential for establishment of additional mineral extraction sites in the future would, however, be restricted in some ways.*" (MSHCP vol. 4, Section 4.2.2, pg. 4.2-28).

³ California Department of Conservation, Division of Mines and Geology. 1981. SR 143: Part III: Mineral Land Classification of the Greater Los Angeles Area: Classification of Sand and Gravel Resource Areas, Orange County-Temescal Valley Production-Consumption Region.

The subject property, including the area subject to this application, was an “existing extraction site” at the time of the MSHCP’s approval. County of Riverside permit No. M3-269 was approved in 1956, applied to substantially all of the current site, including the entire mineral extraction area subject to this application, and does not expire. County of Riverside permit SMP 168, approved in 1990, confined surface mining operations within that portion of M3-269 covered by RP 117 as approved in 1978, as well as acreage reaching westward to Cajalco Street (now Sherborn Street), and authorized additional material processing facilities. The current application proposes to continue surface mining operations within the same permit boundaries, and as fully analyzed in the 1989 EIR. As a mine existing prior to the MSHCP’s approval, the currently approved Corona Quarry is therefore not subject to the MSHCP or any Mitigation Fee Ordinance implementing the MSHCP for its existing operations. However, expansion of the currently permitted footprint could require the payment of mitigation acreage fees for designated species (i.e., Riversidean sage scrub) under the MSHCP as the mine footprint expands to its full extent. As described in Section 3.14, *Biological Resource Design Components*, VMC could pay the development mitigation fees associated with the MSHCP, and the proposed project will be consistent with all pertinent MSHCP policies.

Section 3.14 also includes other project design components, summarized as follows:

- Obtain authorizations from regulatory agencies for impacts to jurisdictional waters, and compensate for the loss of unvegetated streambed/riverine and riparian vegetation at appropriate ratios;
- Confirm the absence of nesting birds by removing vegetation outside the nesting season and/or conducting surveys and establishing construction activity buffers;
- Minimize potential direct impacts to the coastal California gnatcatcher by conducting habitat clearing and removal outside of the breeding season.

Finally, the subject quarry has been a participant in the Stephens’ Kangaroo Rat (“SKR”) Habitat Conservation Plan and its implementing SKR Mitigation Fee Ordinance (Ord. 663) since 1989. Because the entire 336-acre site was subject to permits No. M3-269 and/or SMP 93-01, the mine operator was required to meet, and has met, its obligations under the ordinance for the entire 336-acre project site (including all areas covered by the Amended MRP) and is subject to no further SKR mitigation requirements.

2.8 Surface Drainage and Groundwater Characteristics

Surface Drainage: The project site contains a portion of the Temescal Wash, a regional drainage course that generally flows north toward the Santa Ana River. Temescal Wash is an ephemeral stream that experiences its greatest flows during periods of winter rains; it occasionally becomes a dry streambed during the summer months, or during years of drought. The Temescal Wash is mapped on **Figure 6**.

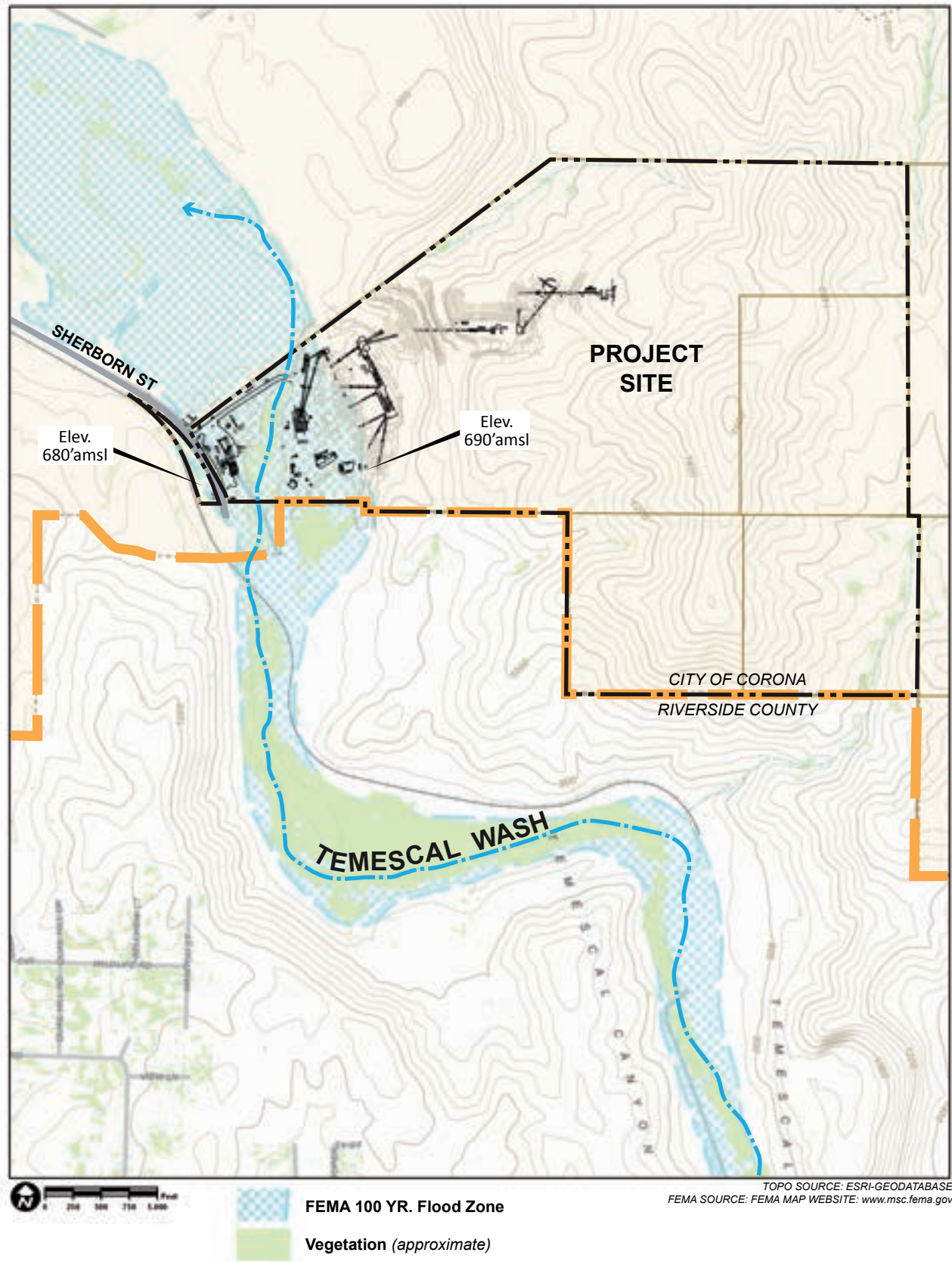


Figure 6:

The Federal Emergency Management Agency (FEMA) maps floodways based on the 100-year runoff event, which is derived from records of measured flows. FEMA has mapped the 100-year flood boundary for the Temescal Wash and the majority of Phase 1 of the Corona Quarry is within the 100-year flood zone. The proposed action embodied by this application does not affect the Temescal Wash flood plan or flood zone.

Site operations are regulated by, and comply with, state and local regulations regarding stormwater quality, including the State's Industrial Activities Stormwater General Permit (Industrial General Permit, Order No. 97-03-DWQ), and other pertinent discharge requirements issued by the Santa Ana Regional Water Quality Control Board. The site is governed by the conditions of an industrial Storm Water Pollution Prevention Plan (SWPPP) for the Corona Quarry (WDID No. 8 33S001931). Essentially, surface drainage from the west facing slopes of the quarry are diverted to the northern portion of an existing impoundment at the southwest area of the site. This prevents surface drainage from entering Temescal Wash. However, when necessary, temporary desilting basins are constructed in natural ravines on the site to reduce erosion and to minimize sediments in the diverted surface drainage from entering major drainage courses.

Groundwater: The site lies near the boundary of the Arlington and Temescal groundwater basins. According to the 2011 Draft Arlington Basin Groundwater Management Plan, the groundwater in the Arlington basin ranges from approximately 20 feet below ground surface (bgs) to approximately 70 feet bgs. The ground surface elevation of the floor of the Arlington basin where groundwater wells were installed ranges from 700 to 880 feet above mean sea level (amsl). Data for the Temescal Basin groundwater level was not available for review.

2.9 Regional Geology

The site is located at the extreme northern end of the Peninsular Ranges geomorphic province in southern California. The Peninsular Ranges continues south approximately 930 miles to the southern tip of Mexico's Baja California. The Peninsular Ranges are a series of northwest trending ranges and valleys that are sub-parallel to the San Andreas Fault and faults branching from it. The geology of the Peninsular Ranges is dominated by granitic rocks of Mesozoic age derived from the same granitic batholiths that formed the Sierra Nevada mountain range. The Peninsular Ranges are bound to the north by the Transverse Ranges, which run east-west, and to the east by the Colorado Desert.

2.10 Site Geology

The site is an active quarry area with a significant amount of exposed rock, which overlies igneous crystalline rocks. At locations where quarrying has not occurred, the rock is covered by a thin blanket of topsoil and slope wash deposits. According to Gray (1961), the geology of the site is divided into four units: the Home Gardens Quartz Monzonite Porphyry, the Cajalco Quartz Monzonite, the Corona Hornblende Granodiorite Porphyry, and the Temescal Wash Quartz Latite Porphyry.

The rocks of the Cretaceous Home Gardens Quartz Monzonite Porphyry outcrop in a narrow band on the west side of the property. The strike of the Home Gardens intrusion runs generally from north to south across the western edge of the property. The strike of this unit also follows a linear distribution of areas identified by Vulcan Materials as areas of deep non-PCC quality material and weak rock. Presently, the Home Gardens is exposed along the main haul road and is supporting slopes between 45 and 63 degrees.

The Cajalco Quartz monzonite was identified by Gray (1961) as a small outcrop in one area on the northern side of the property. This formation consists of pink to tan massive quartz monzonite and is Cretaceous in age. This unit was not observed during site reconnaissance.

The Corona Hornblende Granodiorite occurs mainly along the northern margin of the property. These rocks are dark grey and commonly porphyritic. The age of this unit is Jurassic to Cretaceous.

The Temescal Wash Quartz Latite Porphyry is Jurassic in age and underlies the majority of the property. These rocks consist of blue-black to dark grey quartz latite to dacite and are commonly porphyritic. The majority of our observations during our field reconnaissance were of this particular unit.

2.11 Site Topography

Figure 7 is a graphic representation of the current topographic conditions of the subject application. Cross-sections A-A and B-B provide illustrations of the topographic profile and the reference points, while the elemental contours are shown on the boundary map. Site topography ranges from approximately elevation 1600' AMSL along the eastern portion of the site down to 680' AMSL along the western portion of the site near the processing and administrative facilities. Historical mining operations have altered the natural topography of portions of the site, specifically the area used for material processing as well as the current mining area.

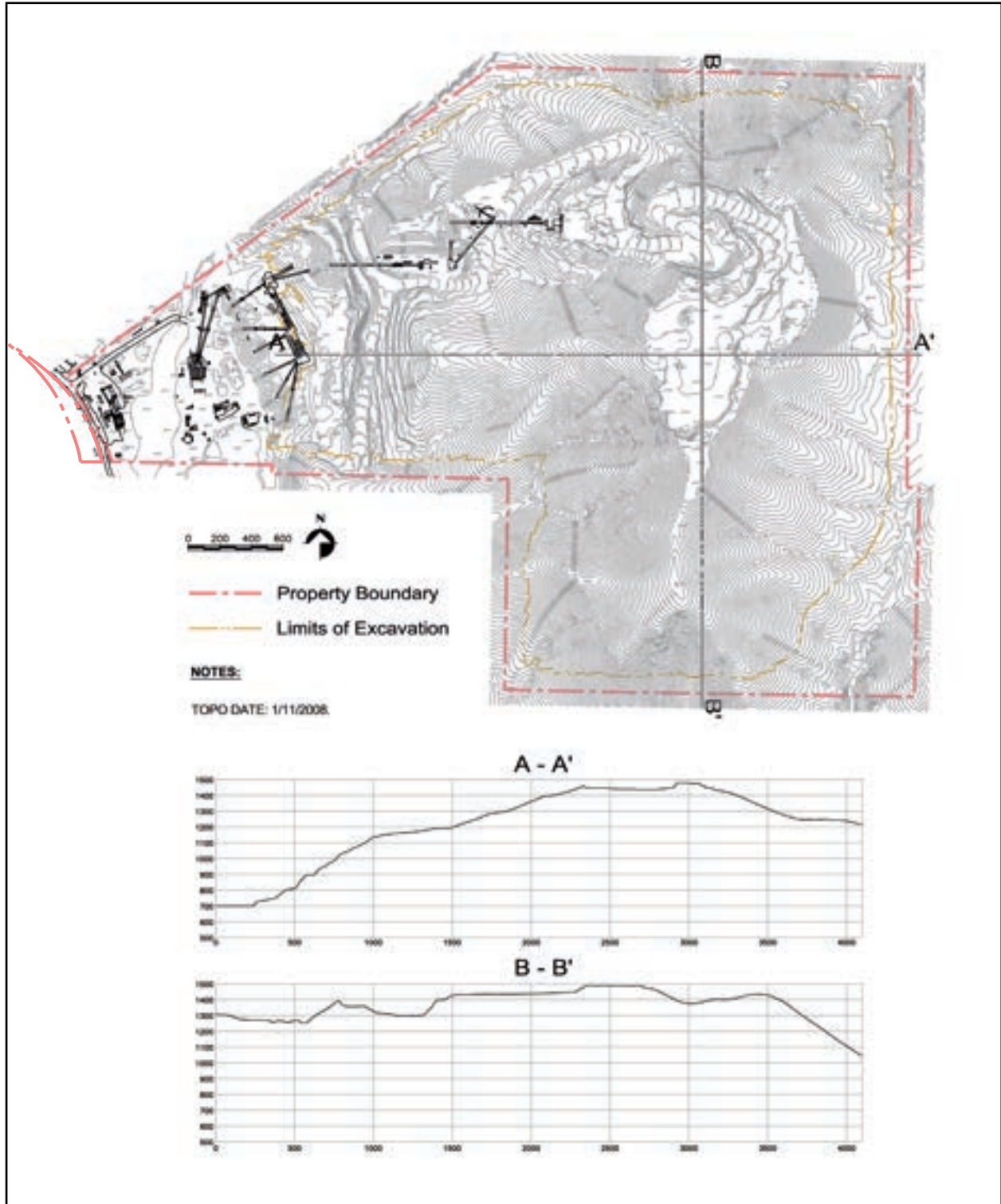


Figure 7:

2.12 Views and Aesthetics

The existing visual character of the project region is dominated by urban development and roadways, and by the presence of the local El Sobrante de San Jacinto Mountains, the north-south trending ridges of which provide a visual backdrop to much of the neighboring Corona community. The highest point of the project site is also the highest point in the western end of this small range, which stretches from Corona in the west and Perris in the east, from the Riverside Freeway on the north and Lake Elsinore on the south. Though the much higher Santa Ana Mountains to the southwest overshadow these peaks on clear days, the range is visually important on a local scale.

The El Sobrante de San Jacinto mountain slopes are sparsely covered with coastal scrub vegetation. In many areas, large rock outcroppings are exposed. On clear days, the site is visible from residential, commercial and industrial lands surrounding the site, and from the Riverside Freeway (State Route 91) and the Interstate 15 (I-15) Freeway.

The natural relief of these mountains has been impacted by mining along their western faces. Mining operations have been ongoing since the 1940s on the Corona Quarry site. On property adjacent to the northern boundary of the site, All-American Asphalt has excavated a large slope face since the 1950s. To the south, large slopes have been excavated by the 3M mining operation and its predecessors for over 100 years. Therefore, evidence of past surface mining is readily apparent at and around the site since the formerly excavated slopes are nearly void of vegetation. They are also much lighter in color than the undisturbed areas surrounding the site, and contain rows of linear, engineered benches.

The following series of photographs depict existing site conditions and include examples of mined and un-mined slopes, equipment, crushing station equipment, conveyor system, and areas surrounding Corona Quarry. In addition, each photo contains a location key map that identifies the location and direction of each photo taken on the site.

Figures 8 through **15** in the following subsections provide a sense of visual character under existing conditions for both “off-site looking in” and for “on-site looking out” circumstances. Qualitative narrative is intentionally omitted.

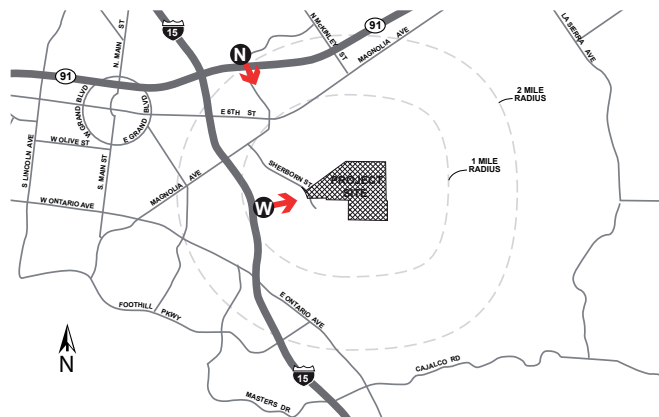
2.12.1 Off-Site to On-Site Views



Figure 8: View from the West



Figure 9: View from the North



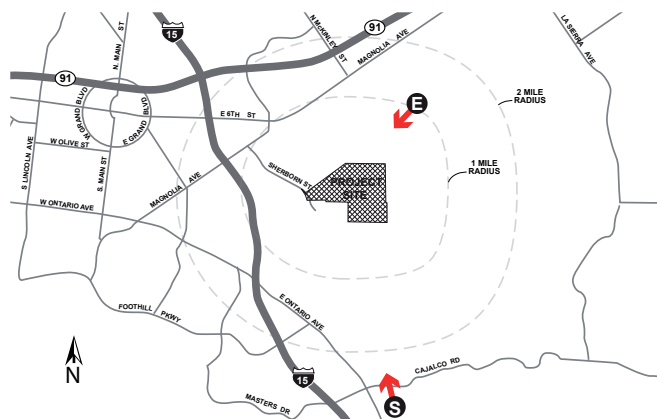
OFF-SITE TO ON-SITE VIEWS



Figure 10: View from the East



Figure 11: View from the South



OFF-SITE TO ON-SITE VIEWS

2.12.2 On-Site Views



Figure 12: Existing Phase 2 Mining Operations

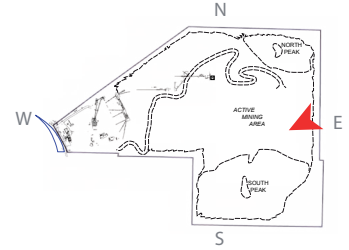


Figure 13: Material Processing and Conveyor Facilities

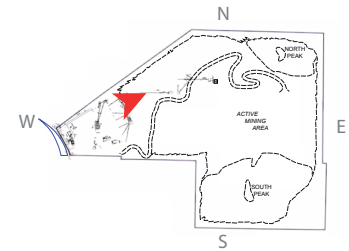




Figure 14: Material Sorting and Stockpiling

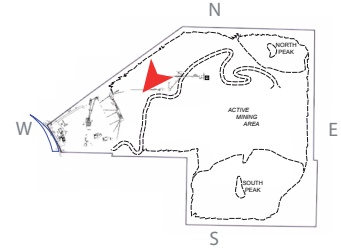
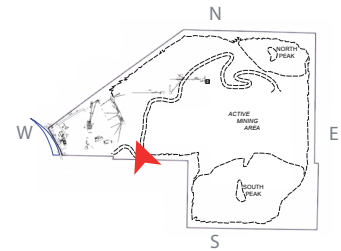


Figure 15: Market-Ready Product Load-Out Stations



ON-SITE VIEWS

3.0 Mining & Operations Program

(NOTE: Where conditions of approval from CUP 93-01 are being carried forward into this amendment, those existing conditions are noted in italics. Also see Attachment 10 for full listing of conditions of approval.)

3.1 Date of Commencement

As previously stated, mining activities at the site commenced in the 1940s and have continued through to the present-day under the prior project approvals. VMC plans to proceed with the operations plan described herein upon approval of this amended plan. **Figures 16** through **21** included herein presents the proposed mining program for Corona Quarry. In the event that the Surface Mine Permit and Reclamation Plan Amendment are not authorized by the City of Corona, Corona Quarry will continue operations and reclamation as currently permitted and obligated under Permit No. 93-01.

3.2 Mineral Commodity to be Mined

Corona Quarry produces a wide spectrum of construction-grade aggregates, ranging from fine sands to riprap. These products are used as the basic ingredient in concrete for construction of homes, public and private buildings, dams, bridges, highways and other structures. The material mined at Corona Quarry is also used for the production of asphaltic-concrete (HMA) for use in parking lots, highways, surface streets, bicycle paths and related trail systems. Ready-mixed concrete (RMC) has previously been manufactured on-site, and is anticipated to again be produced on-site in the future. When VMC reconstructs an on-site RMC facility, it too would use aggregate mined on-site as a dominant ingredient in the production of concrete.

3.3 Estimated Annual Production

The production rates for Corona Quarry are carried forward from the 1989 EIR and are projected as follows:

- Aggregate materials processing and distribution facilities: up to approximately 5 million tons per year, including:
 - Hot Mixed Asphaltic concrete (HMA) production and distribution: 600,000 tons per year
 - Ready-Mixed Concrete (RMC) production and distribution: 875,000 cubic yards per year

3.4 Estimated Total Production & Mining End Date

The total amount of PCC-quality aggregate to be produced from the site is estimated at approximately 351 million tons. The mining and operations permit end date is 100 years to December 31, 2113 or sooner of exhaustion of material reserves, whichever occurs first.

3.5 Method of Extraction

The mineral resource will be extracted by conventional surface mining methods. The method of extraction and handling includes the following activities:

Material is loosened within active mining areas using heavy equipment, and/or by drilling and blasting as needed to fracture rock. Material will then be loaded and transported to the processing area via large-capacity off-road haul vehicles to a crusher and energy-regenerative conveyor. The crushed material will then be transported via conveyor to a down slope materials processing plant. The material will then be further crushed and screened, sent to stockpiles based on material size prior to blending and possible washing, and conveyed to sales stockpiles/load out bins for loading into on-road trucks or rail cars for transport to customers. The locations of processing and conveying equipment will shift from time to time on the property.

Off-road trucks have limited hours of operation east of the 'ridgeline' pursuant to conditions of approval. On-site mining and processing operations, as well as equipment maintenance, are permitted 24 hours per day. Off-site material conveyance occurs via off-site haul trucks (and also with the option of rail service) on a 24-hour basis.

3.6 Method of Processing

Freshly mined rock (pit-run material) is reduced in size by a primary crusher located at the northwest portion of the quarry. The material will then be transported via conveyor system to the processing plant located at the western portion of the site for further processing. Here the materials from the primary crusher will be separated by size and/or quality, further reduced in size, washed (if necessary) and stored in surge piles ready for market sale.

It is noted that as future mining progresses, it will be necessary to relocate the primary crushing station, as well as conveyor systems, roads and equipment, to place it closer to current operations and to allow for timely reclamation activities to commence on the completed mine phase. **Figure 16** illustrates the ongoing site operations as a site plan view.

3.7 Total Number of Acres to be Disturbed by Mining

The Corona Quarry site is approximately 336 acres in size. Of this area, approximately 250-260 acres will be disturbed by mining. From 1989 to present, approximately 160 acres of the total 260-acre disturbance has already occurred.

3.8 Proposed Mine Phasing

The project consists of six phases, the first of which has already been completed and is currently the site of the processing facilities and market-ready stockpiles. The proposed mine phasing covers the similar extent of mining as was applied for, and analyzed by the 1989 EIR. However, the amended phasing consists of a layered mining approach throughout the entire mining area to maximize efficiency (See Attachment 4 for a comparative depiction of the two distinct phasing approaches). A summary of the acreages impacted and estimated extraction quantities in the proposed phasing plan is presented in **Table 6**. Given the proposed phasing configuration and

the intent to extract aggregate in a more efficient manner, mining may be required to occur in multiple phases at a given point in time.

Figures 17 through **21** depict the proposed mine phasing approach. Given the economic conditions and fluctuating market demand, it is difficult to establish precise phase completion dates; therefore, phasing shall be coincident to mine elevation depths not to a given production timeline.

Table 6: Mining Phase Summary

Products & Production	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Total	1989 Project Description
Non-PCC Quality Market Material (tons)	13,764,000	8,084,000	7,878,000	3,328,000	109,000	33,163,000	No Data Provided
Fresh Rock (tons)	25,543,000	73,878,000	102,983,000	66,232,000	82,414,000	351,050,000	400,000,000
Strip Ratio (tons/tons)	0.54	0.11	0.08	0.05	0.001	0.09	No Data Provided
Approximate Year of Initiation*	Ongoing	2020-2030	2035-2050	2060-2080	2085-2095		
<i>* Will vary based on market conditions, with Phase 6 to conclude no later than December 31, 2113. Notwithstanding the estimated dates, phases are <u>not</u> linked to dates.</i>							

3.9 Maximum Anticipated Depth of Mining

The maximum anticipated depth of mining is to an approximate elevation of 500 feet amsl. See **Figure 22** for individual phase depths as well as complete mine depth.

CRUSHERS	
C1	CEDAR RAPIDS 5460 JAW CRUSHER WITH TRUCK DUMP HOPPER, VIBRATING GRIZZLY FEEDER AND CONVEYOR
C2	7 FT. STD. SYMONS CONE CRUSHER
C3	1560 NORDBERG OMNICON BALLAST CRUSHER LOCATED ON TOWER ST2
C4	SANDVIK H7800 HYDROCONE TERTIARY CRUSHER LOCATED ON TOWER ST2
C5/C6	SANDVIK H6800 HYDROCONE QUATERNARY CRUSHERS
SCREEN TOWERS	
ST1	SCALPING SCREEN TOWER SUPPORTING 8X24, 3-DECK INCLINED DEISTER SCALPING SCREEN S1 WITH RELATED CHUTES AND TRANSFER CONVEYORS
ST2	SCREEN TOWER SUPPORTING 8X24, 3-DECK INCLINED DEISTER SCREEN S2 AND 5X16, 2-DECK INCLINED DEISTER BALLAST SCREEN S3, WITH RELATED CHUTES AND CRUSHERS C3 & C4
ST3	SCREEN TOWER SUPPORTING 8X24, 3-DECK INCLINED DEISTER SCREENS S4 & S5 AND RELATED CHUTES AND TRANSFER CONVEYORS
ST4	SCREEN TOWER SUPPORTING THE 8X20, 3-DECK HORIZONTAL JCI SCREENS S6, S7 & S8 AND RELATED CHUTES AND TRANSFER CONVEYORS
ST5	WET SCREEN TOWER SUPPORTING 8X20, 3-DECK INCLINED DEISTER SCREEN S9, KOLBERG 44"X32' SINGLE SAND SCREW, AND RELATED CHUTES, WATER PIPING AND PUMPS

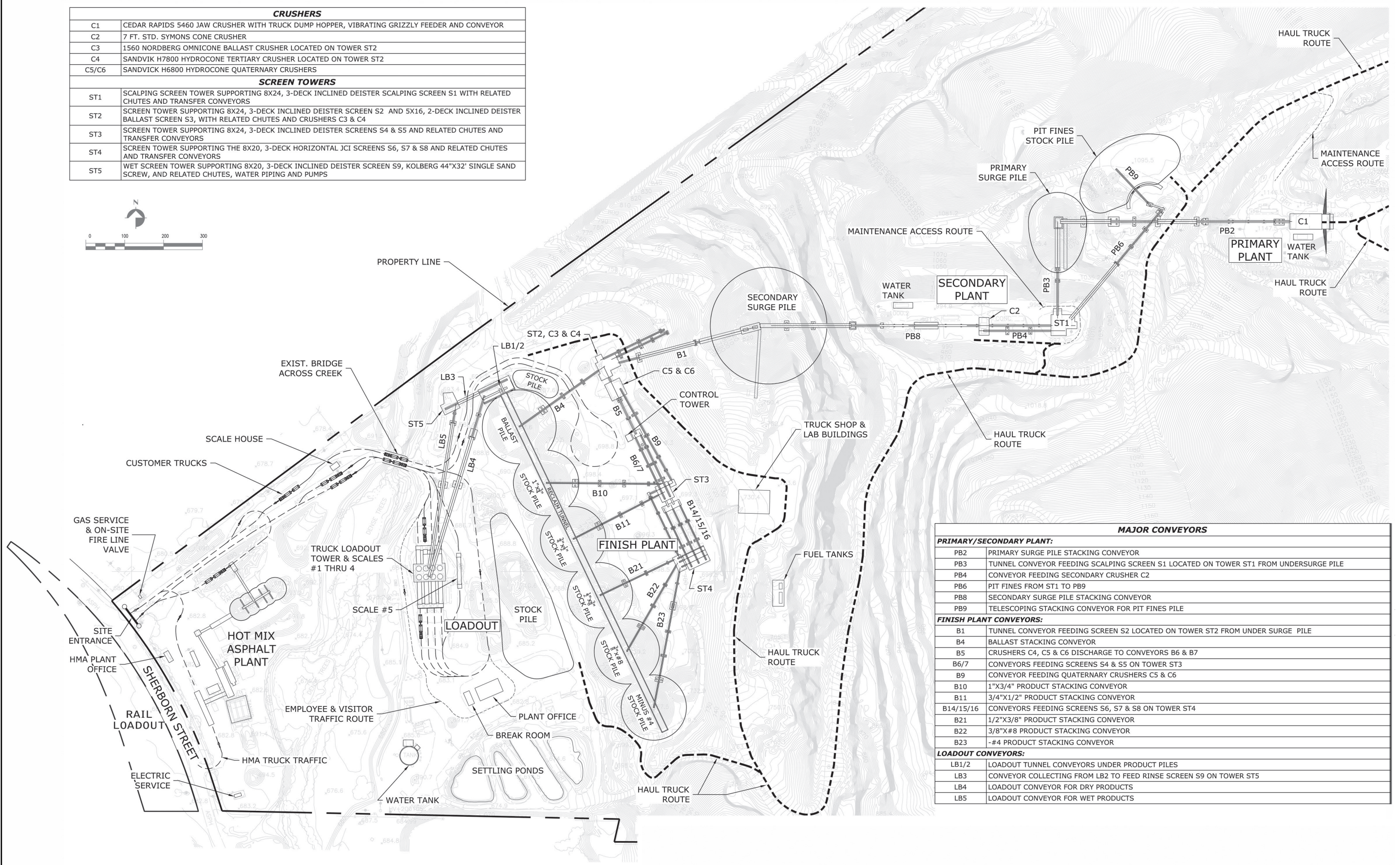
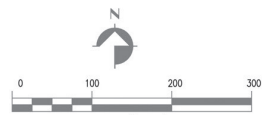


Figure 16:

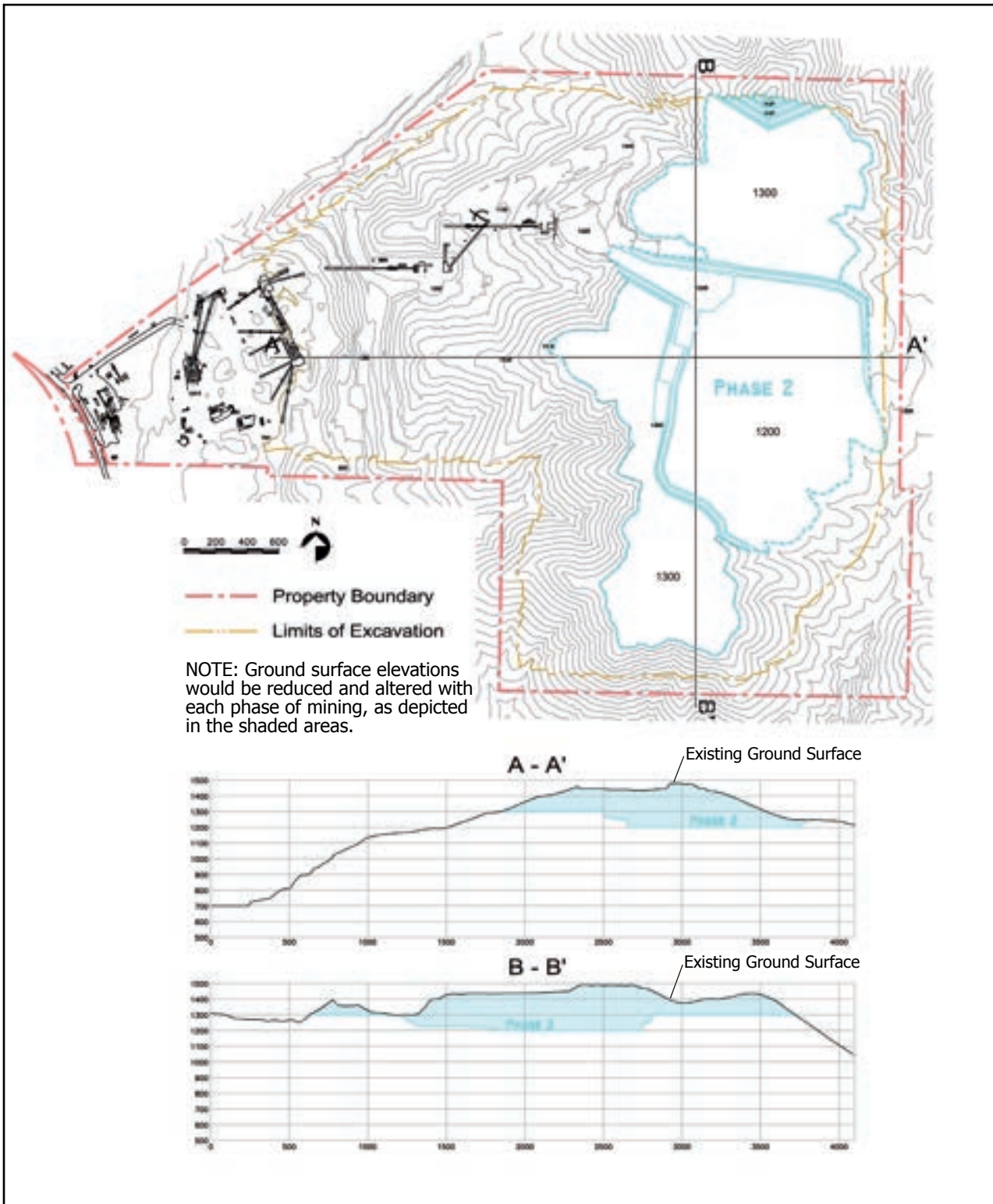


Figure 17:

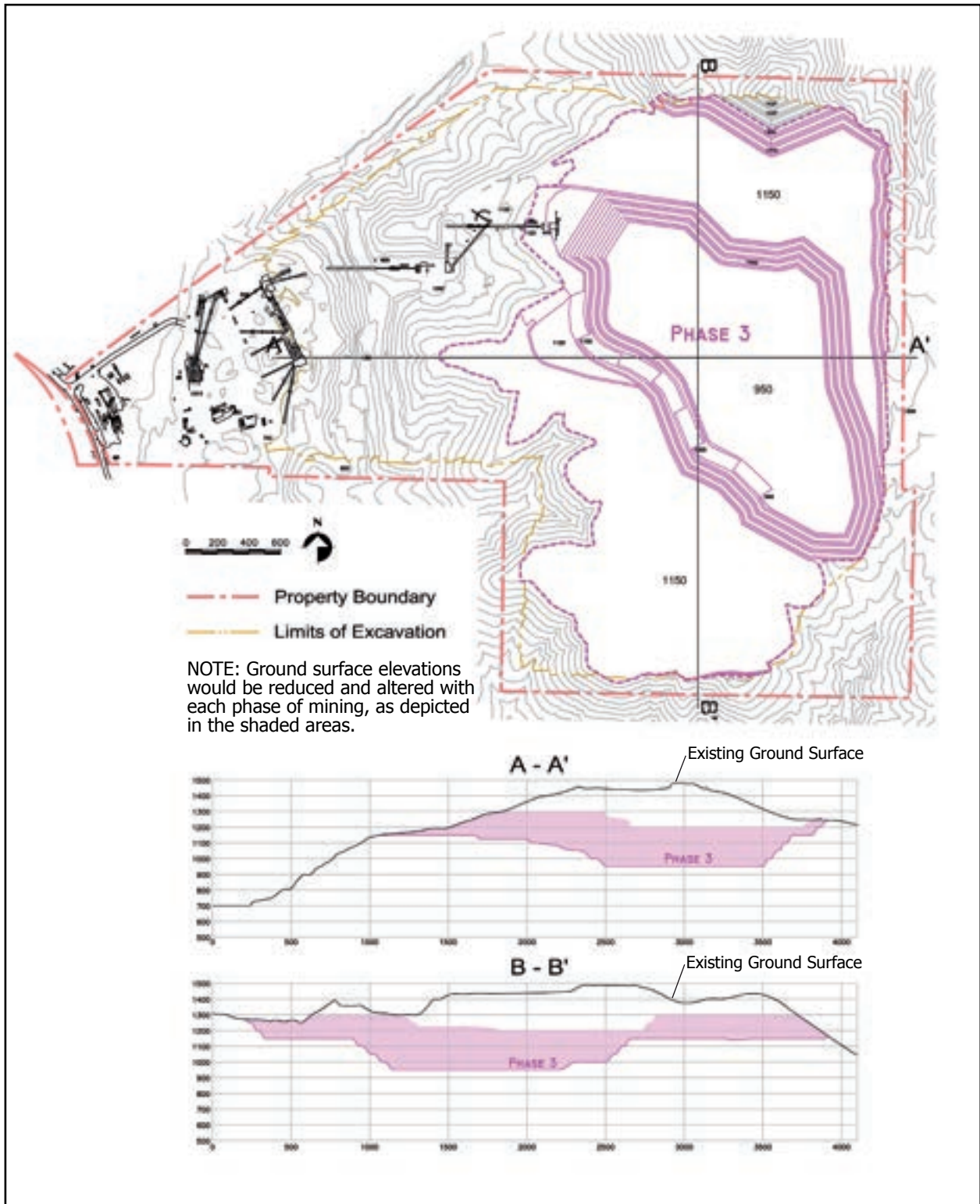


Figure 18:

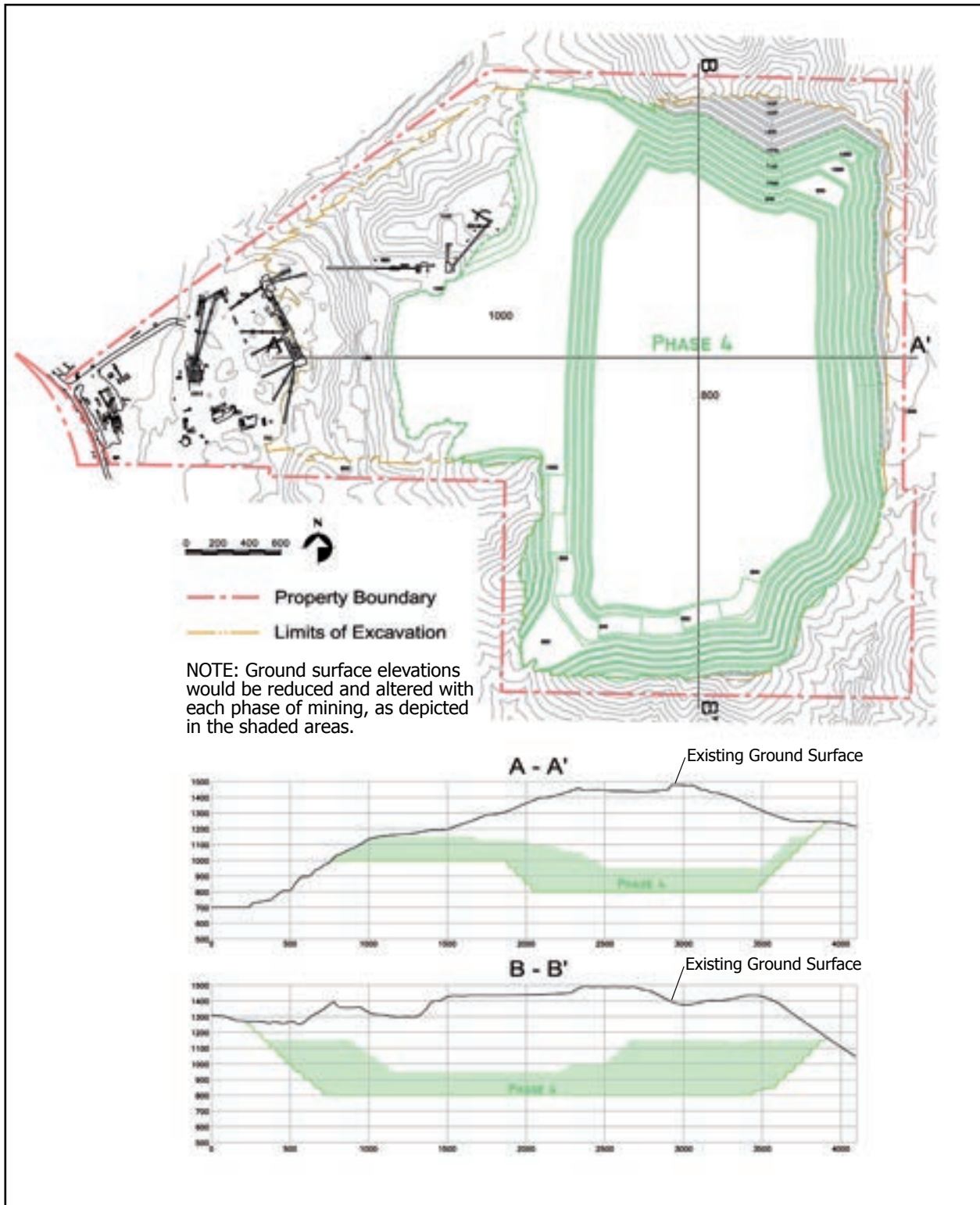


Figure 19:

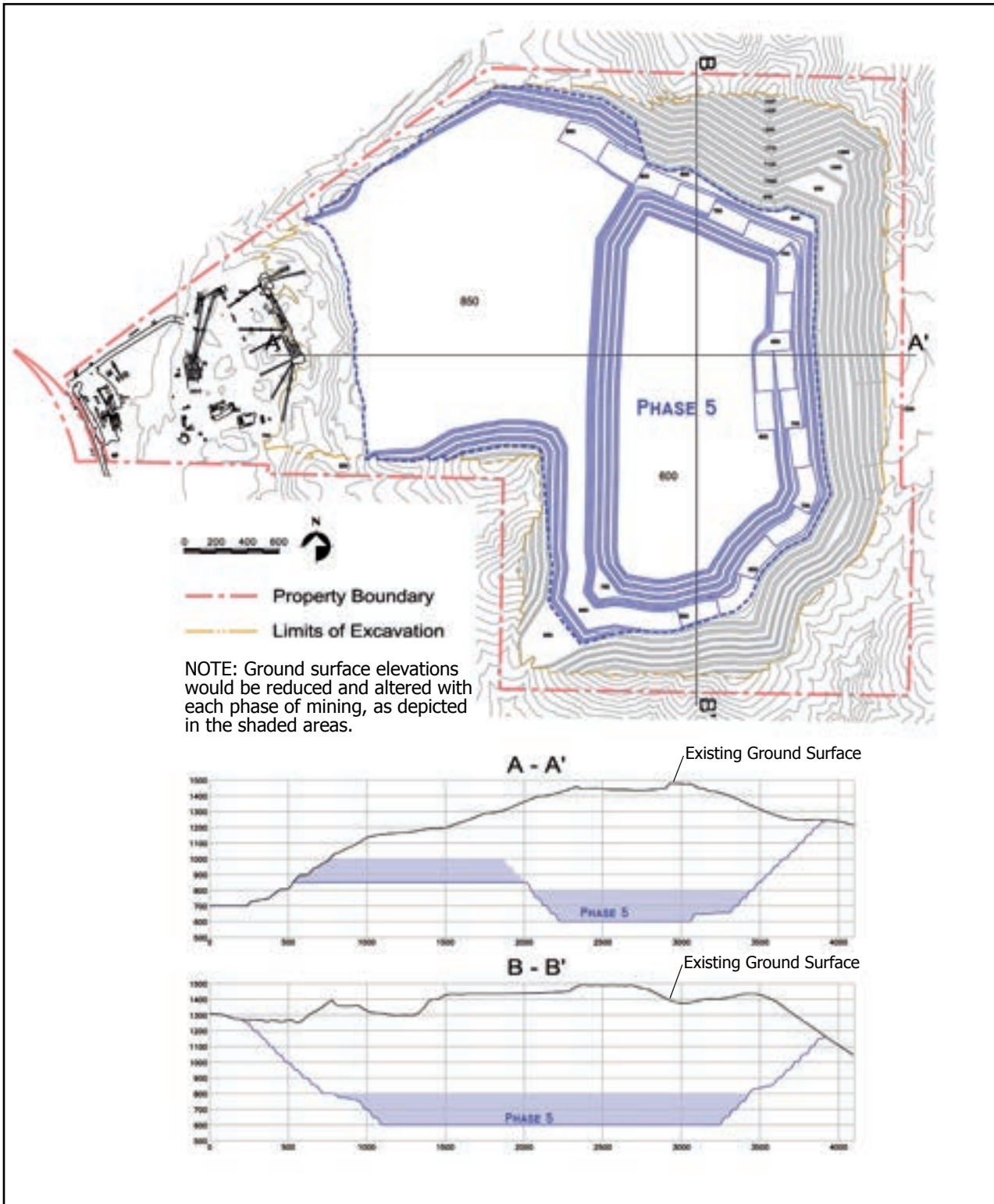


Figure 20:

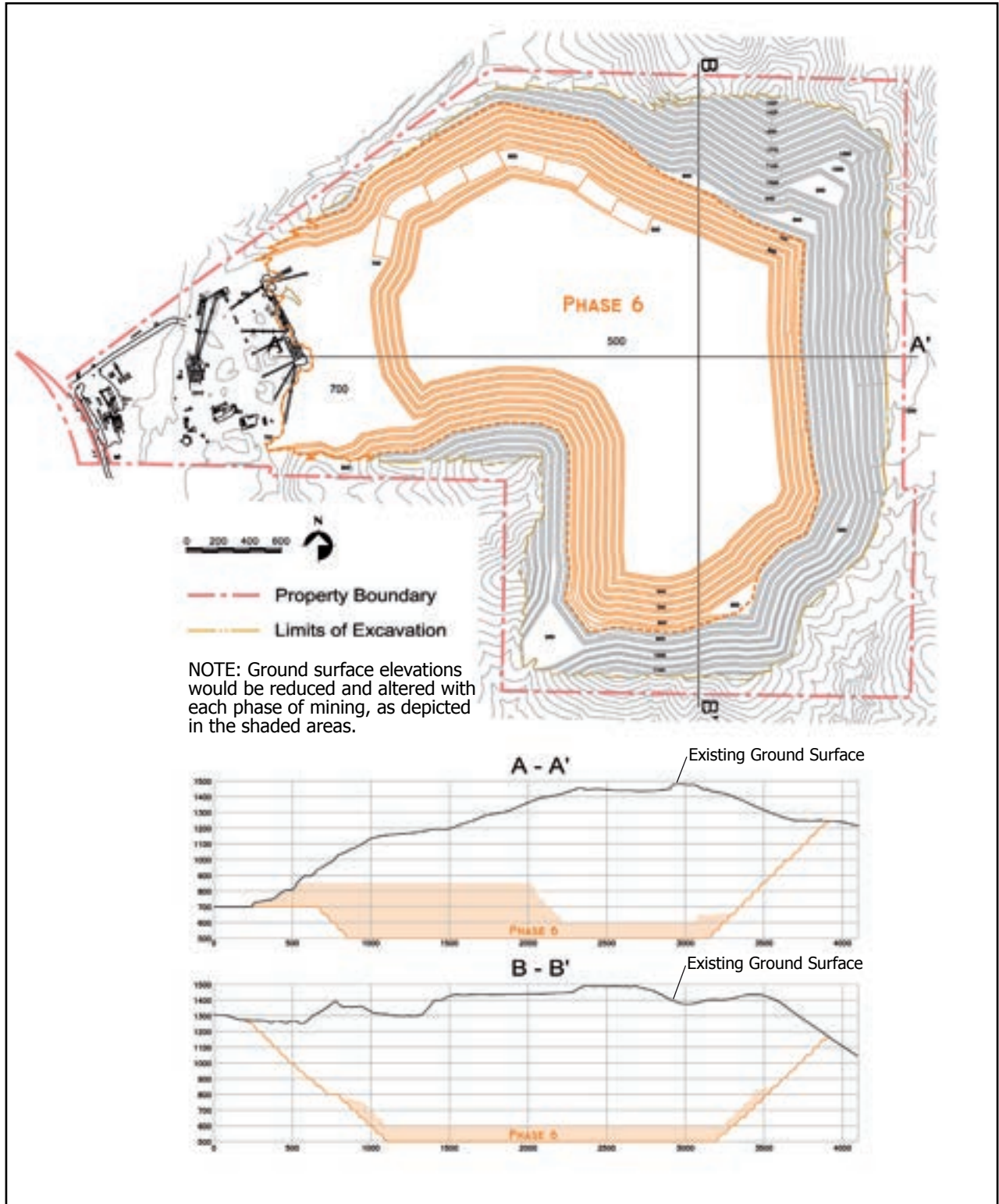
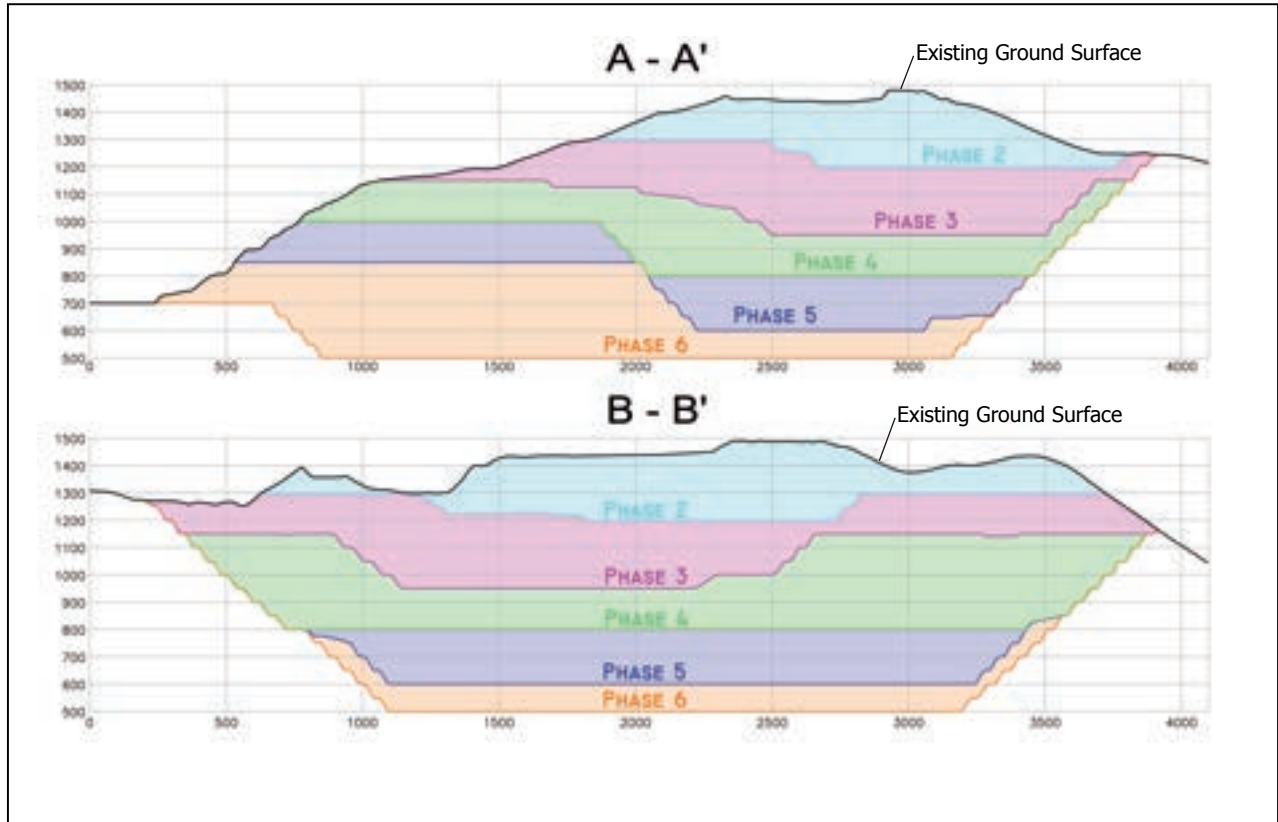


Figure 21:



NOTE: Ground surface elevations would be reduced and altered with each phase of mining, as depicted in the shaded areas.



KEY MAP OF CROSS SECTIONS

Figure 22:

3.10 Hours of Operation and Noise Monitoring

Permitted hours of operations on the project site are established by Conditions 25, 26, 27, and 39 in the Conditions of Approval for SMP 93-01. In summary, the conditions permit:

- Operations, including drilling, processing, and maintenance, 24 hours a day, seven days a week in areas west of the ridge. *Condition 27*
- Operations from 6:00 am to 10:00 pm in areas east of the ridge. (Additionally, maintenance and emergency operations are permitted outside these hours.) *Condition 25*
- Market shipping, including trucking and rail methods, 24 hours a day, seven days a week. *Condition 26*
- Quarry blasting from noon to 4:00 pm, Monday through Friday. *Condition 39*

VMC ensures that mining operations are limited to those hours permitted by the Conditions of Approval, and additionally minimizes noise-related impacts on neighboring land uses. Condition 35 of SMP 93-01, as amended by an administrative modification issued by the Corona Planning Director in 1994, established the project's maximum noise levels to be those in the Model Noise Ordinance Standards, Table 1 in the Noise Assessment by Mestre Greve Associates (available on file at the Community Development Department). As noise studies conducted for Quarry operations have consistently shown noise levels to be below the maximum levels, the City of Corona waived the regular monitoring and reporting requirement of Condition 35 beginning in 1999. VMC is now required to submit a noise study only upon request from the City. The most recent request for such a study was in 2009; the results of this study continued to indicate noise levels were below allowable levels (Refer to Attachment 6, *Review of Noise Impact Assessment Corona Quarry Surface Mining Modification*). Existing restrictions on noise emissions would be preserved under the proposed modifications to the SMP.

3.11 Dust Control Methods

VMC implements stringent measures to minimize dust production from mine operations. Paramount amongst these is SCAQMD's Rule 403 and 1157 requirements. Dust control requirements are established by Conditions 24 and 39 in the Conditions of Approval for SMP 93-01. The measures required by these Conditions include:

- Maintaining roads, driveways, and mining areas wetted while in use, or treating such areas with approved dust suppressants. *Condition 24*
- Complying with the approved Blasting Plan and ensuring dust production remains below established standards. *Condition 39*

VMC is committed to a rapid and effective response to any public or City staff concerns regarding dust control. No complaints have been registered with VMC or the City of Corona in recent years regarding this issue. Also, VMC has fully met and exceeded all of SCAQMD's Rule 403 and 1157 requirements.

3.12 Truck Access Routes

Truck access to the mine is provided by Sherborn Street, which connects to Magnolia Avenue approximately one mile northwest of the mine entry. Magnolia Avenue, a major four-lane roadway, connects to the I-15 freeway approximately one-third of a mile to the west. The EIR projected 25% of project traffic would travel south on the I-15 and 65% north on the I-15, with most of the northbound traffic transitioning to State Route 91 approximately one mile north of Magnolia Avenue. The remaining 10% truck traffic is local and sub-regional oriented, anticipated not to be freeway destined.

Rail loadout facilities are also used for market transport of aggregate resources. Rail loadout of material is currently permitted and is intended to continue depending on market demands and conditions. To the extent that rail loadout continues, trucking of material will decrease.

3.13 Surface Mining Permit Compliance

Vulcan Materials Company's Corona Quarry has been subject to scores of conditions, mitigation measures, and performance standards. Compliance with these controls has been confirmed through City-prepared annual SMARA inspections and the accompanying annual reports. The annual reports document compliance with all of the mine's conditions, mitigation measures, and performance standards.

VMC anticipates the imposition of new conditions, mitigation measures, and performance standards, as well as vigorous inspection protocol resulting from approval of this Amended Mining and Reclamation Plan. VMC commits to full compliance with the spirit and specifics of said approval.

3.14 Biological Resource Design Components

With respect to biological resources, the project includes the following design components (refer to Attachment 9, *General Biological Report, CEQA Consistency Analysis and MSHCP Consistency Analysis*):

- VMC could discharge the development mitigation requirement associated with the MSHCP, and the Project will be consistent with other MSHCP policies (see Section 5.0 of Attachment 9).
- VMC has already paid the SKR Fee for all areas within the 336-acre Corona Quarry site subject to the SKR Fee assessment (satisfies *Condition 13* of Attachment 10).
- No more than 30 days prior to ground disturbance a qualified biologist will conduct a pre-construction burrowing owl survey within all areas of suitable habitat to be disturbed. If burrowing owls are detected on site, VMC will coordinate with the responsible wildlife agencies (i.e., U.S. Fish and Wildlife Service [USFWS] and California Department of Fish and Wildlife [CDFW]), and will relocate the owls following accepted protocols.

- To minimize potential direct impact to the coastal California gnatcatcher, all clearing and removal of suitable habitat will occur between July 16 and February 14, outside of the breeding season.
- The removal of potential nesting vegetation will be conducted outside of the nesting season (February 1 to August 31) to the extent that this is feasible. If vegetation must be removed during the nesting season, a qualified biologist will conduct a nesting bird survey of potentially suitable nesting vegetation prior to removal. Surveys will be conducted no more than three (3) days prior to scheduled removals. If active nests are identified, the biologist will establish buffers around the vegetation containing the active nest (500 feet for raptors and 200 feet for non-raptors). The vegetation containing the active nest will not be removed, and no grading will occur within the established buffer, until a qualified biologist has determined that the nest is no longer active (i.e., the juveniles are surviving independent from the nest). If clearing is not conducted within three days of a negative survey, the nesting survey will be repeated to confirm the absence of nesting birds.
- VMC will obtain the necessary authorizations for proposed impacts to jurisdictional waters, including, but not limited to a Section 404 permit from the U.S. Army Corps of Engineers (USACE), a Section 401 Water Quality Certification from the Santa Ana Regional Water Quality Control Board (SARWQCB), and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW). VMC will compensate for Project-specific impacts at a minimum 1:1 ratio for unvegetated streambed/riverine, and a minimum 2:1 ratio for riparian vegetation (see Appendix C, *Jurisdictional Delineation Report*, of Attachment 9).

4.0 Reclamation Program

4.1 Proposed Reclamation End-Use

The anticipated final landform for the site is depicted in **Figure 21**. This amended plan assumes that the end use will be open space as was stated in previously adopted iterations of this permit, plan, and certified EIR. At the completion of mining, the site will consist of a bowl-shaped area, with benched perimeter slopes along most of the northern, eastern and southern portions of the site, and a large, relatively flat pad located at the base of these slopes along the western portion of the site. The final site condition may be suitable for post-mining uses such as residential, commercial, industrial, public service, or recreational. However, the projection of market need for any of these land use types 100 years from now is too speculative for an agency with a 25 to 30 year General Plan horizon.

4.2 Reclamation Phasing

As depicted in **Figure 21**, the proposed plan consists of mining approximately 260 acres and extracting aggregate resources in six phases for full aggregate resource depletion as requested and analyzed in 1989. This mining approach would extract approximately 351,000,000 tons of aggregate material over the life of the operations. Phase 1 is completed. The remainder of the reclamation plan is comprised of Phases 2 through 6. These phases will be conducted in a layered approach, rather than sectional mining as was submitted and considered as part of the 1989 surface mining permit and reclamation plan. Mining in a layered approach would allow for an efficient use of operational resources, thus reducing the operating costs, reducing emissions, and creating a smaller carbon footprint. Similar to the approved 1989 reclamation plan, reclamation will occur, whenever possible, concurrent with mining operations. As each mining phase is completed, reclamation of the exposed faces and benches will begin. It is anticipated that reclamation will be ongoing in multiple phases simultaneously.

Given the economic crisis that has plagued the entire nation over the past few years, and with no immediate recovery date in sight, it is difficult to establish timeframes for the completion of each mining phase. Therefore, mine phasing is linked to mine depths rather than a calendar. The amendment also proposes to revise the established end date to the time in which reserves are exhausted, or 100 years from the present date – whichever comes first. For the purpose of satisfying SMARA §2772(c)(3), a specific end date of December 31, 2113 is proposed.

4.3 Reclamation Visualization (Outside Looking In)

The following **Figures 23** through **26** depict visual simulations of the final landform configuration once reclamation is complete, as seen from different perspectives in the surrounding community. **Figures 27** through **31** depict visual simulations of the existing, mid-project, and final project landforms from the same perspectives, as well as from the I-15/SR-91 Freeways.



Figure 23: View from the West



Figure 24: View from the North

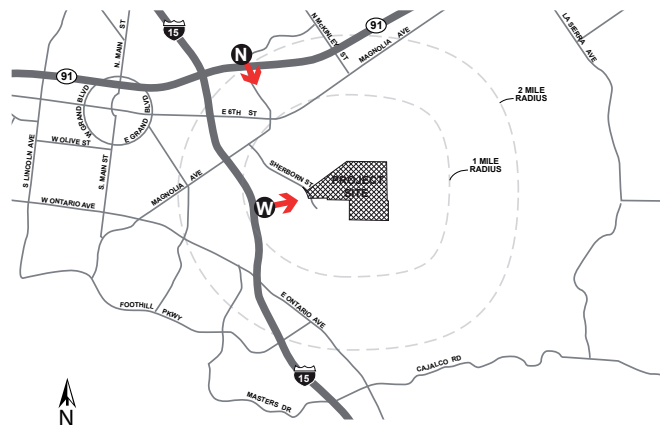
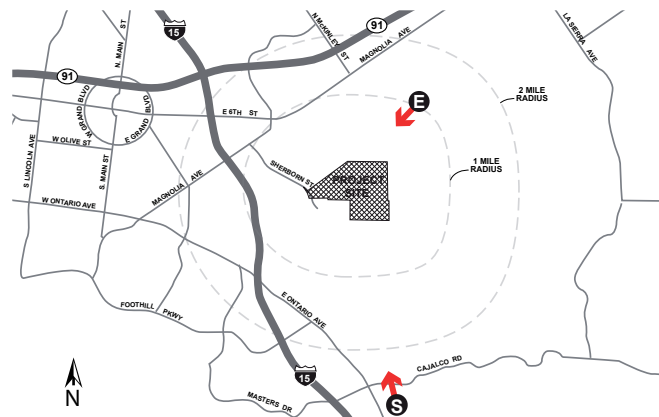


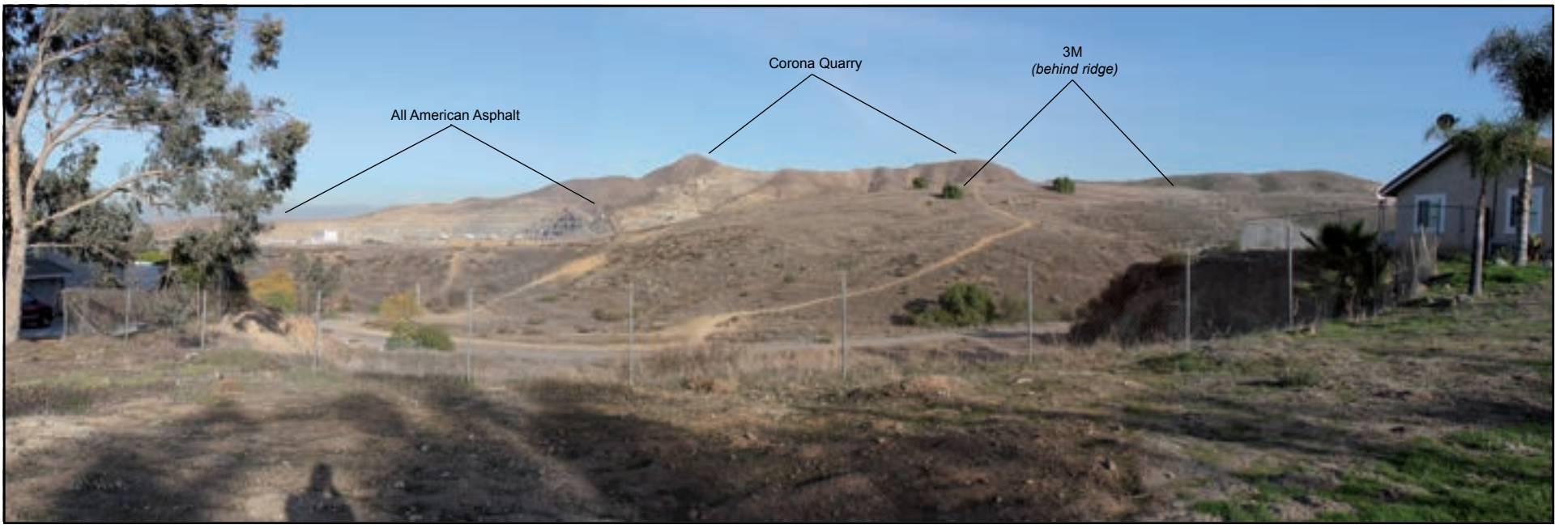


Figure 25: View from the East

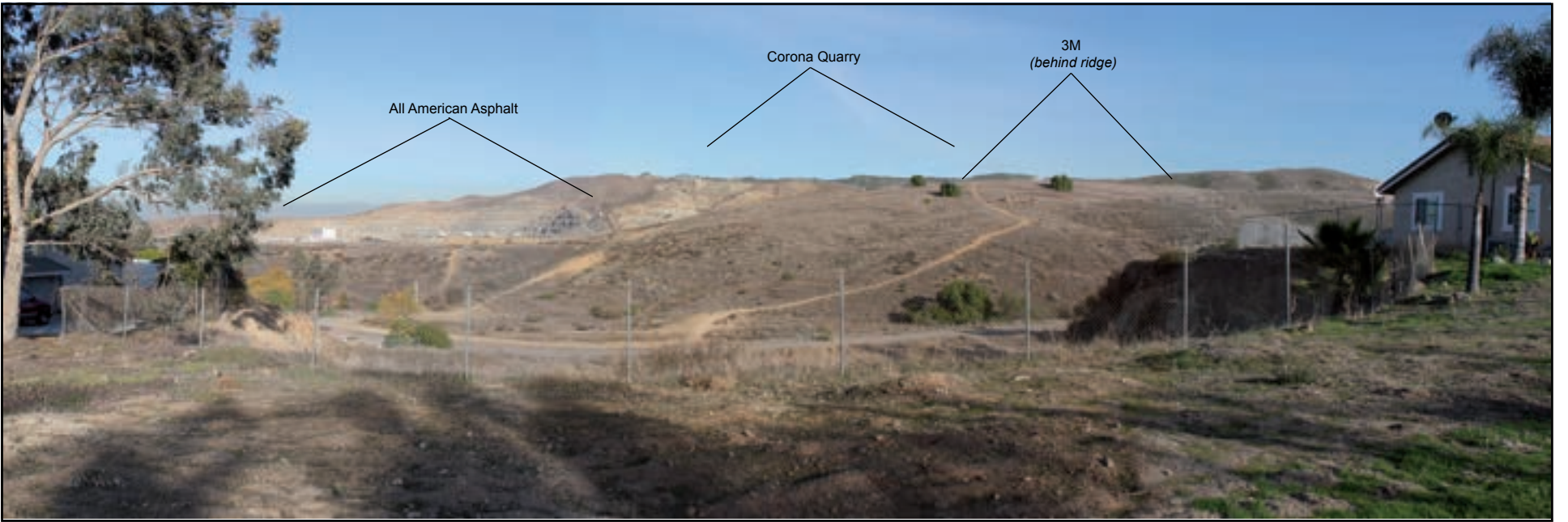


Figure 26: View from the South

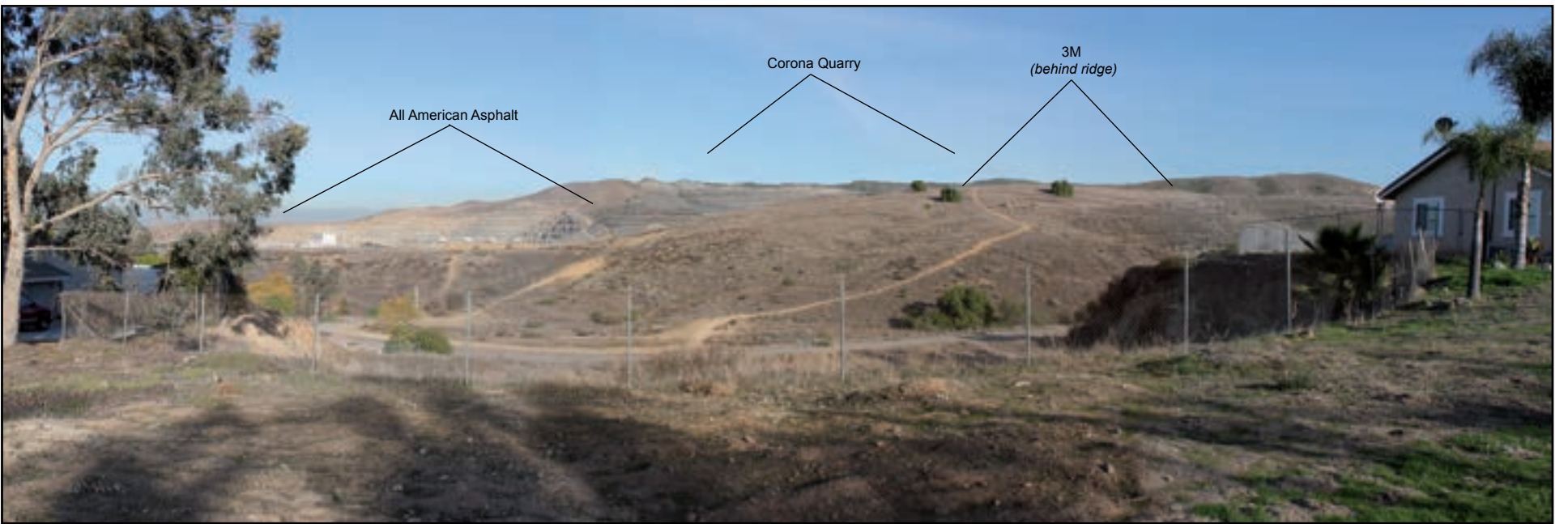




Existing view from west of project site



Mid-Project view from west of project site



End-Project view from west of project site

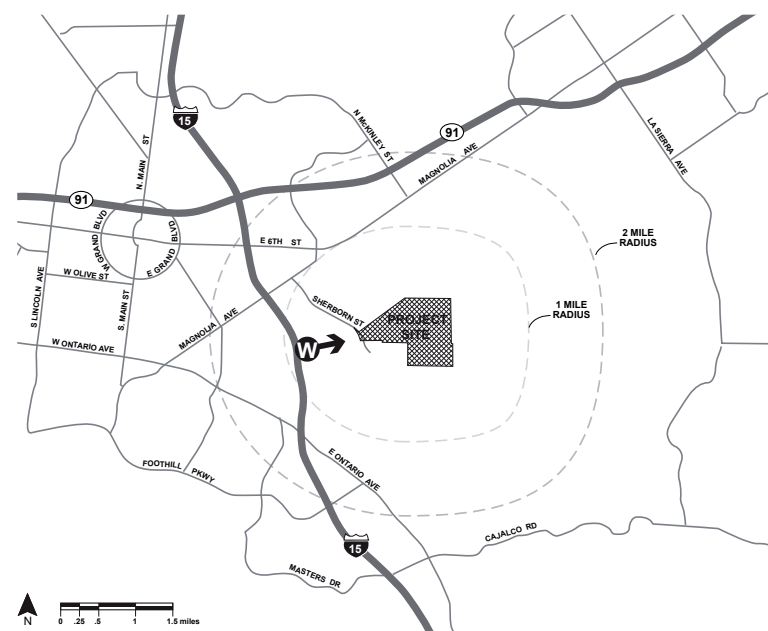
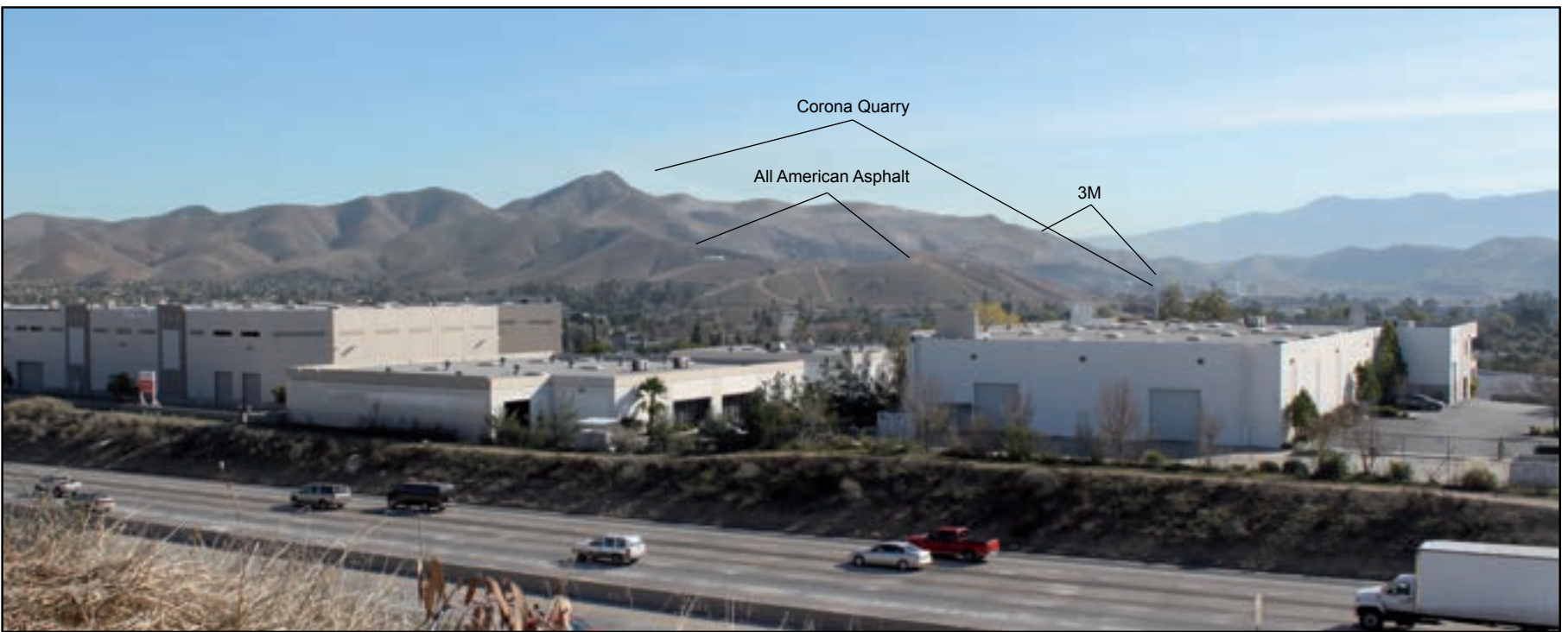


Figure 27:



Existing view from north of project site



Mid-Project view from north of project site



End-Project view from north of project site

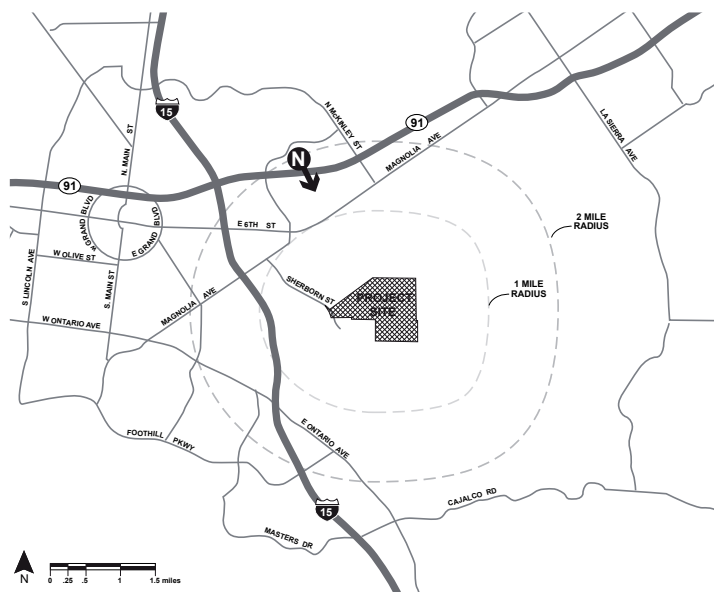


Figure 28:



Existing view from east of project site



Mid-Project view from east of project site



End-Project view from east of project site

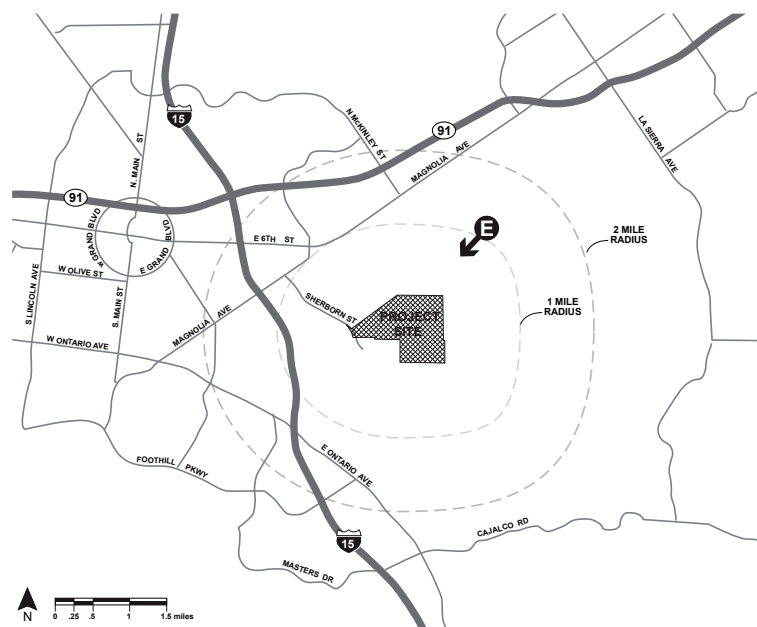
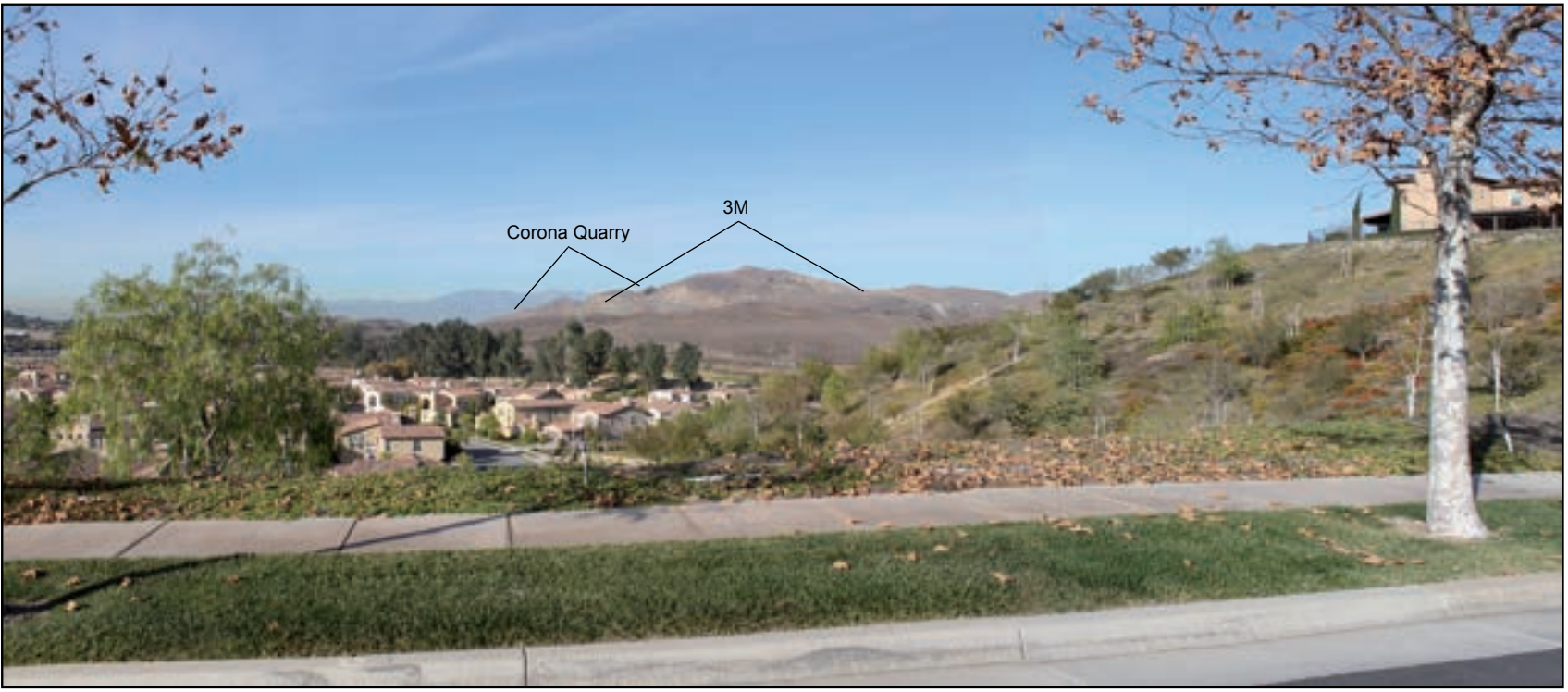
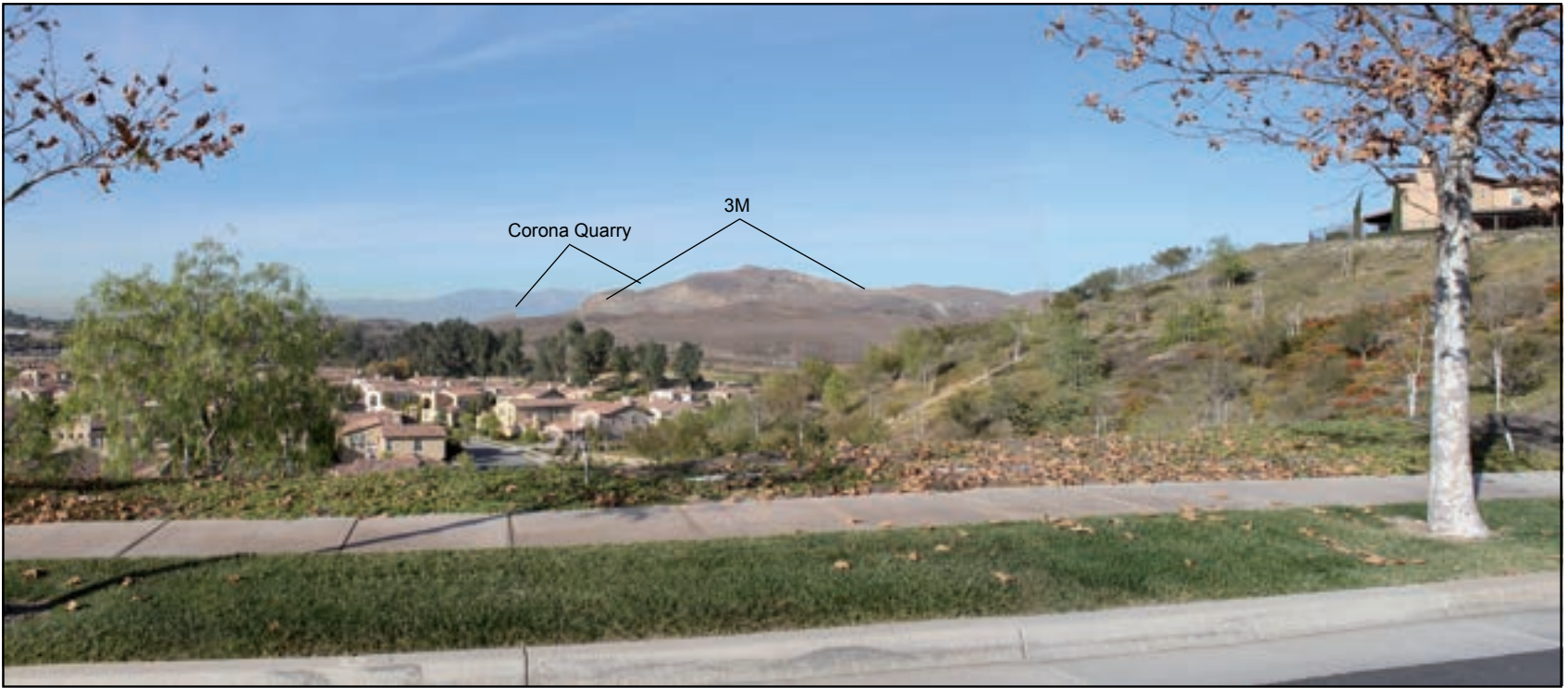


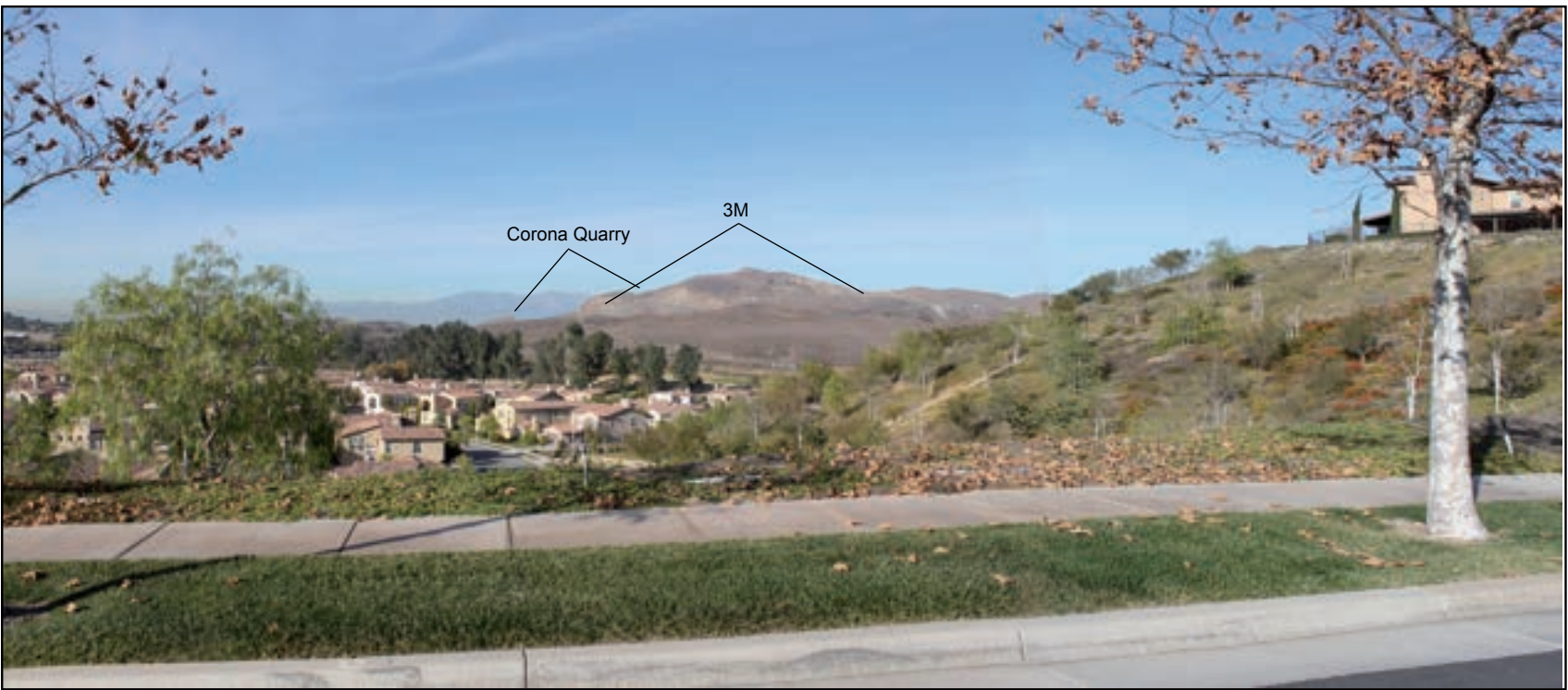
Figure 29:



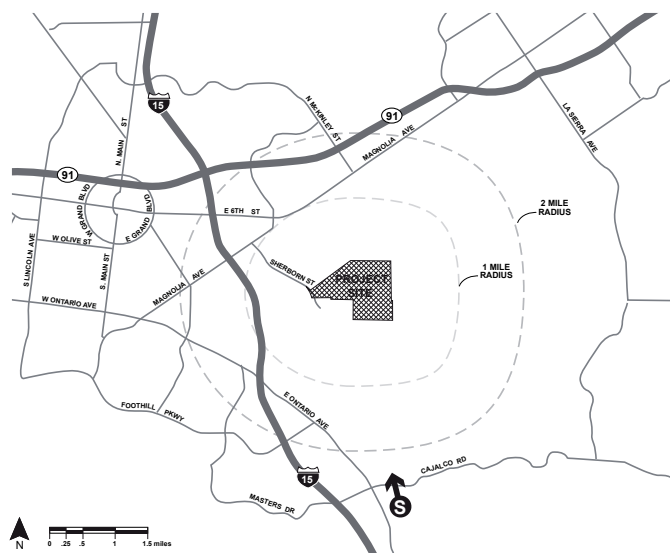
Existing view from south of project site

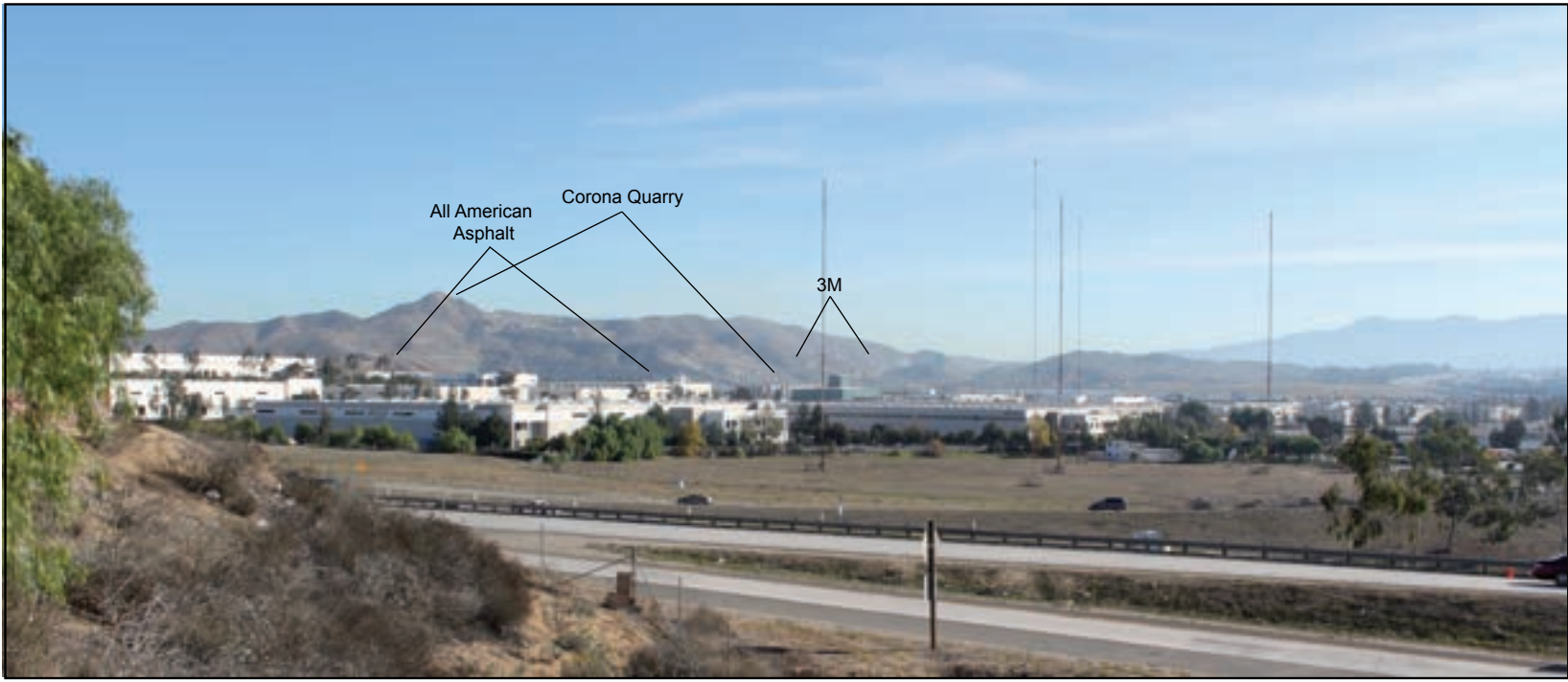


Mid-Project view from south of project site

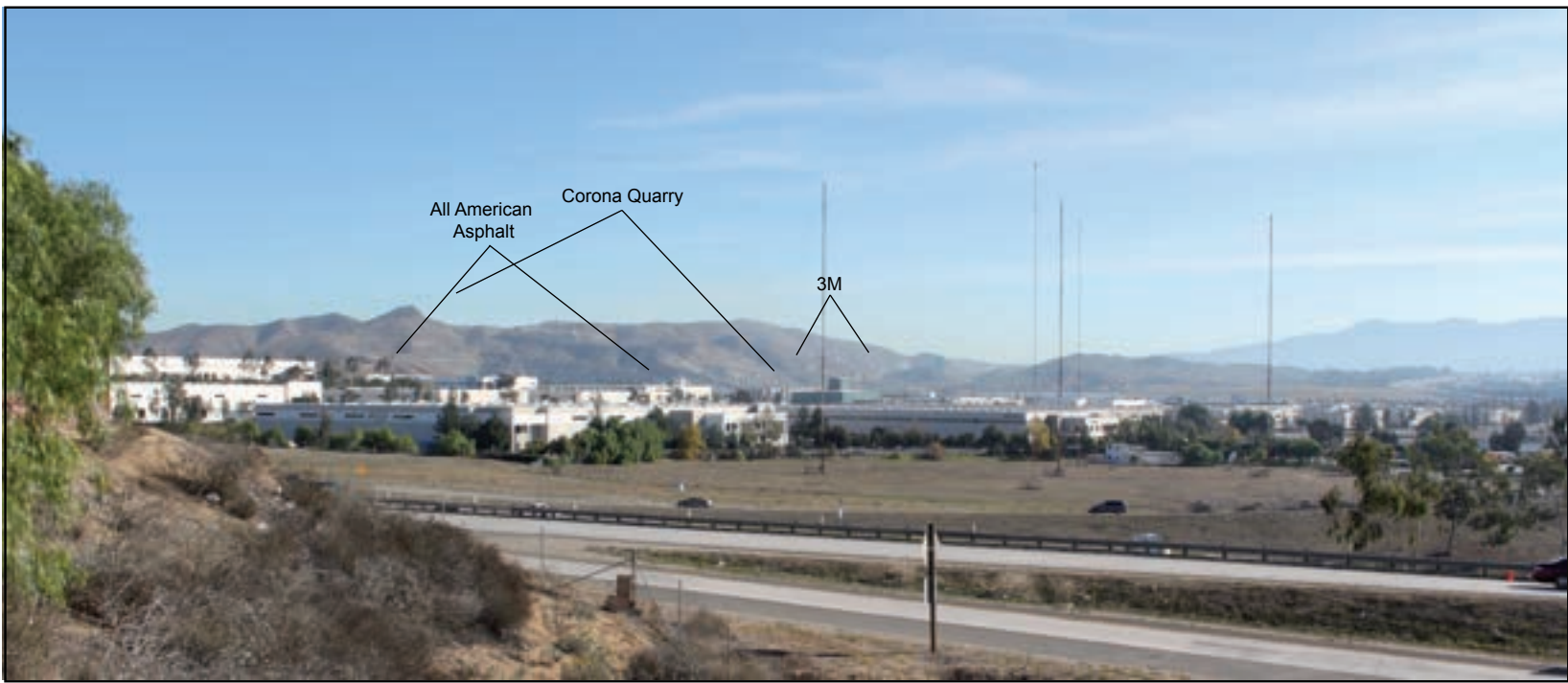


End-Project view from south of project site

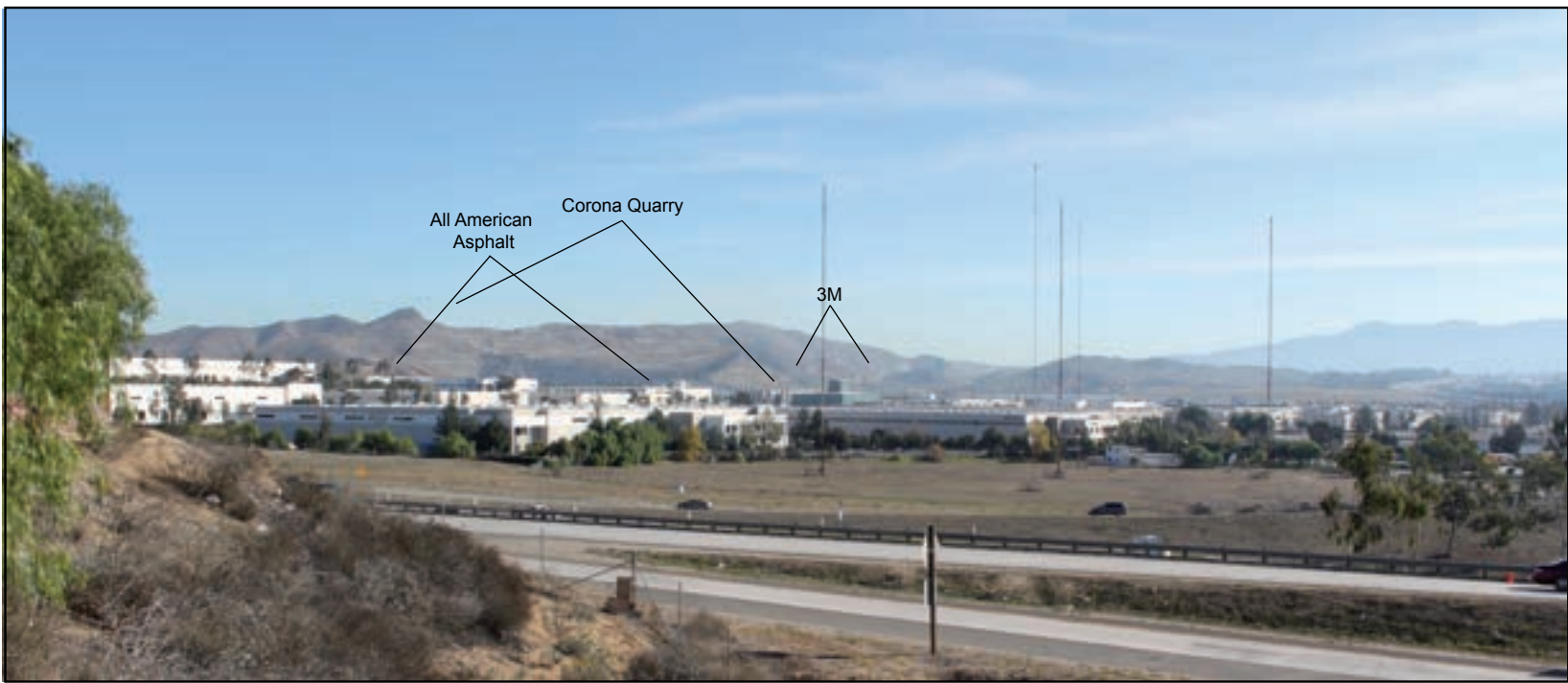




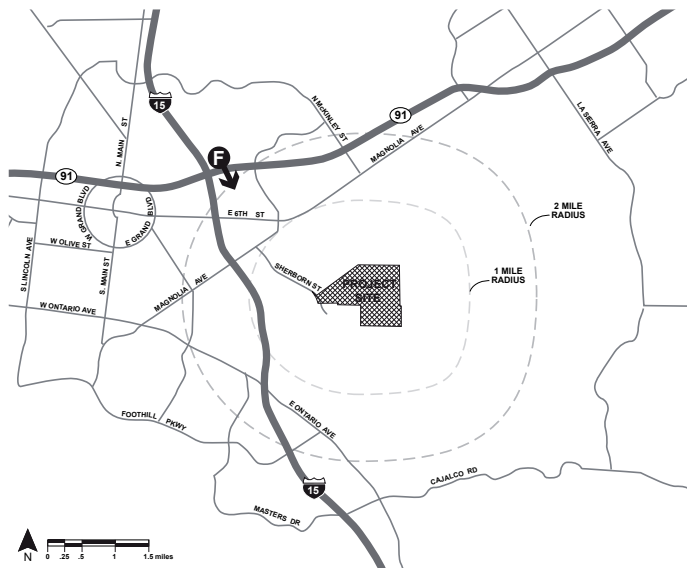
Existing view from the freeways of project site



Mid-Project view from the freeways of project site



End-Project view from the freeways of project site



4.4 Effects on Future Mining in the Area

The proposed mining operation will deplete the site of its commercially salable aggregate reserves. However, the proposed end use will not preclude future mining at the site. Should any additional mineral resources be discovered whose extraction is technologically and economically feasible, future permits may be sought.

4.5 Disposal of Mine Waste

No mine waste will be produced as a result of mining and material processing. Negligible quantities of process fines will be blended with non-PCC quality material primarily for the purpose of market use as well as used as a slope revegetation medium in site reclamation. It is important to note that non-PCC quality material is not mine waste. Such material has a use in the marketplace and can be used in elements of a reclamation program.

4.6 Reclamation Standards

The SMGB Reclamation Regulations, Article 9, Reclamation Standards, enumerated in the California Code of Regulations, articulate the body of reclamation standards to be achieved at cessation of mining. The codified standards have statewide applicability, which means that certain provisions may not be reflected in the local conditions. In this specific instance, the reclamation standards *not applicable* to the Corona Quarry Reclamation Plan amendment include:

➤ *§3707 Prime Agricultural Land*

Prime agricultural land is not present at the Corona Quarry site nor is an agricultural end use proposed by the Reclamation Plan amendment. The State of California, Department of Conservation's Farmland Monitoring and Mapping Program identifies the area encompassing the site under the "Other Land" category. The "Other Land" category includes lands not included in any other mapping categories. These lands are not seen as having the potential for agricultural use.

➤ *§3708 Other Agricultural Land*

Reclamation of the property to any form of alternative agriculture would be inherently inconsistent with the City's General Plan. Also, such end use is not proposed under this reclamation plan.

➤ *§3711 Topsoil Salvage*

Previous analysis determined that no viable quantities of topsoil exist on the site to warrant being salvaged. Furthermore, the end use does not require top soil for its implementation.

➤ *§3713 Closure of Surface Openings*

There are currently no mine openings nor have there ever been any mine openings on the Corona Quarry site, as such are defined by this code section.

The following are the SMARA standards applicable to the site conditions and are pertinent to achieving the proposed end use:

4.6.1 Wildlife Habitat

The subject site has been identified as a MSHCP area by Riverside County. VMC and the existing operations have fully complied with all the requirements established by the MSHCP program and will continue to do so as part of the reclamation plan amendment (refer to Section 3.14, *Biological Resource Design Components*). Under the MSHCP program, wildlife habitat impacts are addressed at the time of occurrence; therefore, all mitigation will have occurred by the time reclamation is being conducted.

4.6.2 Regrading and Slope Stability

As previously stated in **Table 6**, *Mining Phase Summary*, approximately 33 million tons of non-PCC quality marketable material will be generated on-site. The majority of this non-PCC quality material is market material to be sold for off-site use as fill material in construction projects in the community. Any remainder will be employed on-site to serve as slope revegetation growth medium, as deemed necessary by the revegetation specialist. Sequential revegetation will occur on the benches; as mine benches are completed, revegetation measures will commence. Upon completion of the reclamation plan, no mine waste will remain and no permanent placement of piles or dumps will exist.

The reclaimed site will feature 1:1 cut slopes with 25-foot wide benches and 25-foot highwalls. CCR §3704(f) suggests that cut slopes, including final highwalls and quarry faces shall have a minimum slope stability factor of safety that is suitable for the proposed end use and conform with the surrounding topography and/or approved end use. Such is the case with the Corona Quarry Surface Mine Permit and Reclamation Plan Amendment application. Geotechnical analysis conducted in 2012 by Haley & Aldrich, Inc.⁴ determined that the proposed reclaimed slope of 1:1 is adequate for use at the Corona Quarry under all geologic conditions. The static and pseudostatic factors of safety are well above the minimum design criteria of 1.5 and 1.15, respectively. The slope stability factors of safety for all slopes and quarry faces have been found suitable for the proposed end use and conforms with the surrounding topography.

4.6.3 Health and Safety

CCR §3502(b)(2) requires reclamation plans address the manner in which the public's health and safety are addressed onsite. The Corona Quarry site is a hillside quarry mining operation that uses a bench mining process, which does not result in open pits. However, an active mining site could still pose hazards if not properly secured. For this reason, the site is secured with security fencing (chain link and barbed wire) along the entire perimeter of the site. In addition, entry gates to the site are locked during non-business hours.

⁴ Haley & Aldrich, Inc. *Geotechnical/Geological Evaluation Update. Vulcan Materials Company. Corona Quarry, Corona, California.* May 18, 2012.

Warning signage, indicating “No Trespassing” and “steep slopes,” is also placed at strategic distances along the site fencing. The site manager and other employees ensure only authorized personnel are onsite.

All other safety issues will be in accordance with federal, State, or local regulations. Safety Management is further addressed in the Vulcan Materials Company’s Safety, Health and Environmental Policy.

4.6.4 Handling of Non-PCC Quality Material and Topsoil

The subject mine site has no topsoil to be salvaged. However, non-PCC quality marketable material is present in substantial and varying quantities throughout the site. The non-PCC quality material will be temporarily stockpiled and primarily sold for market use as well as used as revegetation medium in the reclamation process.

4.6.5 Revegetation

The existing 1989 Reclamation Plan requires the step-benching slope reclamation method typical of hard rock quarries. This approach will be maintained as part of the mining permit and reclamation plan amendment. Vertical bench heights will average approximately 25 feet. Benches will be planted with the same plant palette employed in the 1989 permit and reviewed in the EIR. Sequential revegetation will occur on the site. As mine benches are completed, revegetation measures on the benches and slopes between benches will commence. Benches and slopes will be seeded with native or ecologically comparable species, able to survive without supplemental water. **Table 7** details the seeding program established for the site as part of the 1989 reclamation plan. The floor of the site will be filled with inert material and graded to create a stable, semi-level surface.

Table 7: Revegetation Palette

Revegetation Palette	
Botanical Name	Common Name
<i>Lasthenia glabrata</i>	Goldfields
<i>Eschscholzia californica</i>	California poppy
<i>Salvia columbariae</i>	Chia
<i>Mimulus puniceus</i>	Coast monkeyflower
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Encelia farinosa</i>	Brittlebush
<i>Haplopappus venetus</i>	Goldenbush
<i>Salvia mellifera</i>	Black sage
<i>Salvia apiana</i>	White sage
<i>Baccharis emoryi</i>	Emory’s baccharis
<i>Artemesia californica</i>	California sagebrush
<i>Rhus laurina</i>	Laurel sumac

Amendments	Rate
Fiber mulch	2,000 lbs/acre
Moisture retainer: PAA-400 humectant or equivalent	100 lbs/acre
R-2400 CL Tackifier	75 lbs/acre
13-12-11 Sierra Blend with micro-nutrients	300 lbs/acre

Notes:

- a. Materials should be planted in the fall to take advantage of natural irrigation. No supplemental irrigation is required.
- b. Seeding program will be monitored and adjusted as necessary.
- c. *Rhus laurina* seed should be scarified before application.
- d. Seeding rate: 80 lbs/acre

Reference sites will be established in undisturbed and un-mined areas located in close proximity to the mined slopes. The purpose of establishing reference sites is to be able to match the existing conditions in areas adjacent to the mined slopes. Reference sites will be established following final reclamation grading of Phase 2.

Test plots will be conducted following final reclamation grading of Phase 2, and will be placed within the Phase 2 operational area as shown in Figure 17 of the Amended MRP, in order to determine the most appropriate planting procedures to ensure successful revegetation. Specific dates for the establishment of test plots are not appropriate given that the completion date of Phase 2 is dependent on market conditions and other factors affecting the operator's production rates. Final site revegetation will be conducted during the fall season to take advantage of the ensuing rainy seasons.

At the termination of mining, all unnecessary on-site traffic routes to be reclaimed will be stripped of any road base material and prepared for revegetation. The office facilities, storage facilities, and parking areas will be stripped of all structures and surfacing materials. These areas will be ripped and cross-ripped to an approximate depth of 12 inches and the surface left in a roughened state prior to hydroseeding.

Performance standards describe the minimum targets for species richness and percent cover for hydroseed and planting areas. Performance standards represent anticipated conditions five years after installation, based on a study of reference sites in the vicinity and vegetation mapping data from the *General Biological Report, CEQA Consistency Analysis and MSHCP Consistency Analysis, Corona Quarry Amendment* (February 2013) prepared by Glenn Lukos Associates, Inc. Sampling plots will be selected randomly throughout the areas hydroseeded with the specified revegetation palette to determine species richness and percent cover. Sampling will occur in nested plots, with

shrubs assessed within a five meter radius and herbs/grasses within a one meter radius from the plot center. The number of plots will be sufficient to achieve an 80 percent confidence level in the performance results. Stratification of sampling areas may be necessary if the mix of shrubs and herbs varies greatly in different areas either due to variation in hydroseed applications or soil or other site conditions. For example, areas strongly dominated by herbs and grasses may instead be monitored using smaller sampling plots appropriate to grasslands. Target species richness, density and percent cover shall be based on the reference sites but reflect their five-year growth period. While the target revegetated plant communities should eventually blend with the mature communities that have been in place for extended periods, they cannot be expected to achieve similar characteristics over only five years of growth. Instead, revegetation areas are designed to mimic pioneering plant communities that will continue to develop through growth and natural regeneration.

A revegetation monitor will oversee and guide implementation and maintenance activities, the monitor will also evaluate plant development and conduct data collection during establishment of plantings, and prepare reports documenting the restoration program. Monitoring of the revegetation areas will allow for a determination of maintenance needs, if any, and permit development of an information base documenting implementation efforts, maintenance activities, and the development of newly planted vegetation. Reports of the findings will be prepared on an annual basis after revegetation commences. Monitoring of the revegetation sites will be conducted for five years or until these sites are determined to be self-sustaining pursuant to CCR §3705(j).

4.6.6 Drainage, Diversion Structures, Waterways, and Erosion Control

Surface drainage from the west facing slopes on the eastern portion of the site will be diverted to the northern portion of the existing impoundment located at the southwest area of the quarry site near the processing plant area (see calculations below). Surface drainage from the west will, for the most part, be restricted from entering Temescal Wash with the establishment of drainage berms. When necessary, temporary desilting basins will be constructed in ravines to reduce erosion and minimize sediments from entering major drainage courses.

The aforementioned revegetation plan also addresses erosion control through revegetation of the slopes, which reduces the potential for erosion as bare surfaces become covered in vegetation.

CORONA - WEST SIDE DETENTION BASIN CAPACITY CALCS

Ref. CDM Calcs for drainage basin sizing at time of new plant grading, dated January, 2005
 Calcs included results from 1 yr, 2 yr, 10 yr, 25 yr, 50yr & 100 yr storms, all based on 25 min duration
 Total area of 2 sub-basins used in analysis: 116 acres

Using CDM Calcs & results to verify capacity in existing drainage basin based on criteria of 20 yr. storm and 1 hour duration:

Qp = 298.14 cfs Ref. CDM Calcs for 25 year storm
 t = 3600 sec 1 hour duration

Required storage: Va = 536,652 cu. ft. Va = 0.5 x t x (Qp-Qa) with Qa (outflow) = zero

Calculating actual storage capacity based on latest aerial topo flown March, 2014 along with historical depths of ponds when dry:

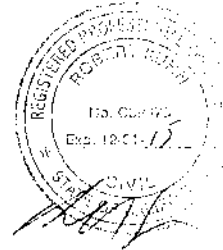
Upper volume (above Elev. 676, below Elev. 682):

	Area (sf)	Ht. (ft)	Vol (cf)
682 Elev contour:	73,500	6	441,000

Lower volumes ea. Pond (i.e. below Elev. 676):

Pond 1 - 676 area	10,023	0	0
Pond 1 - 670 area	7,223	6	103,476
Pond 1 - 665 area	5,590	5	64,065
Pond 1 lower volume:			167,541
Pond 2 - 676 area	5,668	0	0
Pond 2 - 670 area	3,350	6	54,108
Pond 2 - 665 area	2,003	5	26,765
Pond 2 lower volume:			80,873
Pond 3 - 676 area	10,200	0	0
Pond 3 - 670 area	6,698	6	101,388
Pond 3 - 665 area	4,560	5	56,290
Pond 3 lower volume:			157,678
Pond 4 - 676 area	5,947	0	0
Pond 4 - 670 area	3,656	6	57,618
Pond 4 - 665 area	2,354	5	30,050
Pond 4 lower volume:			87,668

Total Volume: 934,760
 Required Volume: 536,652 < **Total provided OK**



RAK
 4/23/2014

4.6.7 Building, Structure, and Equipment Removal

Pursuant to CCR §3709, all equipment, supplies and other materials will be stored in appropriate areas. Waste will be disposed of in accordance with State and local health and safety ordinances. All structures and equipment not required to remain on-site as part of site reclamation will be dismantled and removed prior to final mine closure. This activity will be performed pursuant to

CCR §3709, including ripping, smoothing and securing previously hardened or compacted surfaces.

4.6.8 Stream Protection, Including Surface and Groundwater

Surface and groundwater shall continue to be protected from siltation and pollutants as a result of ongoing operations in accordance with the site's existing industrial SWPPP and other pertinent SARWQCB permits under the regulatory guidance of the National Pollutant Discharge Elimination System (NPDES). Pursuant to the State's Industrial General Permit (Order No. 97-03-DWQ) requirements, the Reclamation Plan will continue to implement the current industrial SWPPP, including its Best Management Practices (BMPs).

4.6.9 Weed Management

Invasive non-native plants, such as tamarisk and giant reed, will be removed to further enhance the existing riparian habitats. The riparian sites shall be monitored annually to prevent reestablishment of these weed species, especially in the pond area.

4.7 Financial Assurance

The Corona Quarry Facility will continue to maintain financial assurance for the site and will update the financial assurance on an annual basis, in accordance with the requirements of SMARA.

4.8 Reclamation Plan Amendment Compliance

Vulcan Materials Company's Corona Quarry has been subject to scores of conditions, mitigation measures, and performance standards. Compliance with these controls has been confirmed through City-prepared annual SMARA inspections and the accompanying annual reports. The annual reports document compliance with all of the mine's conditions, mitigation measures, and performance standards.

VMC anticipates the imposition of new conditions, mitigation measures, and performance standard, as well as vigorous inspection protocol resulting from approval of this Surface Mining Permit and Reclamation Plan Amendment. VMC commits to full compliance with the spirit and specifics of said approval.

5.0 Certification

5.1 Lead Agency Certification

I, the undersigned, hereby certify that this reclamation plan amendment complies with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et seq. and 3700 et seq., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, and with the requirements of the Surface Mining and Reclamation Act, Section 2710 et. seq.

Signed this _____ day of _____, 2014.

Approved
Lead Agency Representative(s)

5.2 Statement of Responsibility

I, the undersigned, hereby agree to accept full responsibility for reclamation of all mined lands as described and submitted herein and in conformance with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et seq. and 3700 et seq., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, the Surface Mining and Reclamation Act commencing with Section 2710 et. seq., and with any modifications requested by the administering agency as conditions of approval.

Signed this _____ day of _____, 2014.

Vulcan Materials Company, West Region