DRAFT ENVIRONMENTAL IMPACT REPORT
CALMAT CAJON CREEK SPECIFIC PLAN AND CONDITIONAL USE PERMIT/RECLAMATION PLAN

SCH No.: 90020908

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December 1991

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TABLE OF CONTENTS

Tables

Appendices (Bound Under Separate Cover)

INTRODUCTION

The proposed CalMat Cajon Creek Project site is located in southwestern San Bernardino County, partially within and adjacent to the City of San Bernardino, between the Community of Devore and the City of San Bernardino. The project consists of a Specific Plan, a Mining and Reclamation Plan, and Tentative Parcel Maps for industrial development. Sixteen Planning Areas are designated in the Specific Plan within a 1,392-acre site to be utilized for light industrial, heavy industrial, rail-oriented industrial uses, sand and gravel mining and processing, and open-space habitat conservation. Discretionary actions required for project approval include annexation of 1,184 acres of the site into the City of San Bernardino, a General Plan Amendment, approval of the Specific Plan, Conditional Use Permit and Reclamation Plan and Tentative Parcel Maps.

Since the proposed project may significantly affect the environment in an adverse manner, the California Environmental Quality Act requires preparation of an Environment Impact Report (EIR). This Draft Environmental Impact Report (Draft EIR) was prepared in conformance with the criteria, standards and procedures of the California Environmental Quality Act of 1970 (CEQA), as amended (California Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (California Administrative Code, Title 14, Division 6). It was also prepared in accordance with the Environmental Review Guidelines adopted by the City of San Bernardino. Its purpose is to address the environmental impacts associated with the approval and implementation of the proposed CalMat Cajon Creek Specific Plan project. The City of San Bernardino Planning and Building Services Department, as the lead agency for the project, has independently reviewed, evaluated and exercised judgement over the preparation of this Draft EIR.

The Specific Plan outlines the authority and scope for development of the CalMat Cajon Creek project area, and has been prepared to provide for "the systematic implementation of the General Plan", as defined by California Government Code (Title 7, Chapter 3, Article 8, Section 65450, et seq.). The CalMat Cajon Creek Specific Plan reviews proposed development with respect to the following considerations:

1. Consistency with all existing State laws and local ordinances.

2. Consistency with the City of San Bernardino General Plan and Development Code.

3. Implementation of the plan would not be detrimental to the public interest, health, safety, convenience, or welfare of the City.

4. The subject property is physically suitable for the requested land use designations and the anticipated land use developments.

5. The proposed plan shall ensure development of desirable character which will be compatible with existing and proposed development in the surrounding neighborhood.

6. The proposed plan will contribute to a balance of land uses so that local residents may work and shop in the community in which they live.

7. Availability of public facilities and service adequate to serve the project.

Implementation of the proposed Specific Plan and related mining and industrial development will require:

- Annexation of approximately 1,184 acres to the City of San Bernardino, including about 180 acres owned by the County of San Bernardino.

- A General Plan Amendment to bring certain aspects of the proposed industrial development areas of the Specific Plan into conformance with the City of San Bernardino General Plan.

- A Conditional Use Permit and Reclamation Plan for mineral resource extraction.

- Tentative Parcel Maps for industrial development of portions of the property.

The environmental analysis contained in this Draft EIR has been prepared to cover all discretionary approvals necessary to affect approval of the above.

SUMMARY

The following is a summary of the individually significant and cumulatively significant effects associated with the proposed project, as well as proposed mitigation measures and alternatives. The environmental analysis provided in Section 4.0 of this Draft EIR includes a full discussion at each of the issue areas that were identified by the City of San Bernardino Planning and Building Services Department in its initial environmental study on the proposed project.

Summary of Significant Environmental Impacts

For each adverse environmental impact of the proposed project, measures have either been incorporated into the project design or into this Draft EIR to mitigate the impact to acceptable levels. In all but a few cases the mitigation that is proposed will reduce the project's adverse impacts to levels less than significant. These are discussed below.

- Biological Resources

A biological survey of the proposed project area did not identify the presence of any state or federally listed endangered species. However, the project area was determined to contain habitat for the Slender-horned spineflower which is both state and federally listed endangered. Due to the nature of the plant, several additional surveys were recommended by Tierra Madre Consultants, the biological consultant that conducted an assessment of the area, to determine if the spineflower is present on the site. If the proposed additional biological surveys, or other recommended means of identification, confirm the presence of the Slender-horned spineflower within Planning Areas proposed for development or mining, a significant biological impact would result. Mitigation proposed to reduce the significance of the impact would be in cooperation with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG).

- Air Quality

Due to the nature and location of the project and surrounding area, dust generated during Santa Ana winds could create a potentially significant adverse impact. This impact would be related to the incremental addition of PM-10 at the project site, to the high levels of dust generated during Santa Ana winds. This impact would be primarily on residences to the south of Planning Area N. Implementation of the following would serve to minimize potential PM-10 impacts: design measures contained as part of the project design (e.g., the use of conveyors and landscaping); mitigation measures required by the Air Quality Management District (AQMD) (i.e., the use of best available control technology (BACT) on the processing components amenable to dust control); and, other identified mitigation measures to control dust (e.g., control of materials handling, maintenance of in-plant travel paths, and watering). The dust impacts generated by Santa Ana wind conditions would remain a significant unmitigated impact.

- Land Use

The loss of use of approximately 124 acres of State-designated regionally-significant mineral resources in Planning Areas A and B (through rezoning to a land use which is incompatible with mineral extraction), represents an unmitigable significant land use impact. However, the following overriding consideration is offered: Planning Areas A and B are located across Cajon Boulevard from an intensive residential area, mining activity would have to be suitably buffered. This would probably take the form of a strip of land along Cajon Boulevard devoted to light industrial uses, similar to buffers planned for other parts of the Specific Plan area to be mined. Such buffering, because of the long and narrow configuration of Planning Areas A and B, significantly reduces the aggregate resources available, making it unfeasible to mine this area.

Summary of Significant Cumulative Impacts

Cumulative impacts associated with implementation of the project have been analyzed in Section 6.4 of this Draft EIR. Thus, as a whole, the EIR assesses cumulative changes due to the proposed project in and around the City of San Bernardino, as well as in and around the specific project site.

- Air Quality

  The cumulative air quality impacts of the proposed project cannot be fully mitigated. Combustion emissions from this project will incrementally impede the ultimate attainment of clean air standards. Vehicular emissions from project generated traffic and other fuel combustion emissions will combine with vehicular emissions from millions of other vehicles in the South Coast Air Basin. Mitigation measures, such as provisions for rail access for distribution of aggregate, have been incorporated into the proposed design to reduce truck trips and their length of travel. Additionally, the project includes a transportation demand management (TDM) program as a condition for discretionary approval of the Specific Plan.

Summary of Environmental Impacts and Mitigation Measures

All of the potential environmental impacts of the proposed project identified in Section 4.0 are summarized in Table ES.1-1. The Table includes measures that would mitigate project impacts, and the residual impacts following implementation of the mitigation measures, including significant unavoidable impacts, if any.

Summary of Alternatives

The alternatives addressed in this Draft EIR include: the "No Project" scenario and three development scenarios consisting of varying the relative amount of each type of proposed land use (maximum extraction, exclusive industrial development, and a reduced-scale extraction scenario). Section 5.0 provides a description of each of these alternatives. Table 5.1-1 summarizes an environmental impacts analysis of the proposed project in relation to the other considered alternatives. Alternatives which were considered, but rejected, included alternative sites and alternatives to the proposed location of the processing facilities.

TABLE ES.1-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Biological Resources

Significance Thresholds - Significant impacts to biological resources include the substantial loss of habitat for sensitive species; those which are either listed by the federal, state or local government, and/or identified by local concerns (e.g. California Native Plant Society, Audobon Society); and those that are categorized by the California Department of Fish and Game (CDFG), the California Natural Diversity Data Base (NDDB), and the U.S. Fish and Wildlife Service (USFWS).

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Loss of habitat associated with industrial development and mining within: - 640 acres of degraded habitat outside of the floodplain; and - 257 acres within the active floodplain.	Significant	Near-term and intermediate-term implementation of the Specific Plan provides for conservation of 488 acres in Planning Area O. The long-term management of this natural open space for biological resources, together with reclamation of the 257 acres, within the active floodplain, following mining in Planning Area P, shall provide for conservation of sensitive habitat within approximately 745 acres of open space.	Less than Significant
The loss of individual animals including that of the orange-throated whiptail, the San Diego horned lizard, the Sharp-skinned hawk, Golden eagle, prairie falcon, and northern harrier.	Less than Significant	No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Biological Resources (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Potential loss of the sensitive plant community -- the Riversidian alluvial fan sage scrub, and slender-horned spineflower habitat.	Significant	Near term and Intermediate term implementation of the Specific Plan provides for conservation of 488 acres in Planning Area O. The long-term management of this natural open space for biological resources, together with reclamation of 257 additional acres following mining in Planning Area P, shall provide for conservation of these sensitive plant species within approximately 745 acres of open space. Minimum disturbance of vegetation shall occur within Planning Area O. Grading shall be limited to that required to provide adequate haul road access to allow Planning Area P in-stream mining activities, provide necessary flood control, or to provide for necessary streambed stabilization. No permanent structures, other than flood control, streambed stabilization structures, or haul roads associated with Planning Area P, shall be permitted within the Planning Area O 100-year floodplain.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.1 Biological Resources (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Planning Areas which are not within the floodplain, including mined areas within Planning Areas L, M and F; and the processing plant areas within Planning Areas D, I and N, shall be planted with seeds to provide erosion control using the natural components of the Riversidian alluvial sage scrub. The following shall be implemented in accordance with the Reclamation Plan as provided for in the Revegetation Plan. - Mined areas within Planning Area P, within the floodplain, shall be planted and seeded with native plants to restore elements of Riversidian alluvial fan sage scrub and bench habitat conditions now present on site. - Container grown revegetation plant materials shall be propagated from either seeds or cuttings taken from the site. Collection and propagation of	

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Biological Resources (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		seeds and cuttings shall occur approximately one year prior to on-site planting. - Seeds, used for hydroseeding shall consist of only native species, obtained from on-site collection and collection from adjacent properties. - Maintenance of the revegetation areas shall be limited to weed eradication of invasive exotic species and replacement of container stock if necessary. - Monitoring of the revegetation areas shall be done annually, over a five year period in accordance with SMARA Section 2773(a). Minimum standards should be developed by CalMat in conjunction with the lead agency and Divisions of Mines and Geology (DMG).	

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Biological Resources (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		- Records shall be kept of the initial plantings with details to include; date of planting, planting locations of container materials and seeds. Subsequent monitoring shall determine the total vegetative cover and species health/survival rates. If necessary recommendations for replanting and weed removal shall be made.	
If the slender-horned spineflower is located during proposed surveys there would be an impact to this species/habitat.	Significant	If the slender-horned spineflower is located during any of the surveys, the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) shall be notified of the specie's presence on the site, and, if recommendations warrant it, a diligent effort will be made to salvage a plant population. A diligent effort to salvage a plant population will provide for the following: - If during a survey native species of the slender-horned spineflower are identified on the project site, its	Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Biological Resources (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		position will be marked (e.g., flagged or staked); - All identified locations where slender-horned spineflower plants were marked shall be revisited after the blooming season (i.e. July) for seed collection; and - Seeds of native species which have been collected from the site will provide for research and the establishment of a population under the guidance of the USFWS and the CDFG.	
Cumulative impacts	Significant	Retention of substantial open space; habitat replacement and enhancement, and the use of native species for reclamation identified as mitigation impacts to biological resources above.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.2 Air Quality

Significance Thresholds - Significant impacts would occur if emissions result in violation of federal or state standards.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Short-term construction dust impacts (PM-10).	Less than Significant	No mitigation is required.	Less than Significant
Fugitive dust derived from scattered sources in addition to processing equipment.	Significant	Control of fugitive sources of emissions shall result from good operational practices, proper housekeeping and use of supplemental dust suppression measures. Minimum implementation action of the mitigation measures will be to meet the requirement of AQMD Rule 401.	Less than Significant
Increased dust emissions (7.8 to 39 pounds PM-10 per day and 78 pounds TSP per day) from all rock production and distribution.	Significant	These activities are controlled by SCAQMD permit conditions and by specified control measures in the District's Best Available Control Technology (BACT) guidelines. Material handling and in-plant travel will be controlled through a program of paving offsite access road and major intra-plant travel paths. Material transport to the fixed plant site in Planning Area N will utilize a conveyer.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.2 Air Quality (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		If some or all materials transfer between mining and processing Planning Area occurs via off-road hauling, the associated dust impact would be mitigated through implementation of dust control measures required by SCAQMD as a provision of permitting.	
Local air quality impacts from creation of dust emissions during Santa Ana wind conditions.	Significant	SCAQMD requirements under Rule 401 shall be implemented. A berm system, in conjunction with a windbreak will be included in the landscaping north of the Planning Area N processing plant to reduce wind through the plant. A line of landscaping near the southern site boundary will also trap dust picked up by the winds.	Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.2 Air Quality (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		The impact potential related to dust generation during Santa Ana wind conditions shall be reduced as a result of industrial developments within the Specific Plan Planning Areas. This mitigation will result from paving over open areas, the presence of buildings, berming and landscape. The features will reduce the amount of erodible surface and increase surface roughness, thus creating breaks in the wind field.	
Batch plant dust emissions of 10 pounds per day TSP, (0.1 mg/m^3 particulate increment of PM-10)	Less than Significant	Dust emissions from the batch plant will be controlled through standard design features required by SCAQMD rules. No mitigation is required.	Less than Significant
Asphaltic concrete dust emissions of 24 pounds per day TSP (the fraction of TSP in the PM-10 range is approximately 8 to 12 pounds).	Less than Significant	Dust emissions from asphaltic concrete production will be controlled through standard design features required by SCAQMD rules. No mitigation required.	Less than Significant
Aggregate product hauling emissions and industrial park vehicular emissions of ROG, CO_2 and NO_x.	Significant	Aggregate facilities access/egress shall be designed to minimize use of local arterial roadways or areas of existing or potential future air quality sensitivity.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.2 Air Quality (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Industrial Park Vehicular Emissions	Significant	CalMat shall provide a transportation demand management program (TDM) for all site tenants.	Less than Significant
Increased stationary source emissions from light industrial uses and asphaltic concrete plant, including NO_x.	Significant	Compliance with SCAQMD regulations for emissions off sets (SCAQMD Regulation XIII) upwind of Cajon Creek, and the use of BACT on the plant.	Less than Significant
Asphaltic plant odor impacts.	Less than Significant	Pollution control features which are required by the AQMD would minimize any odor nuisance. No mitigation is required.	Less than Significant
Possible toxic air contaminants (TACs) from industrial uses, i.e., solvents, cleaning compounds, degreasers, etc.	Less than Significant	Compliance with local, state and federal regulations. No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.2 Air Quality (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Cumulative air quality impacts from combustion emissions and dust (PM-10).	Significant	Provisions for rail access for distribution of aggregate, have been incorporated into the project design to reduce truck trips and their length of travel. The project also includes a transportation demand management (TDM) program. The standard design features required by SCAQMD together with the mitigation measures identified above will reduce dust emissions.	Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.3 Geologic and Geotechnical

Significance Thresholds - A geologic hazard is determined to have a significant impact when an unacceptable number of people and facilities are exposed to the hazard in an identified hazard zone. The City of San Bernardino General Plan (1989) contains a number of guidelines intended to identify and reduce geologic hazards.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Ground rupture along potentially active fault traces, as delineated by the Alquist-Priolo Special Studies Zone (APSSZ), is a potential hazard if a moderate to large earthquake were to occur on the Glen Helen Fault. (Based on available information, the potential for damage resulting from ground rupture on the mapped traces of the Glen Helen fault within the proposed site is considered low).	Significant	No habitable structures will be located within the APSSZ.	Less than Significant
The site lies in an area where nearby major active faults are capable of generating moderate to large earthquakes. Strong ground motions are likely to occur at the subject site and the surrounding area in the event of a moderate to large earthquake on one of the nearby faults.	Significant	Human occupancy structures shall be designed to conform to all applicable standards and guidelines including (but not limited to) appropriate local building codes and the Uniform Building Code.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.3 Geologic and Geotechnical (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The project lies in an area of high liquefaction susceptibility as delineated by the City of San Bernardino General Plan. However, the zonation was based on the assumption of regional groundwater levels which are substantially higher than those which have been observed at the Cajon Creek site, therefore liquefaction suseptibility is low.	Less than Significant	Although the potential for impacts is considered to be less than significant, site specific geotechnical studies shall be conducted for individual buildings to further evaluate liquefaction potential. If liquefaction susceptible areas are identified, mitigation for proposed buildings would include enhanced foundation design, remedial grading, and/or relocation of planned structures.	Less than Significant
Historical subsidence has not been reported for the general project area (within the northern portions of the valley).	Less than Significant	No mitigation is required.	Less than Significant
Groundwater conditions resulting from industrial developed portions of the Specific Plan.	Less than Significant	No mitigation is required.	Less than Significant
Groundwater impacts resulting from mining in Planning Areas F, L, M and P.	Significant	Depth of excavation in Planning Areas F (75'), L (120') and M (120') are well above existing groundwater levels. In Planning Area P where the depth of excavation is 25' at the mid-point, tapering to 0' at the upstream and downstream ends, flood flows will pass through the excavation. Exposure of groundwater in this circumstance is temporary.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.3 Geologic and Geotechnical (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Recharge of poor quality water into the aquifer will be avoided through drainage control. (See 4.4 Surface Hydrology) Removal and disposal of groundwater (if any) encountered during construction or excavation activities shall be coordinated with the local RWQCB to ensure proper disposal methods and locations. (See 4.4 Surface Hydrology)	
Impacts on mining and impacts on building foundations from either leachate or landfill gas related to the Cajon Boulevard Landfill.	Less than Significant	No mitigation required.	Less than Significant
Potential slope in stability in mining areas, from cut and fill slopes where adjacent to structures and utility facilities, specifically in Planning Areas F, L and M.	Significant	All slope design, cut and fills, erosion control, surface and subsurface drainage shall conform to the recommendations of the geotechnical consultant and as provided in the EIR. The potential for slope failure will be reduced by lessening the angle of finished slopes to a 2:1 ratio (horizontal to vertical), stabilizing the surface through use of ground cover, and by providing adequate setbacks.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.3 Geologic and Geotechnical (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Differential settlements of building foundations for light and heavy industrial development proposed for Planning Areas A, B, C, D, E, G, H, I, J and K during an earthquake.	Less than Significant	The use of continuous perimeter footings and reinforced floor slabs shall be employed where recommended by the geotechnical consultant. Recompaction of near-surface loose or disturbed zones of soil, based on site-specific geotechnical studies, shall be employed in industrial development areas.	Less than Significant
Cumulative impacts.	Less than Significant	No mitigation required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.4 Surface Hydrology

Significance Thresholds - Significant surface hydrology issues affecting the planning area are those identified in the City of San Bernardino General Plan concerning storm drains and flood control. Significant impacts would include plans which fail to protect life and property from flood hazards, and transmission of storm flows; or, the construction of human occupancy structures within the FEMA 100-year flood plain.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Floodflow hazards within the FEMA-mapped Cajon Creek 100-year floodplain due to in-stream mining, primarily to Institution Road, MWD/SGVMWD Aqueducts and the CalNev 8" pipeline.	Significant	Implementation of the project will incorporate measures into its design, at the downstream end, to assure that floodflows maintain their pre-extraction velocities. Shallow mining (skimming) will be conducted in order to remove material in excess of that which would be found in a "normal" channel configuration. No permanent structures except flood control structures, will be constructed in Planning Area P. Portable equipment (scalping primary crushing equipment, conveyors, etc.) and vehicles will be removed or protected when surface flow is anticipated. A revision to the FEMA map will be processed for those portions of the Planning	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.4 Surface Hydrology (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Areas located within the presently mapped FEMA 100-year floodplain where any development is proposed. The mine plan for Planning Area P, which day lights at the upstream and downstream ends, provides for the maintenance of pre-existing flood flow velocities at the downstream end. A streambed stabilizer will be provided to protect Institution Road and the MWD/SGVWD Aqueducts. Prior to expansion of useable area within the presently mapped FEMA 100-year floodplain, approvals will be obtained from the RWQCB and the COE.	
Drainage of surface run-off from mining areas, aggregate processing plant sites and industrial development areas.	Significant	Proposed site design and drainage system plans shall be submitted for review to the City. The San Bernardino County Flood Control District and the City Water Department will approve development plans with respect to the adequacy of storm drain facilities as a condition of project approval. Final design shall include their requirements and recommendations.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.4 Surface Hydrology (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		All project related drainage facilities shall be designed to accommodate run-off associated with a 25-year flood event, as required by the City of San Bernardino Public Works Department. Final design specifications shall include a schedule for regular maintenance of drainage facilities. Surface drainage will be diverted around the mining pits within Planning Areas F, L and M. Internal drainage will be collected at the lower end of excavation for percolation. Discharge of surface runoff, whether from storm drains or diversions from pit areas, are subject to Stormwater Discharge Permits from the Regional Water Quality Control Board.	
Construction-related water quality impacts due to sediment movement.	Significant	A number of construction-related erosion controlling techniques would be included in the project design to minimize sediment movement on disturbed areas, including appropriate design of pads and slopes, the	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.4 Surface Hydrology (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		use of approved and properly compacted fill materials, and proper maintenance of erosion control facilities. Erosion control measures associated with the proposed project shall include implementation of the Reclamation Plan's Revegetation Plan which provides for hydroseeding all distribution areas. Erosion control measures, integrated into the project design, shall be inspected after emplacement by a qualified engineering or hydrologic consultant to insure proper working condition.	
Degradation of surface water quality within and downstream from the site due to wet processing operations at the portable plants in Planning Area D and the permanent plant in Planning Area N.	Significant	Process water from plants in Planning Areas D and N will be reclaimed and re-used by means of settling ponds and a re-circulating system.	Less than Significant
Cumulative impacts.	Less than Significant	No mitigation required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.5 Noise

Significance Thresholds - The noise element in the City of San Bernardino General Plan, and the State of California Office of Noise Control, provide guidelines used to specify a range of community noise exposure acceptable for various receiver site land uses. These criteria form the basis for evaluating noise impacts. Changes in noise/land use compatibility levels require a determination of the extent that a receiver location has been made unsuitable for a current or planned land use. A noise impact is considered significant if any of three basic criteria are met: (1) if noise exposure causes a lessening of the noise/land use compatibility levels; or (2) in areas already in unacceptable noise/land use compatibility categories, any measurable (defined as 1dB) increase in noise exposure occurs; or (3) if there is a perceptible (defined as 3dB) increase in noise levels.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Increased traffic noise levels from industrial development in Planning Areas A, B, C, E, G, H, I, J and K.	Less than Significant	No mitigation is required.	Less than Significant
Increased project area noise levels from mineral resource extraction in Planning Areas F, L, M and P.	Less than Significant	No mitigation is required.	Less than Significant
Increased project noise levels, from mineral resource processing in Planning Area D, I and N, on surrounding sensitive land uses.	Significant	Plant operations, including aggregate extraction, processing, handling and formulation of any construction materials, shall not cause hourly noise levels to exceed any of the following noise levels at the nearest sensitive residential land uses to Planning Area D, I and N:	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.5 Noise (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		- 65 dB LEQ from 7:00 a.m. to 7:00 p.m., - 60 dB LEQ from 7:00 p.m. to 10:00 p.m., and - not to exceed 55 db LEQ from 10:00 p.m. to 7:00 a.m. Plant site layout shall be located in such a manner as to minimize impacts to residence the southwest of Planning Area N.	
Construction noise.	Less than Significant	No mitigation is required.	Less than Significant
Cumulative impacts	Less than Significant	No mitigation is required.	Less than Significant

TABLE ES.1-1

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.6 Land Use

Significance Thresholds - Land use impacts may be considered significant if development activities conflict with adopted city, county, state or federal land use plans, policies or regulations; allow permanent preclusion of a permitted use on a property, and/or becomes a long-term disturbance that diminishes the quality of a particular land use.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Inconsistencies with City of San Bernardino General Plan: Planning Areas A, B, I and J zoned for Industrial Extractive, proposed for Light and Heavy Industrial. Planning Area C zoned for Light Industrial proposed for Heavy Industry. Planning Area O zoned for Industrial Extractive proposed for Open Space. Planning Areas G and H zoned for Heavy Industrial proposed for Light Industrial.	Significant	The proposed Specific Plan would amend the Land Use Element of the City of San Bernardino General Plan such that implementation of the Specific Plan would be consistent with the City's General Plan and its policies. The General Plan Amendment is proceeding concurrently with the Specific Plan.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.6 Land Use (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The conversion of 124 acres (Planning Areas A and B) of State-designated regionally significant mineral resource land to other incompatible uses.	Significant	The loss of State regionally-significant construction aggregate resources in Planning Areas A and B could be mitigated by mining these areas. However, in order to comply with the land use buffer zone requirements of the City of San Bernardino General Plan, only a portion of the 124 acres would be available for mining. The narrow configuration of the non-buffer zone portion would make mining infeasible as a practical matter. For this reason, extraction in Planning Areas A and B is not feasible as a mitigation for the loss of significant mineral resources.	Significant
The rezoning of Planning Areas E, H, I, J, O and K to uses which are compatible with the SMARA designation (buffer zone (extensive) industrial, interim uses and/or open space).	Less than Significant	No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.6 Land Use (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Incompatibility with surrounding land uses.	Less than Significant	Planning area regulations for each Specific Plan mining area set forth requirements designed to assure that resource extraction and processing occur in an environmentally sensitive manner which is also compatible with surrounding land use. Industrial Areas shall be developed in accordance with Design Guideline's requirements for landscaping, set backs, etc. Mining Areas shall be mined in accordance with Design Guidelines and CUP conditions, i.e., buffering with light industrial and open space uses.	Less than Significant
Cumulative impacts.	Less than Significant	No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.7 Traffic and Circulation

Significance Thresholds - CEQA Guidelines, Appendix G, states that a project will ordinarily have a significant effect on the environment if it will "cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system."

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
An increase in ADT from near-term development of Specific Plan Planning Areas G and H, and Planning Areas D, E and K (see Table 4.7-5).	Significant	Frontage road improvements shall be provided along Cajon Boulevard on the project side of the centerline adjacent to each Planning Area as a condition of the Tentative Map approval process for Planning Areas D, E and F; G and H; K and L; and, A and B. Individual lot driveway access, to Planning Areas A, B, D (ultimate use), E, G, H and K along Cajon Boulevard shall share points of access. Frontage road improvements shall be provided along Institution Road in accordance with the Infrastructure Improvement Plan (Figure 4.7-2) as a condition of the Tentative Map approval process for Planning Areas G and H; and I and J.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.7 Traffic and Circulation (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Internal street access to Planning Areas I and J shall be limited to two points along Institution Road frontage. Adequate access shall be provided for both on-site uses, as well as the provision of an on-site access road for aggregate transport trucks connecting Planning Areas M and N to the south. Interim improvements of the Cajon Boulevard, Institution Road and Palm Avenue intersection shall include realignment of the Institution Road leg of the intersection. The ultimate intersection improvement at Cajon Boulevard, Institution Road and Palm Avenue (shown in "Detail A" of Figure 4.7-2) shall be provided as a condition of the Tentative Map approval process for Planning Areas G and H.	

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.7 Traffic and Circulation (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
An increase in ADT from intermediate-term development of Specific Plan Planning Areas N, I and J (see Table 4.7-6).	Significant	Frontage road improvements shall be provided along Institution Road in accordance with the Infrastructure Improvement Plan (Figure 4.7-2) as a condition of the Tentative Map approval process for Planning Areas I and J. Access road improvements, including a provision for a west bound turn lane, shall be made at Institution Road should Planning Areas I and J, or N precede development of Planning Areas G and H.	Less than Significant
An increase in ADT from long-term development of Specific Plan Planning Areas A and B (see Table 4.7-7).	Significant	Improvement of the Cajon Boulevard and Kendall Drive intersection shall be provided in accordance with the Infrastructure Improvement Plan (shown in "Detail B" of Figure 4.7-2) as a condition of the Tentative Map approval process.	Less than Significant
A decrease in LOS on Palm Avenue between Cajon Boulevard and I-215 freeway.	Less than Significant	Palm Avenue shall be restriped between Cajon Boulevard and the I-215 freeway, if warranted in accordance with requirements of the City Engineer, in order to accommodate four lanes of traffic.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.7 Traffic and Circulation (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
An increase in truck traffic south on Cajon Boulevard.	Significant	The use of Cajon Boulevard shall be limited to use for local deliveries south of Cable Creek Channel by aggregate truck traffic.	Less than Significant
Cumulative impacts.	Less than Significant	No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.8 Visual Resources

Significance Thresholds - The threshold at which implementation of the Specific Plan would affect the visual quality of views depends upon the amount of visual contrast created between the proposed facilities and the existing landscape features. A potentially significant visual impact is assumed to occur when the casual viewer can perceive a transformation in the physical environment that results in a change in the quality of a scenic resource.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Landform alteration due to grading, and mining, and reclamation.	Less than Significant	No mitigation is required.	Less than Significant
Light and glare.	Significant	All lighting shall be directed on-site to provide direct lighting in the immediate area, so that potential glare effects upon surrounding land uses are reduced.	Less than Significant
Potential views of mining areas and industrial developed areas.	Less than Significant	Landscape screening shall be used along portions of the western boundary of the project area to visually buffer views from sensitive viewers along Cajon Boulevard. If the planned light industrial developments within Planning Areas E and K, proposed to buffer extractive operations in Planning Areas F and L, are not developed prior to commencement of extractive operations, earthen berms and/or landscape screen	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.8 Visual Resources (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		vegetation shall be used to accomplish visual buffering until the developments are constructed. As phased mining activities progress, previously extracted areas shall be concurrently reclaimed, and revegetated with indigenous plant materials in conformance with the Reclamation Plan and Revegetation Plan. Processing equipment shall be low profile or visibly screened whenever practical in order to minimize views of this equipment from existing single family neighborhoods to the south. Aggregate plant site structures, such as crushers, conveyor systems, and processing facilities, shall be painted with one or more non-intrusive colors that blend into the surrounding landscape.	

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.8 Visual Resources (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Alteration of open space views.	Less than Significant	Planning Area O is designated as open space in the Specific Plan and represents 488 acres of undeveloped land during near-term and intermediate-term implementation of the Specific Plan. Long-term implementation of the Specific Plan will create an additional 257 acres of reclaimed land in Planning Area P.	Less than Significant
Cumulative impacts.	Less than Significant	No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.9 Cultural and Historic Resources

Significance Thresholds - A site is considered significant if; the site is associated with an event/person of recognized scientific importance in prehistory; the site can provide information which has both demonstrated public interest and useful in addressing scientifically consequential and reasonable research questions; the site is of special or particular quality such as oldest, best example, largest, and last surviving example of this kind, is at least 100 years old and possesses substantial stratigraphic integrity; involves important research questions that historic research has shown can be answered only with archaeological methods.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Loss of cultural resources.	Less than Significant	In the absence of any significant cultural resources, mitigation is not required.	Less than Significant
Cumulative impacts.	Less than Significant	No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.10 Hazardous Materials

Significance Thresholds - Established by Federal, State and Local laws, regulations, and guidelines for hazardous materials, reclaimed water pathogen and vector control.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
On-site handling of fuels, greases, lubrication oils, asphalt, waste oils, solvents and concrete additives. On-site fuel, waste oil and liquid asphalt storage tanks.	Significant	Strict compliance with California Administration Code requirements concerning the use and storage of hazardous substances shall be utilized, including the following: All underground fuel or oil storage tanks and piping will be double-walled and contain leak detection equipment, overfill and spill protection. No bulk storage of fuels or oils in the effective 100-year floodplain will be permitted. Valid operating permits will be obtained from the County Hazardous Materials Management Division (HMMD). Waste oil tanks will be emptied on a regular basis by an oil recycler. Above-ground storage tanks will be protected by a containment berm to provide protection in the event of a spill. The	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.10 Hazardous Materials (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		containment berm shall be capable of holding 150 percent of the combined capacities of the tanks. Fuel dispensing areas will contain spill catchment features. Greases and lubricating oils will be stored in drums on a concrete pad having spill containment. Solvents will only be used for parts cleaning and will be kept in a fully-contained system that recycles spent solvent. Liquid concrete additives, where possible, will be purchased in bulk quantities in order to reduce the number of containers on site at any given time; these materials will be stored separately from petroleum products, in an area having spill containment. Calmat will self-insure its financial responsibility for accidents and spills, clean-ups and damages to third parties, as required by the EPA.	

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.10 Hazardous Materials (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		A Business Plan will be developed in compliance with Chapter 6.95 of the California Health and Safety Code to assure that emergency service personnel and employees are able to respond effectively to potential problems presented by an accident or emergency. The Business Plan will be submitted to the County of San Bernardino Health Services Risk Management Division, and to the City of San Bernardino Fire Department, at least 45 days prior to operation. A copy of the Business Plan will be maintained at the subject property. An Authority to Construct and Permit to Operate will be secured from the SCAQMD as required, in order to assure that proper compliance with all applicable air quality regulations is achieved. A Waste Discharge permit will be secured from the Regional Water Quality Control Board to assure that all water quality requirements are met.	

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.11 Public Services and Utilities

Significance Thresholds - As each of the issues of concern deal with health and welfare of populations both on and off site, any physical inability to meet requirements is used as the criteria for determining significance of impacts.

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Increased demand for Fire Department services.	Less than Significant	CalMat shall comply with the City of San Bernardino policies for fire service as they relate to new development projects, which may include a pro rate fee to pay for additional fire service protection to the project.	Less than Significant
Increased water delivery system capacity for fire protection.	Less than Significant	Delivery of an adequate volume of water to the site shall be accomplished to meet fire flow requirements.	Less than Significant
Increased demand for police protection.	Less than Significant	No mitigation is required.	Less than Significant
Increased water demand on the San Bernardino Municipal Water District (SBMWD) of approximately 1.35 MGD.	Significant	Prior to the issuance of building permits, the SBMWD shall verify that the water supply system can meet the additional needs to service the project area. A commitment to provide water services shall be obtained from the SBMWD as part of project approval.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.11 Public Services and Utilities (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Prior to final map approval, a detailed design of the water distribution network shall be completed to the satisfaction of the Water District. The size of interior facilities shall be based on industrial requirements and fire demands established by the Fire Department. The developer shall be responsible for the construction of onsite extension facilities and payment of connection fees for a proportionate share of offsite facilities. Facility financing shall be negotiated with the Water District. To reduce incremental region-wide impacts to water supply to San Bernardino County, conservation measures shall be implemented; i.e., the Specific Plan identifies the use of xerophytic (drought-tolerant) plants for landscaping. Reclaimed water shall be used in aggregate processing operations where feasible. The use of reclaimed water is provided for in the Conservation Element of the City of San	

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.11 Public Services and Utilities (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Bernardino General Plan. Aggregate processing wastewater shall be clarified onsite and recycled.	
Increased water system infrastructure for service to Planning Areas A and B.	Less than Significant	As development occurs, Planning Areas A and B will be supplied by the existing 16" main in Cajon Boulevard. An 8" water main will be constructed in the interior streets to distribute water to lots. No mitigation is required.	Less than Significant
Increased water system infrastructure for service to Planning Areas C, D, E, and F.	Less than Significant	These areas will be serviced directly from existing 12" water main in Cajon Boulevard. No mitigation is required.	Less than Significant
Increased water system infrastructure for service to Planning Areas G, H, I, J, K and L.	Less than Significant	A new 8 inch water main will be extended down Institution Road to distribute water from the existing 12 inch main in Cajon Boulevard, to Planning Areas G, H, I, and J. Future water service to Planning Area L will be supplied through a branch of the existing water main via Planning Area K or H. No mitigation is required.	Less than Significant
Increased water system infrastructure for service to Planning Area M.	Less than Significant	Planning Area M is a mining area and will not require water service. No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.11 Public Services and Utilities (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Increased water for service to the plant site in Planning Area N.	Less than Significant	The plant site will require make-up water. As an alternative to City supplied water, this water may be purchased and supplied by means of a metered on-site well. No mitigation is required.	Less than Significant
Increased demand for gas and electric service.	Less than Significant	Service is available. No mitigation is required.	Less than Significant
Increased demand for telephone service.	Less than Significant	Service is available. No mitigation is required.	Less than Significant
Increased waste-water generation of approximately 980,800 gallons per day.	Significant	The Specific Plan will be implemented gradually over a period of approximately twenty-five years allowing for the significant sewage wastewater disposal increase to be phased over its buildout period. The San Bernardino Public Works Department maintains an existing 18" main located in Cajon Boulevard, which has adequate capacity to serve the Specific Plan Area. No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.11 Public Services and Utilities (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Need for sewer infrastructure to service Planning Areas A and B, and G, H, I, and J.	Less than Significant	When the development occurs, 8" sewer mains will be constructed. Service to Planning Areas A and B will require an 8" main in the interior streets to service lots; Planning Areas G, H, I and J will require a new 8" main to be extended down Institution Road and 8" branches to be built in cul-de-sac streets to service interior lots. No mitigation is required.	Less than Significant
Need for sewer infrastructure to service Planning Areas E and K.	Less than Significant	These areas will be served directly from Cajon Boulevard. No mitigation is required.	Less than Significant
Need for sewer infrastructure to service Planning Areas D, I and N.	Less than Significant	These Planning Areas are sites for aggregate processing plants. Service needs will be met by chemical toilets or septic tanks. No mitigation is required.	Less than Significant
Solid waste disposal demand from Planning Area construction.	Less than Significant	Waste generation from construction is primarily vegetation or "spoil" which will be disposed of either at the development sites or at the County landfill. No mitigation is required.	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.11 Public Services and Utilities (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Demand for solid waste disposal of 19.3 tons/day at buildout.	Less than Significant	The City of San Bernardino Public Services Department anticipates sufficient landfill capacity to accommodate the project's generated solid waste. No mitigation is required.	Less than Significant
Relocation of the 8" CalNev petroleum pipeline.	Significant	Prior to mining within Planning Area P, the CalNev pipeline shall be precisely located and measures taken to avoid the necessity for its relocation. In this case, it shall be protected in accordance with Design Guidelines and Development Standards of the Specific Plan which include the following mitigiation measures: Prior to mining in Planning Area P, the CalNev petroleum pipeline will be located, and either the west side of excavation will be set back 100 feet from the pipeline; or, the pipeline will be relocated. If it is necessary to relocate the pipeline, the following mitigation measures are provided to reduce potentially significant impacts to below a level of significance:	Less than Significant

TABLE ES.1-1 (Continued)

SUMMARY OF ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

4.11 Public Services and Utilities (Continued)

Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		- Protection of the petroleum pipeline shall be in accordance with CalNev policies for the protection of the pipeline during relocation.	
Cumulative impacts.	Less than Significant	No mitigation is required.	Less than Significant

1.0
INTRODUCTION

1.1 USER'S GUIDE TO THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA) requires all state and local agencies, boards, and commissions to prepare (or cause to be prepared) by contract, and certify the completion of, an Environmental Impact Report (EIR) on any project they propose to carry out or approve which may have significant effect on the environment. The purpose of an EIR is to inform the public and the decision makers about the nature of the project being considered and the extent and kinds of impacts the project and alternative projects would have on the environment if the project was carried out.

An EIR must contain discussions of specific topics as outlined in guidelines for the implementation of CEQA prepared by the State Secretary of Resources. An EIR must also include a detailed statement setting forth the following:

- The significant environmental effects of the proposed project;
- Any significant environmental effects which cannot be avoided if the project is implemented;
- Mitigation measures proposed to minimize the significant environmental effects, including but not limited to, measures to reduce wasteful, inefficient, and unnecessary consumption of energy;
- Alternatives to the proposed project;
- The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity;

- Any significant, irreversible, environmental change which would be involved in the proposed project should it be implemented;

- The growth-inducing impact of the proposed project;

- Effects not found to be significant;

- Cumulative impacts (to be discussed when they are significant).

This document, entitled Draft Environmental Impact Report (Draft EIR), will be made available for review by the public and public agencies for 45 days to comment on the document and, if necessary, gather additional information not covered herein. The Draft EIR will be available at the City of San Bernardino Planning and Building Services Department, and the Feldheym Central Library in the City of San Bernardino.

The City of San Bernardino Planning Commission will hear further public input and consider all written comments to date on the Draft EIR in order to make recommendations about the extent and nature of the environmental impacts of the proposed project.

The City San Bernardino Mayor and Common Council will consider the Final EIR in approving or disapproving the CalMat Cajon Creek Project. Public input is encouraged at these hearings. In the final review of the project plan, environmental issues and economic and social factors will be weighed in consideration of the most appropriate form of development.

1.2 CONTENTS OF THIS EIR

This environmental document discusses the potential environmental impacts that would result from utilization of the project site for industrial uses, sand and gravel extraction and processing and related uses, and open space on an approximately 1,212-acre site owned by CalMat (the Applicant) in the Cajon Creek Wash and adjacent area. It also addresses potential impacts that would result from extraction of sand and gravel from an additional

approximately 180 acres of land owned by the County of San Bernardino within the Cajon Creek Wash, proposed to be leased by CalMat.

The description and analytical discussions within this Draft EIR are based on information provided in the project Specific Plan, Tentative Parcel Maps, Application for Conditional Use Permit for Mining and Reclamation Plan. These documents are available for review at the City of San Bernardino Planning and Building Services Department and are incorporated herein by reference.

An Initial Study and Notice of Preparation (NOP) were prepared by the City of San Bernardino in accordance with Section 15603 of the State CEQA Guidelines and distributed to responsible agencies and members of the public who had previously indicated an interest in the project. The environmental issues analyzed in this document respond to the potential impacts identified by the Initial Study, the Public Scoping Meeting, held August 9, 1990, and as a result of the NOP. The NOP and written responses, together with other correspondence related to project concerns, are provided in Appendix A. The Initial Study and an Extended Initial Study are on file with the City of San Bernardino. The environmental issues identified as having potentially significant impacts upon the environment include: geology, air quality, hydrology and water quality, biological resources, noise, land use, hazardous materials, traffic and circulation, public services and utilities, visual resources and cultural resources. All other potential environmental issues were determined not to be significant and need not be addressed.

This Draft EIR focuses on these potential environmental effects associated with developing the site, and utilizing the resources within the site, as specified in the Specific Plan, the Conditional Use Permit for the Mining and Reclamation Plan, and the Tentative Parcel Maps for industrial developments. Alternatives to the proposed project are evaluated pursuant to CEQA requirements (Section 5.0). Cumulative impacts of the proposed project and other planned and approved projects in the immediate vicinity are also addressed pursuant to CEQA requirements (Section 6.0).

1.2.1 Requirement for Mitigation Monitoring Program

The California Public Resources Code (Section 21081.6), as mandated by Assembly Bill 3180 (effective January 1989), requires public agencies to adopt a mitigation monitoring and reporting program for project approvals subject to EIRs or Negative Declarations. Such programs are designed to ensure compliance with adopted mitigation measures and to verify that required measures effectively reduce identified impacts to below levels of significance. The Mitigation Monitoring Program (MMP) for the proposed project will be provided to the City of San Bernardino upon submittal of the Final EIR as a provision of project approval.

1.3 AGENCY APPROVALS, PERMITS AND AGREEMENTS

The City of San Bernardino is the lead agency and will have responsibility for project approval in compliance with CEQA. Approvals will be required for: a Conditional Use Permit and Reclamation Plan, needed for mineral extraction; Tentative Parcel Maps for industrial development of portions of the property; the Specific Plan, which governs the various development aspects of the proposed project; and, a General Plan Amendment, required in order to bring certain development aspects into conformance with the City of San Bernardino General Plan. This environmental analysis has been prepared to cover all discretionary approvals necessary to effect approval of the above. This EIR will subsequently be used as a basis for a decision by the Local Area Formation Commission (LAFCO) and the City of San Bernardino for annexation of approximately 1,184 acres of the project area to the City, including 180 acres owned by the County of San Bernardino (see Section 4.6 Land Use). Several other agencies, in addition to the City, will use this EIR in decision making. Table 1.3-1 identifies the City (the lead agency), and the other agencies, considered responsible agencies relative to the CalMat Cajon Creek project, since they may provide discretionary approvals. The permits, agreements or approvals for which each agency is responsible are indicated in the Table.

TABLE 1.3-1

AGENCY APPROVALS, PERMITS AND AGREEMENTS

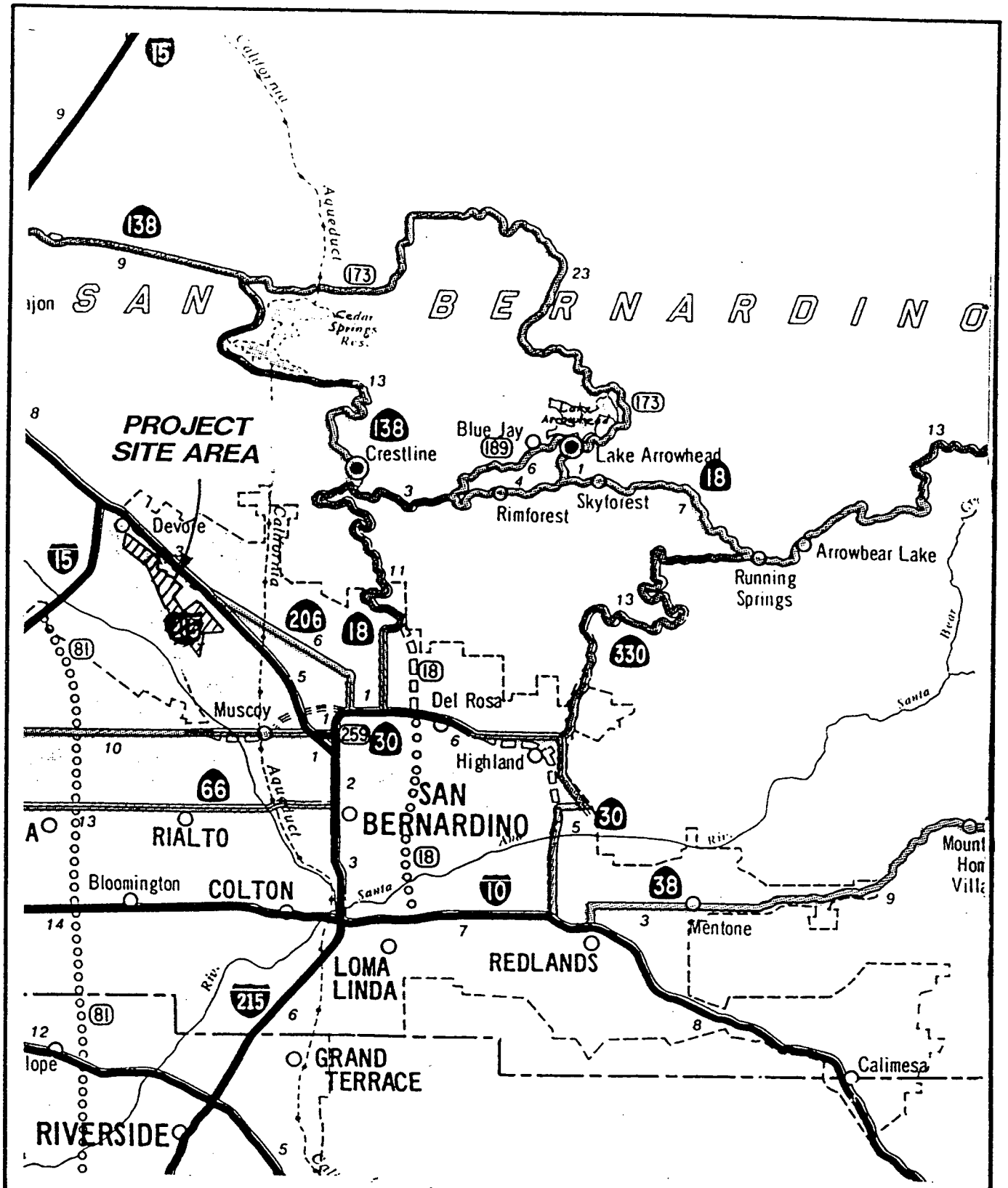
Agency	Responsibility
City of San Bernardino Planning and Building Services Department	General Plan Amendment Adoption of Specific Plan Conditional Use Permit/ Reclamation Plan Approval Tentative Parcel Map Approval Certification of EIR
Local Area Formation Commission (LAFCO)	Annexation
California Department of Fish and Game (CDFG)	"1603" Streambed Alteration Agreement (if necessary)
U.S. Army Corps of Engineers (ACOE)	Section 404 Permit (if necessary)
California Regional Water Quality Control Board (RWQCB) - Santa Ana Region	Waste Discharge Permit
City of San Bernardino Hazardous Materials Management Bureau	Operating Permits
Southern California Association of Governments (SCAG)	AQMP Conformity Determination
South Coast Air Quality Management District (SCAQMD)	Authority to Construct/Permit to Operate
San Bernardino County Environmental Health Services, Risk Management Section	Business Plan
Federal Emergency Management Agency (FEMA)	Letter of Map Revision (LOMR)

2.0
PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed 1,392-acre CalMat Cajon Creek project site is located partially within and adjacent to the extreme northwest portion of the City of San Bernardino, approximately 5-1/2 miles northwest of downtown. The Regional Location Map provided in Figure 2.1-1 depicts the project in its regional context. Regional access is available from Interstate 215 (the Barstow Freeway), by means of the Palm Avenue and Devore Road freeway interchanges, and from Cajon Boulevard and Institution Road. The project location is more precisely illustrated in Figure 2.1-2, the Project Vicinity Map, presenting the project site in its local context within two separate parcels of land (divided by the former landfill operation owned by the County of San Bernardino). However, a portion of the project site within Cajon Creek Wash not owned by CalMat, located to the west of the landfill, is proposed to be leased from the County for extractive purposes. Thus, except for separations by railroad right-of-way ownership in several areas, the various portions of the project site can be considered to be contiguous.

Almost all of the property is located within the County of San Bernardino; 208 acres of the southeastern portion of the project area are in the City of San Bernardino. The remaining 1,184 acres of the overall site are located within the City of San Bernardino's Sphere of Influence and are presently undergoing annexation proceedings (see Section 4.6, Land Use, Figure 4.6-1). Approximately 180 acres of the Specific Plan area, located within the Cajon Creek Wash, is owned by the County of San Bernardino Department of Transportation and Flood Control. Approximately 215 acres of the Specific Plan area are situated within the city's Northwest (NW) Redevelopment Project Area (see Section 4.6, Land Use, Figure 4.6-2).

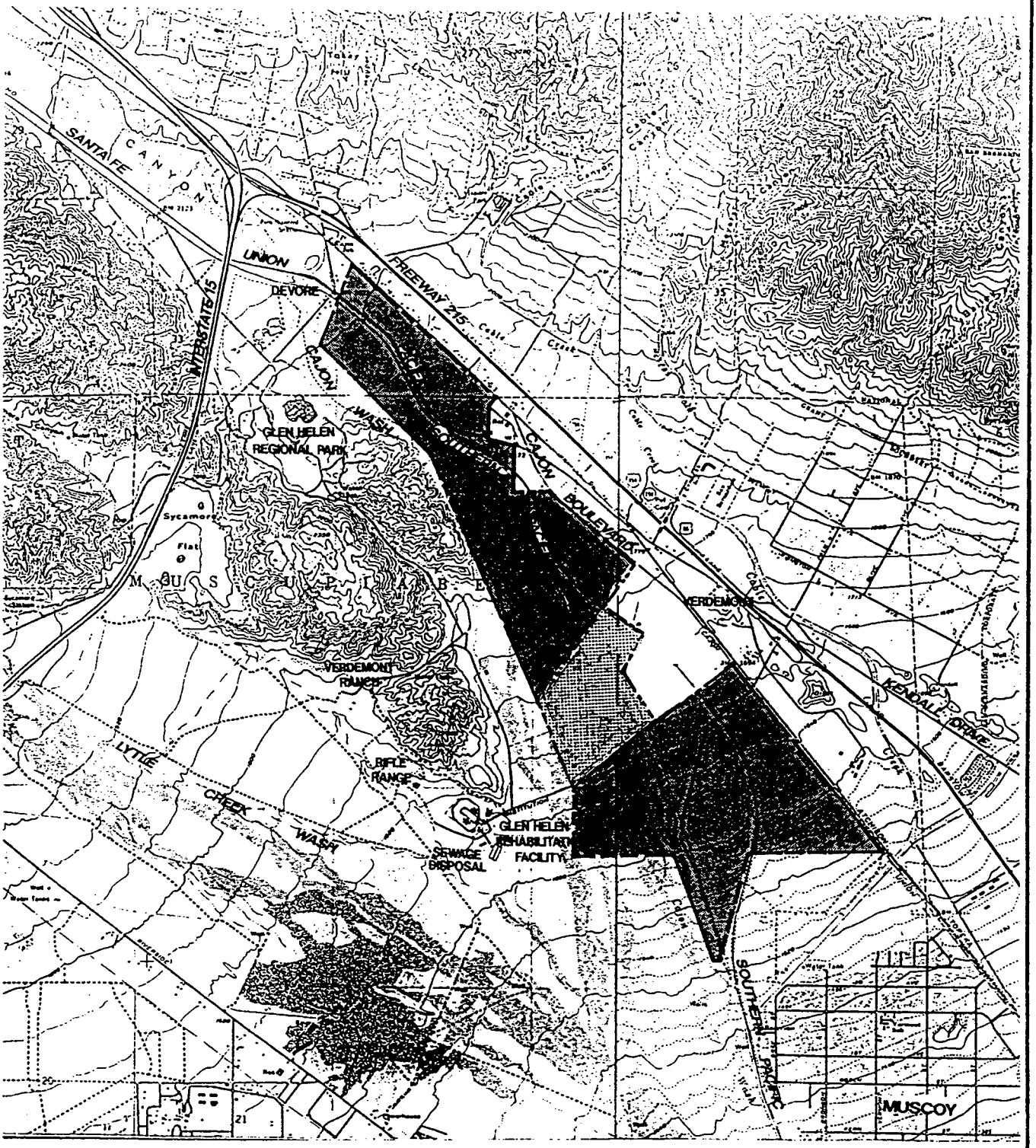


SOURCE: DEPARTMENT OF TRANSPORTATION, 1988

2.1 Project Location	Figure No: 2.1-1

Regional Location of Site

CAJON CREEK PROJECT



SOURCE: USGS 7.5' DEVORE AND SAN BERNARDINO NORTH QUADRANGLES

2.2 Project Location	Figure No: 2.1-2

Project Vicinity Map

CAJON CREEK PROJECT

Woodward-Clyde Consultants

2.1.1 Project Area Characteristics

The proposed project area lies within the "East Valley" area of San Bernardino County, one of the fastest growing areas of the nation. The Southern California Association of Governments (SCAG) has projected that the population of the East Valley will grow by approximately 395,400 persons between 1984 and 2010 (SCAG, 1989). Housing development is expected to grow in the East Valley area as the number of dwelling units are increased from 145,800 to 323,400 between 1984 and 2010. These increases in both population and housing represent over a 100% increase. Employment levels in the East Valley are projected to grow from 135,500 jobs in 1984 to approximately 270,300 jobs in 2010. This addition of 134,800 jobs also represents almost a 100 percent increase.

Given this significant growth projected for the East Valley, as well as the rest of Southern California, there is a strong relationship to the requirements for and permitted availability of sand and gravel resources, i.e., approximately 8.4 tons of sand and gravel will be consumed annually per capita for construction purposes in the San Bernardino Production-Consumption (P-C) Region (CDMG, 1987a).

2.2 REGIONAL SIGNIFICANCE OF MINERAL DEPOSITS

At the present time, the Specific Plan area is undeveloped but, has significant value to the region based on its sand and gravel content which represents a regionally-significant construction aggregate supply. The California Department of Conservation, Division of Mines and Geology (CDMG), as part of its Special Report No.143 (1987) estimated the total amount of sand and gravel that would be needed to serve the needs of the San Bernardino Region over a 50 year period, in accordance with the requirements of the California Surface Mining and Reclamation Act of 1975 (SMARA). CDMG geologists evaluated all major mineral resource deposits within the region to develop a geological inventory of construction aggregate deposits. Mineral Resources Zones (MRZs) were established on the basis of a sand, gravel, and rock resource appraisal. The majority of mineral deposits within the Cajon Creek Wash area were classified as MRZ-2 by CDMG. An MRZ-2 is identified as an area where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

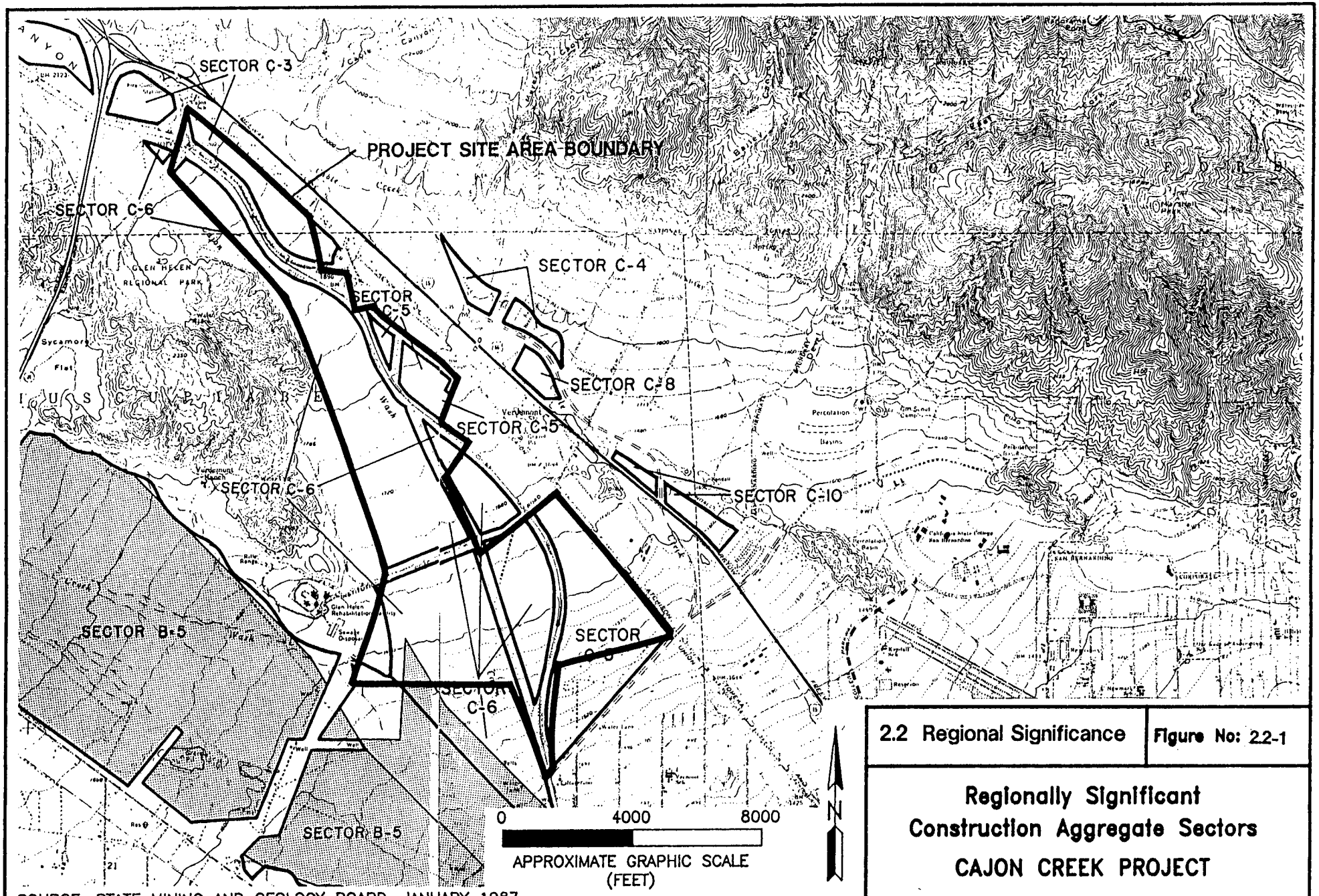
Because many of these potential sources were already committed to various urban uses which limit or preclude access to the underlying resources, a second step in the SMARA mineral land identification process was taken by the State. This resulted in designation by regulation (by the State Mining and Geology Board) of those resources which are of regional significance. These are mineral deposits determined to be of prime importance in meeting the future needs of the San Bernardino Region, and which were felt to be available from a land use perspective. Portions of the CalMat Cajon Creek project and adjacent areas were so designated and identified by CDMG as Sectors C-3, C-5 and C-6 (Figure 2.2-1) within Designation Report No. 5 (CDMG, 1987b). The concept of "sectors" was developed to identify the locations and approximate tonnage of resources in MRZ-2 areas that have not been urbanized. The Mineral Resources section of the Natural Resources Section of the City's General Plan acknowledges these sectors and incorporates policies for their management.

2.3 PROJECT OBJECTIVES

The primary purpose of the CalMat Cajon Creek Specific Plan Project is to achieve the optimal balance, in terms of land uses, between the three major components of the plan, which are industrial development, mineral extraction, and open space conservation. The essence of the project is to optimize the unique opportunities presented by the project site characteristics, by recognizing the interactions and interdependencies among the individual components of the Specific Plan. In order to best achieve this balance, three objectives of the project are:

- Utilize those portions of the project site for industrial uses which take advantage of the unique setting of the project area in relation to the Inland Empire, Victor Valley and Ontario airport, and in terms of transportation resources; i.e., the proximity of the intersection of two Interstate Highways and three railroad systems (Atcheson, Topeka, and Santa Fe (AT&SF); Union Pacific; and Southern Pacific).

- Extract and process sand, gravel and rock from the floodplain and alluvial terrace of Cajon Creek Wash; in accordance with the Regionally Significant



SOURCE: STATE MINING AND GEOLOGY BOARD, JANUARY 1987.

2.2 Regional Significance	Figure No: 2.2-1

Regionally Significant Construction Aggregate Sectors

CAJON CREEK PROJECT

Woodward-Clyde Consultants

Mineral Resource designation by the CDMG, and with the City of San Bernardino General Plan, for distribution within the San Bernardino market region.

- Provide for the conservation and protection of sensitive biological habitats by conserving open-space, which would create a corridor by connecting open-space area in the Cajon Creek floodplain with a conservation area further to the west.

The following aspects of the project, though not elevated to the status of project objectives, nonetheless illustrate the intent to develop a Specific Plan that achieves the balance of land uses which is the prime purpose of the proposed project:

- Provide for the utilization of portions of the Specific Plan area with interim Construction Material Users Park uses (i.e., concrete pipe, pre-stressed concrete manufacture, etc.), as a complement to nearby sources of construction-quality aggregate, as well as existing transportation facilities.

- Create visual buffer zones, where appropriate, adjacent to the mining areas by development of these areas into Light Industrial uses, or with landscaping designed to form a visual barrier.

- Provide for the orderly development of the site by adopting a phased approach to the extraction and redevelopment activities.

- Create industrial centers that will be compatible with nearby residential communities, rail facilities and mineral resources, and will enhance the economic base of the City, while generating significant employment opportunities.

- Combine zoning regulations, capital improvement programs, detailed site development standards, resource conservation programs, and other regulatory

schemes into one project site plan tailored to the needs of the City of San Bernardino.

- Assist in implementing a goal of the SCAG Growth Management Plan by reducing a jobs/housing imbalance which exists in San Bernardino.

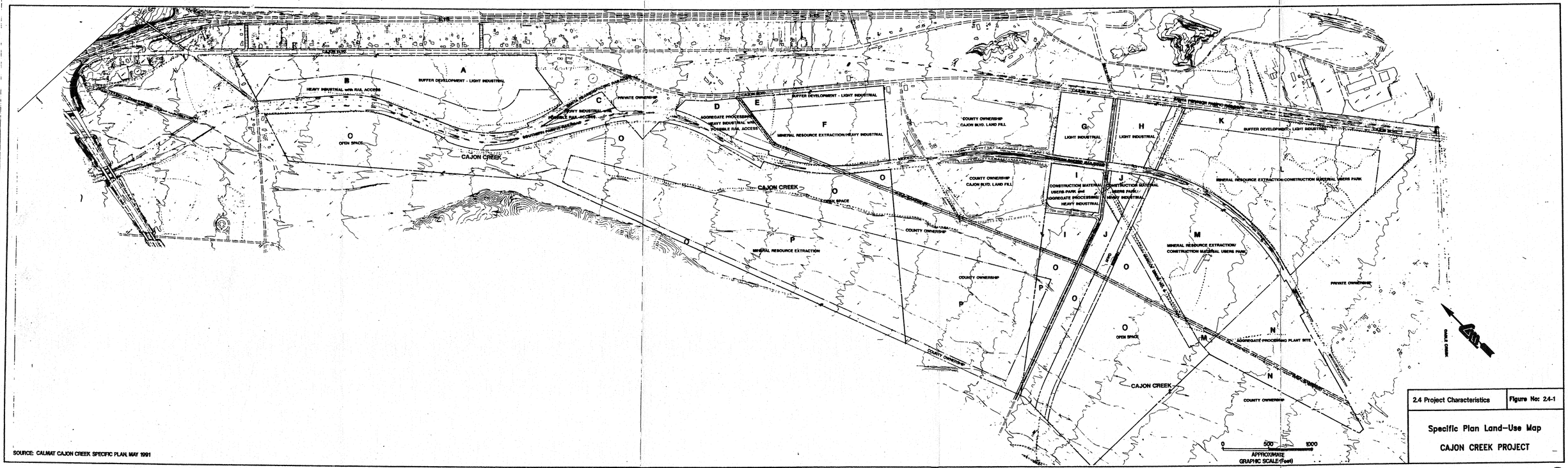
2.4 PROJECT CHARACTERISTICS

The CalMat Cajon Creek project is defined by the CalMat Cajon Creek Specific Plan, proposed Industrial Development Tentative Parcel Maps, and a Conditional Use Permit (CUP) and Reclamation Plan for mineral resource extraction, which are described in detail below.

2.4.1 Specific Plan

The CalMat Cajon Creek Specific Plan divides the 1,392 acre project site into 16 individual Planning Areas identified in the Land Use map (Figure 2.4-1). This Specific Plan will guide the development of the proposed industrial, extractive and open space land uses designated in the Land Use map. Table 2.4-1 summarizes the corresponding uses of each Planning Area.

The CalMat Cajon Creek Specific Plan is expected to be phased over an approximately 25-year period, although mining may continue beyond this 25-year period. Phasing, or development timing, has been placed into three categories: "Near Term", "Intermediate Term" and "Long Term". Within these phasing categories are "Development Clusters", which indicate related development activity. Near Term refers to foreseeable development or mineral resource-related activity which may occur during the early years of Specific Plan implementation. As the market for industrial land within the Specific Plan area continues to evolve, Intermediate Term development would be expected to occur. Long Term development within the Specific Plan area would occur as the market for industrial land matures, Near Term extractive and processing operations are completed, and interim uses are replaced with ultimate land uses. This would be expected to include Light and Heavy Industrial development or redevelopment.



SOURCE: CALMAT CAJON CREEK SPECIFIC PLAN, MAY 1991

2.4 Project Characteristics	Figure No: 2.4-1

Specific Plan Land-Use Map

CAJON CREEK PROJECT

Woodward-Clyde Consultants

TABLE 2.4-1

PROPOSED PROJECT CHARACTERISTICS

Planning Area	Proposed Land Use	Acreage
A	Buffer Development - Light industrial	77.0
B	Heavy Industrial - with possible rail access	47.0
C	Heavy Industrial - with possible rail access	6.0
D	Heavy Industrial - with rail access/Aggregate Processing[2]	18.5
E	Buffer Development - Light Industrial	14.0
F	Mineral Extraction/Heavy Industrial	51.0
G	Light Industrial	26.0
H	Light Industrial	23.0
I	CMUP[1]/Aggregate Processing[2]/Heavy Industrial	36.5
J	CMUP[2]/Heavy Industrial	14.0
K	Buffer Development - Light Industrial	36.0
L	CMUP[1]/Mineral Extraction	130.5
M	CMUP[1]/Mineral Extraction	97.5
N	Aggregate Processing Plant Site	70.0
O	Open Space	488.0
P	Mineral Extraction	257.0
	TOTAL ACRES	1,392.0

[1] Construction Material Users Park - interim use.
[2] Aggregate Processing - interim use.

Table 2.4-2 summarizes the Specific Plan Development Phases, however, it is not the intent of the Specific Plan to restrict development to these phases, or to require completion of one phase prior to commencing the next. Actual development of land covered by the Specific Plan will be predicated upon the market for aggregate, as well as for industrial property, in addition to the development of necessary supportive infrastructure. The development phasing set forth in Table 2.4-2 is, therefore, for planning purposes, and is not solely meant to direct project implementation.

The Specific Plan ultimately provides for a total of 298 acres of industrial uses, 349 acres of mining-related uses, and 745 acres of open space (following reclamation of Planning Area P). The Specific Plan also includes detailed Planning Area Regulations for each of the sixteen Planning Areas which include "Land Use Guidelines", "Permitted Uses", "Design Guidelines", "Zoning" and "Development Standards". Each Planning Area has unique land use opportunities and constraints which will influence its development. The following is a description of the major elements and allowable uses identified in the Specific Plan.

2.4.1.1 Light and Heavy Industrial

Those portions of the Specific Plan designated for light industrial land use are intended to permit manufacturing, warehousing, distribution, research and development, service uses, mini-storage, and similar uses characterized by the location of their predominant activities in enclosed buildings, as appropriate to each individual Planning Area. Supporting retail and personal service commercial uses are also permitted. The Developmental Regulations for light industrial uses require minimum 20,000 square foot lot sizes and a two-story/30 feet high limit. Design Guidelines and Development Standards of the Specific Plan further require that buildings be designed to convey visual interest, and that they provide extensive building and landscape setbacks, and other standards.

Those portions of the Specific Plan designated for heavy industrial land use permit a diversity of heavy manufacturing uses in locations where they will be compatible with and not adversely affect other land uses. Where appropriate, these areas may also be rail served. Permitted activities also accommodate a diversity of heavy manufacturing uses which are characterized by their large land utilization and physical facility requirements.

TABLE 2.4-2

CAJON CREEK SPECIFIC PLAN DEVELOPMENT PHASING

Phasing	Development Cluster	Planning Area	Planned Use
Near Term	1a	O	Open Space
	1b	D	Aggregate Processing - Interim
		F	Mineral Resource Extraction
		E	Buffer Development - Light Industrial
	1c	G	Light Industrial
		H	Light Industrial
		I (part)	Construction Material Users Park - Interim
		J	Construction Material Users Park - Interim
	1d	P	Mineral Resource Extraction
		I (part)	Aggregate Processing - Interim
	1e	L or M	Construction Material Users Park - Interim
		K	Buffer Development - Light Industrial
Intermediate Term	2a	L	Mineral Resource Extraction
		M	Mineral Resource Extraction
		N	Aggregate Processing
	2b	I	Heavy Industrial Redevelopment
		J	Heavy Industrial Redevelopment
Long Term	3a	D	Heavy Industrial Redevelopment
		F	Heavy Industrial Redevelopment
	3b	A	Buffer Development - Light Industrial
		B	Heavy Industrial with Rail Access
		C	Heavy Industrial with Possible Rail Access
	3c	L	Light Industrial/Construction Material Users Park - Redevelopment
		M	Light Industrial/Construction Material Users Park - Redevelopment
		P	Open Space

Developmental Regulations require that all development be compatible with adjacent land uses; that lot sizes be a minimum of 40,000 square feet; and that building and landscape setbacks, screening walls and other design elements be incorporated into all industrial developments. The development of uses which contribute significant toxic wastes and pollution are prohibited in accordance with the City of San Bernardino Development Code Property Development Standards.

2.4.1.2 Industrial Extractive

The Specific Plan industrial extractive land use designation permits sand and gravel resource extraction and processing, and related operations. These extractive areas have been identified based on land use, environmental and economic considerations. Appropriate conditions are to be applied to ensure that mineral resource production activities are in accordance with the General Plan, and thus provide for the utilization of on-site mineral resources in such a manner as to be compatible with adjacent land uses, i.e., that they mitigate noise, odor and dust impacts; provide visual integration with adjacent land uses through the use of effective buffering techniques; and provide for the reclamation and re-use of the site upon completion of production activities, in a manner which does not adversely disrupt the character and integrity of adjacent uses.

The development of interim uses which do not impair the long term ability to extract and process the mineral resources, such as outdoor storage, concrete product manufacture, and similar uses are permitted.

Developmental Regulations require approval of a Reclamation Plan in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA) and the City of San Bernardino Development Code.

2.4.1.3 Open Space

The Specific Plan initially retains 488 acres as open space within the FEMA-mapped 100-year floodplain of Cajon Creek. Land within areas designated as open space may be used for natural habitat conservation and enhancement. Mineral resource extraction and

limited primary processing may also be permitted within Planning Area P, providing appropriate operational conditions and reclamation requirements are applied. Upon completion of mining and reclamation activities within Planning Area P, an additional 257 acres will be placed in open space, as set forth in the Specific Plan. The Specific Plan has been designed to maintain the open space character of the broad Cajon Creek floodplain area.

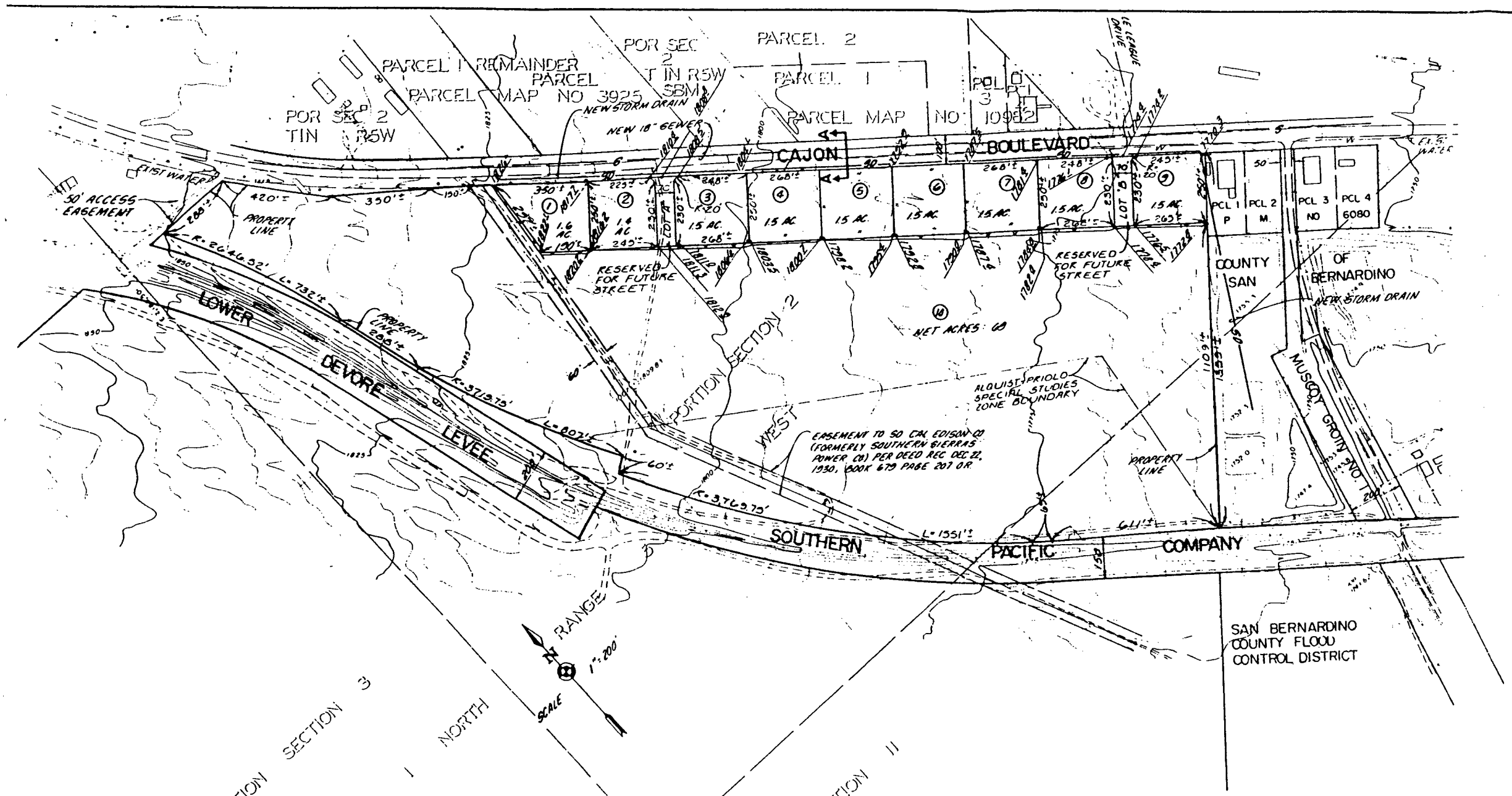
2.4.2 Tentative Parcel Maps

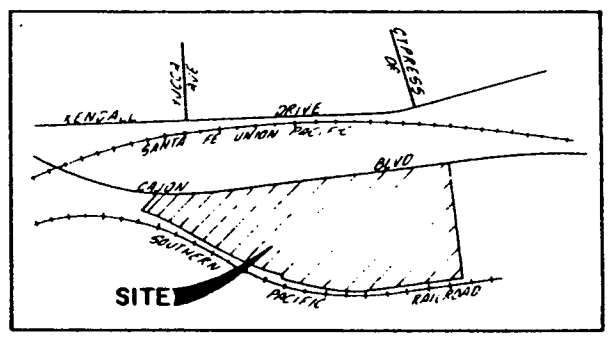
The proposed Tentative Parcel Maps relative to CalMat Cajon Creek Specific Plan Planning Areas D, E , F, G and H, K and L are shown in Figures 2.4-2, 2.4-3 and 2.4-4. These areas are proposed to be subdivided for use in accordance with allowable uses identified in the Planning Area Regulations and in conformance with Specific Plan Design Guidelines for these areas. Development proposed within the Specific Plan Planning Areas covered by the Tentative Parcel Maps, is subject to evaluation for conformance to architectural guidelines as well as site planning, parking and driveway access, and landscape guidelines.

The general development requirements contained in Chapter 19.20, Property Development Standards, and Chapter 19.30, Subdivision Standards, of the City of San Bernardino Development Code, also apply. The Tentative Parcel Maps are described individually below.

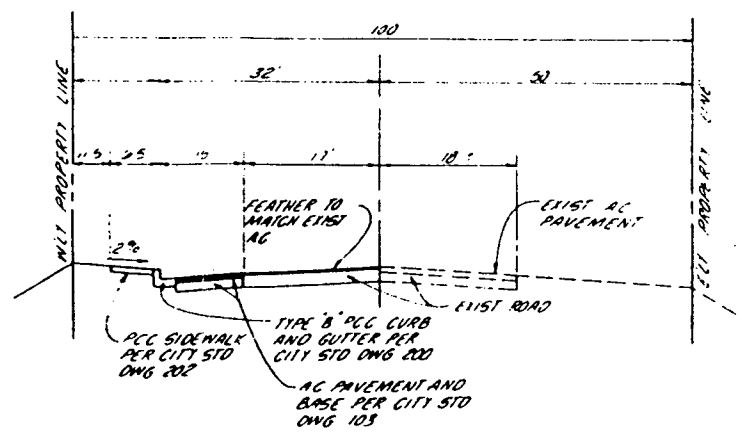
2.4.2.1 Tentative Parcel Map for Specific Plan Areas D, E and F

This Parcel Map (Figure 2.4-2), which consists of Planning Areas D, E and F, covers a total of 83.4 acres. Planning Area E is proposed to be subdivided into nine lots (Lots 1 through 9) covering a total area of 13.5 acres for light industrial uses. Planning Areas D and F (Lot 10) covers a total area of 69 acres for mining use (in Planning Area F) and the location of a processing plant (in Planning Area D). Grading would occur across Lots 1 through 9 and would cover approximately 13.5 acres of the site. Grading would entail approximately 98,000 cubic yards of fill, which would be derived from Planning Area F.





VICINITY MAP
NO SCALE



TYPICAL SECTION A-A
CAJON BOULEVARD
NO SCALE

SOURCE: CALMAT, JULY 1991.

LEGAL DESCRIPTION

A PORTION OF LOT 17, RANCHO SAN ANTONIO, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 7, PAGE 23 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, BEING A PORTION OF SECTIONS 2 AND 11, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

NOTES:

TOTAL NUMBER OF LOTS = 10
TOTAL AREA = 83.4 ACRES
TAX ASSESSOR'S PARCELS: 262-060-01, 15, 16

UTILITIES

GAS: SOUTHERN CALIFORNIA GAS COMPANY
ELECTRIC: SOUTHERN CALIFORNIA EDISON
TELEPHONE: GENERAL TELEPHONE
SEWER: CITY OF SAN BERNARDINO
WATER: CITY OF SAN BERNARDINO

ZONING: LIGHT INDUSTRIAL
INDUSTRIAL EXTRACTIVE

GRADING: CUT 0 CU. YDS.
FILL 98,000 CU. YDS.

STATEMENT OF USE OF LOTS:
LOTS 1 THROUGH 9: LIGHT INDUSTRIAL
LOT 10: MINING AND PLANT

TENTATIVE PARCEL MAP PREPARED BY:

REMENT-DAINWOOD-STURGEON
6859 FEDERAL BOULEVARD
LEMON GROVE, CALIFORNIA 92045

KENT L. STURGEON, RCE 22449 DATE

OWNER:

CALMAT CO.
P.O. BOX 7956, TERMINAL ANNEX
LOS ANGELES, CALIFORNIA 90051

EASEMENT NOTES

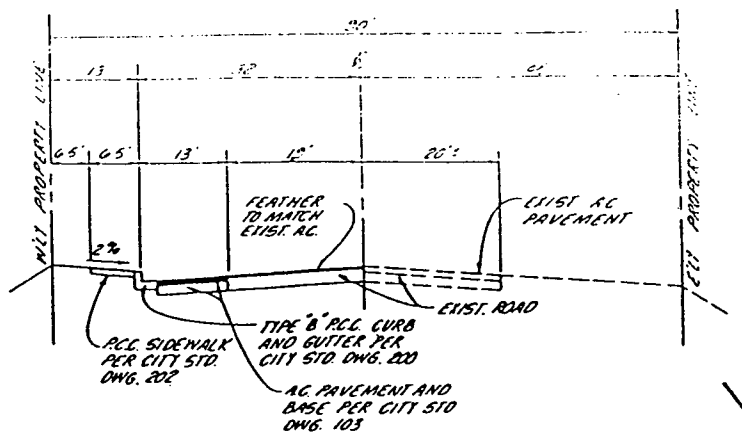
1. EASEMENT FOR PIPE LINES PER DEED RECORDED JULY 19, 1883 IN BOOK 34 PAGE 196 OF DEEDS. SAID DEED DOES NOT CONTAIN THE LOCATION OF SAID EASEMENT AND CANNOT BE PLOTTED.

2. EASEMENT FOR PIPE LINES, RESERVOIRS AND FLOOD CONTROL STRUCTURES, INGRESS AND EGRESS PER DEED RECORDED FEBRUARY 6, 1952 IN BOOK 2893, PAGE 286 OF OFFICIAL RECORDS OF THE COUNTY RECORDER OF SAN BERNARDINO COUNTY.

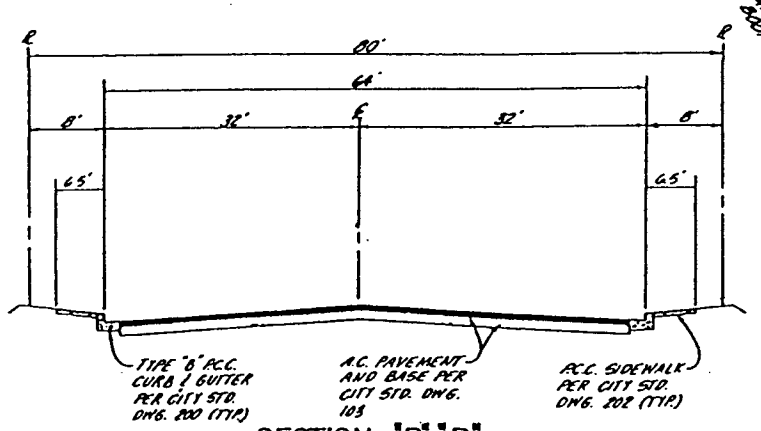
   SAID DEED DOES NOT CONTAIN THE LOCATION OF SAID EASEMENT AND CANNOT BE PLOTTED.

2.4 Project Characteristics	Figure No: 2.4-2

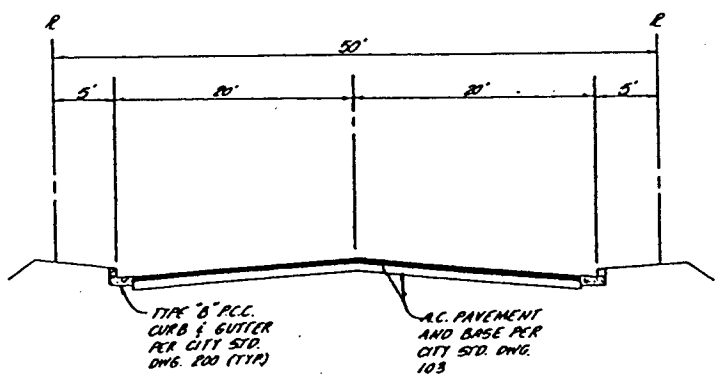
Tentative Parcel Map
Specific Plan Areas D, E, & F
CAJON CREEK PROJECT



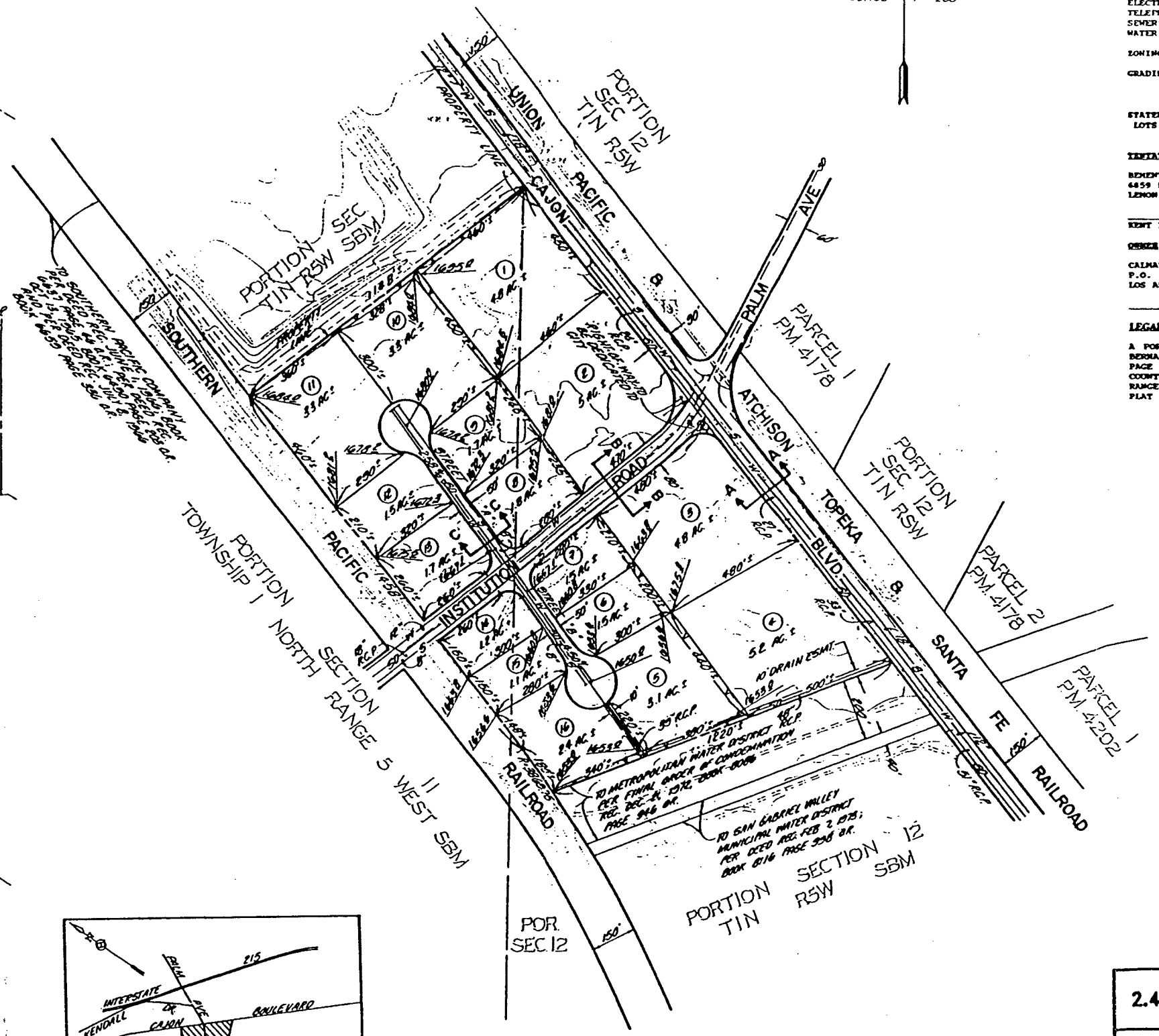
TYPICAL SECTION A-A
CAJON BOULEVARD
NO SCALE



SECTION "B"-"B"
INSTITUTION ROAD
CAJON BLVD. TO RAILROAD
NO SCALE



SECTION "C"-"C"
STREETS "A" AND "B"
NO SCALE



VICINITY MAP
NO SCALE

SOURCE: CALMAT, JULY 1991.

NOTES:

TOTAL NUMBER OF LOTS: = 16
TOTAL AREA = 49 ACRES
TAX ASSESSOR'S PARCELS: 262-050-27, INCL. INCL. 29

UTILITIES

GAS: SOUTHERN CALIFORNIA GAS COMPANY
ELECTRIC: SOUTHERN CALIFORNIA EDISON
TELEPHONE: GENERAL TELEPHONE
SEWER: CITY OF SAN BERNARDINO
WATER: CITY OF SAN BERNARDINO

ZONING: LIGHT INDUSTRIAL

GRADING: CUT 46,100 CU. YDS.
FILL 211,000 CU. YDS.

STATEMENT OF USE OF LOTS:
LOTS 1 THROUGH 16 : LIGHT INDUSTRIAL

TENTATIVE PARCEL MAP PREPARED BY:

BEMENT-DALRYMPLE-STURGEON
6859 FEDERAL BOULEVARD
LEMON GROVE, CALIFORNIA 91945

KENT L. STURGEON, RCE 22449 DATE

OWNER:

CALMAT CO.
P.O. BOX 2950, TERMINAL ANNEX
LOS ANGELES, CALIFORNIA 90051

LEGAL DESCRIPTION

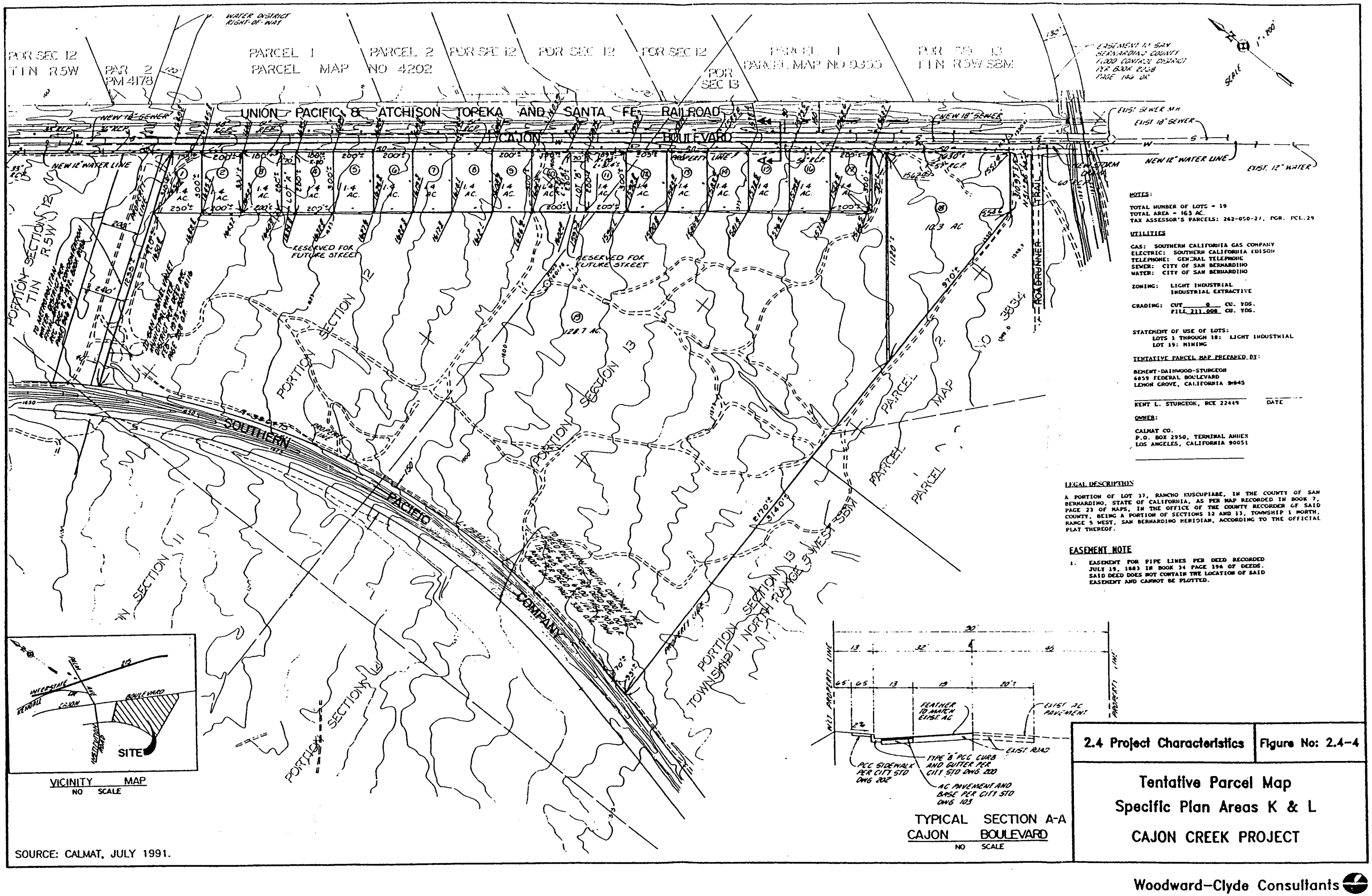
A PORTION OF LOT 37, RANCHO MUSCUPIABE, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 7, PAGE 23 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, BEING A PORTION OF SECTIONS 11 AND 12, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EASEMENT NOTES

1. EASEMENT FOR PIPE LINES PER DEED RECORDED JULY 19, 1883 IN BOOK 34 PAGE 196 OF DEEDS. SAID DEED DOES NOT CONTAIN THE LOCATION OF SAID EASEMENT AND CANNOT BE PLOTTED.

2.4 Project Characteristics	Figure No: 2.4-3

Tentative Parcel Map
Specific Plan Areas G & H
CAJON CREEK PROJECT



NOTES:

TOTAL NUMBER OF LOTS = 19
TOTAL AREA = 163 AC.
TAX ASSESSOR'S PARCELS: 262-050-27, POR. PCL. 29

UTILITIES

GAS: SOUTHERN CALIFORNIA GAS COMPANY
ELECTRIC: SOUTHERN CALIFORNIA EDISON
TELEPHONE: GENERAL TELEPHONE
SEWER: CITY OF SAN BERNARDINO
WATER: CITY OF SAN BERNARDINO

ZONING: LIGHT INDUSTRIAL
INDUSTRIAL EXTRACTIVE

GRADING: CUT 0 CU. YDS.
FILL 211,000 CU. YDS.

STATEMENT OF USE OF LOTS:
LOTS 1 THROUGH 18: LIGHT INDUSTRIAL
LOT 19: MINING

TENTATIVE PARCEL MAP PREPARED BY:

BEMENT-DAINWOOD-STURGEON
6859 FEDERAL BOULEVARD
LEMON GROVE, CALIFORNIA 91945

KENT L. STURGEON, RCE 22449 DATE

OWNER:

CALMAT CO.
P.O. BOX 2950, TERMINAL ANNEX
LOS ANGELES, CALIFORNIA 90051

LEGAL DESCRIPTION

A PORTION OF LOT 37, RANCHO MUSCUPIABE, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 7, PAGE 23 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, BEING A PORTION OF SECTIONS 12 AND 13, TOWNSHIP 1 NORTH, RANGE 5 WEST, SAN BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EASEMENT NOTE

1. EASEMENT FOR PIPE LINES PER DEED RECORDED JULY 19, 1883 IN BOOK 34 PAGE 196 OF DEEDS. SAID DEED DOES NOT CONTAIN THE LOCATION OF SAID EASEMENT AND CANNOT BE PLOTTED.

SOURCE: CALMAT, JULY 1991.

2.4 Project Characteristics	Figure No: 2.4-4

Tentative Parcel Map
Specific Plan Areas K & L
CAJON CREEK PROJECT

2.4.2.2 Tentative Parcel Map for Specific Plan Areas G and H

This Parcel Map (Figure 2.4-3) includes Planning Areas G and H, and covers a total area of 49 acres. Planning Area G is proposed to be subdivided into eight lots covering a total area of 23.1 acres for light industrial uses. Planning Area H is proposed to be subdivided into eight lots covering a total area of 21.0 acres for light industrial uses. Grading of these sixteen lots would entail approximately 46,100 cubic yards of cut and 211,800 cubic yards of fill. Required fill material would be expected to be derived from Planning Areas L or M.

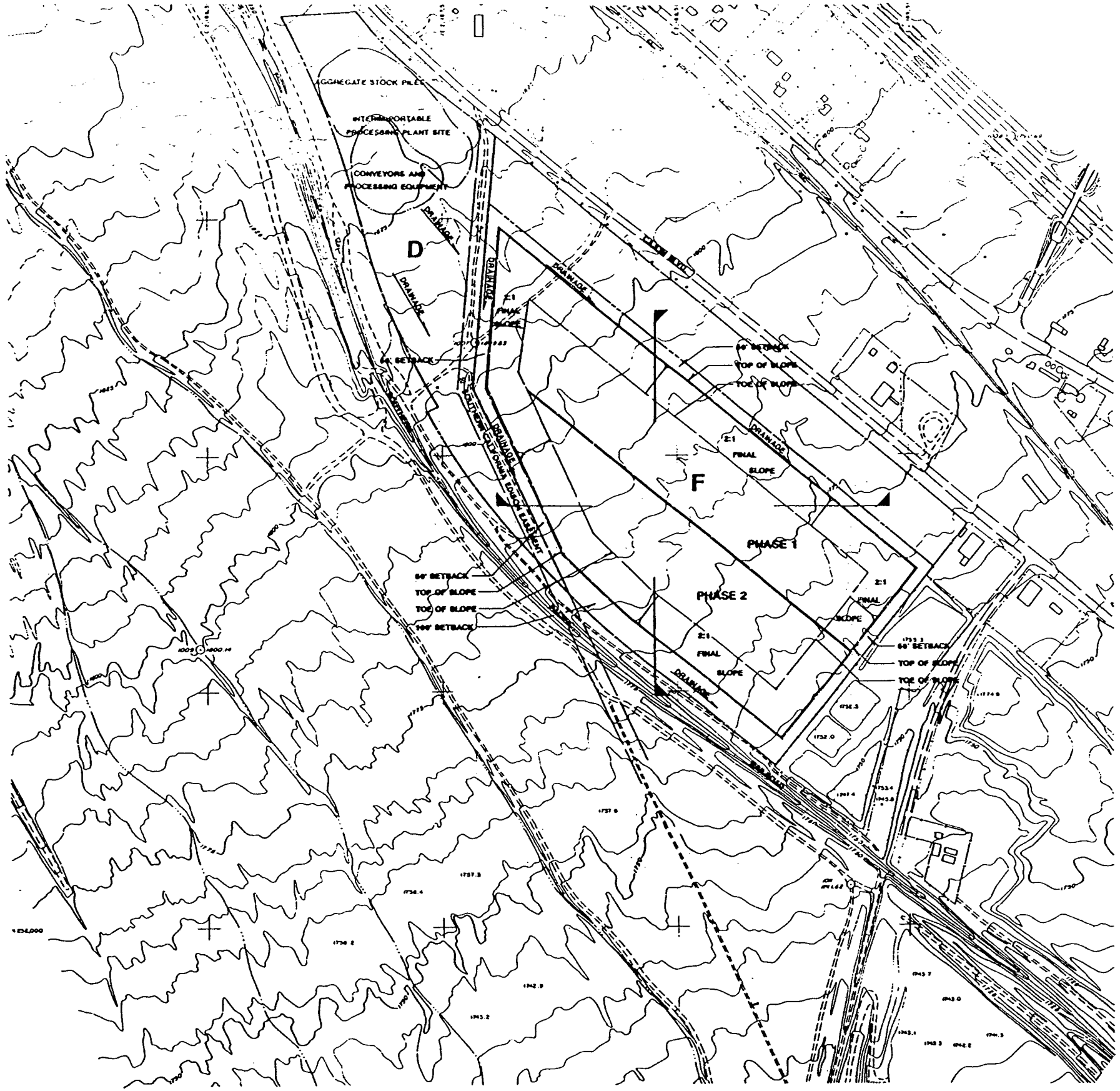
2.4.2.3 Tentative Parcel Map for Specific Plan Area K and L

This Parcel Map (Figure 2.4-4) consists of Planning Areas K and L, and covers a total area of 163 acres planned for light industrial uses (in Planning Area K), and mineral resource extraction and allowable interim uses (in Planning Area L). Planning Area K is proposed to be subdivided into eighteen lots (Lots 1 through 18) covering a total area of 34.1 acres for light industrial uses. Planning Area L (Lot 19) covers a total area of 128.7 acres for mineral resource extraction and allowable interim uses. Grading of lots 1 through 18 would entail approximately 211,000 cubic yards of fill. Required fill material would be expected to be derived from adjacent Planning Area L.

2.4.3 Conditional Use Permit and Reclamation Plan

All resources extraction and processing activities requires approval by the City of a Conditional Use Permit (CUP) and a Reclamation Plan in accordance with SMARA and the City of San Bernardino Development Code.

The project proposes to mine sand and gravel within four areas of the Specific Plan site, which includes Planning Areas F, L, M and P. Aggregate processing would take place at plant sites in Planning Areas D, I and N. These proposed mining and reclamation areas are represented in Figures 2.4-5 through 2.4-10.



SOURCE: CALMAT CAJON CREEK CONDITIONAL USE PERMIT / RECLAMATION PLAN, MAY 1991.

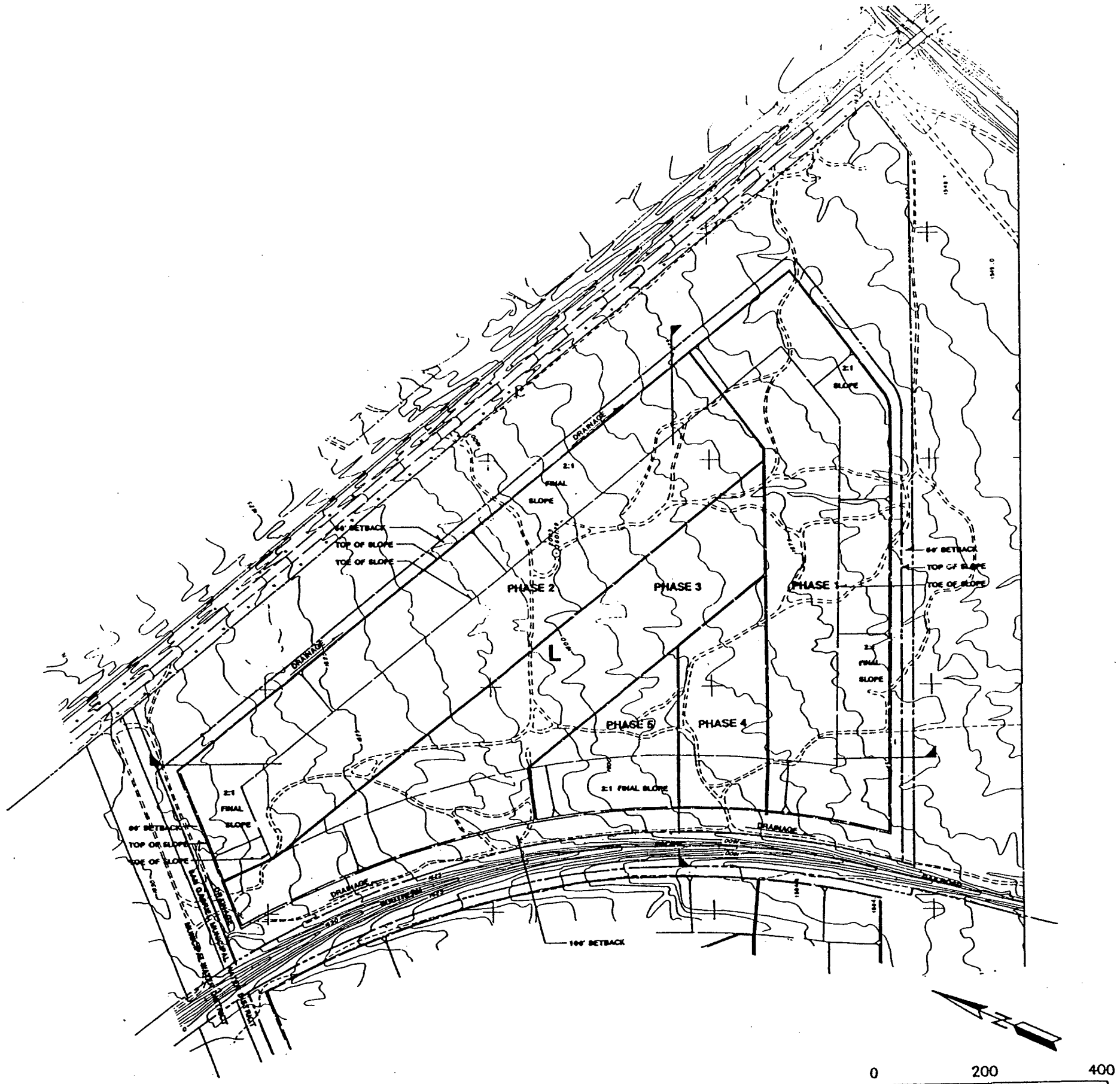
0 200 400

APPROXIMATE GRAPHIC SCALE (FEET)

2.2 Project Description	Figure No: 2.4-5

Mining and Reclamation Plan
Areas D and F
CAJON CREEK PROJECT

Woodward-Clyde Consultants



0 200 400

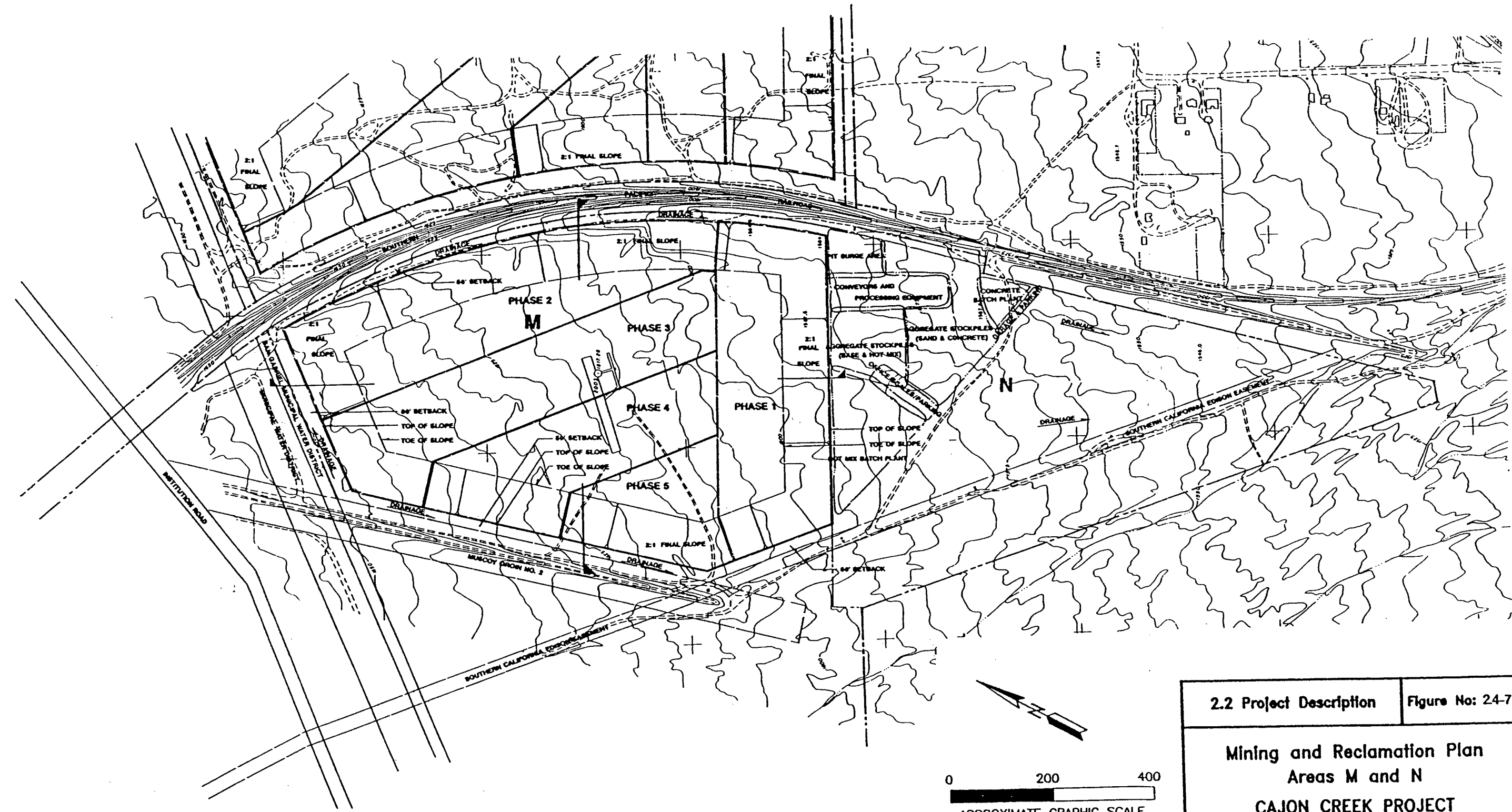
APPROXIMATE GRAPHIC SCALE (FEET)

SOURCE: CALMAT CAJON CREEK CONDITIONAL USE PERMIT / RECLAMATION PLAN, MAY 1991.

2.2 Project Description	Figure No: 2.4-6

Mining and Reclamation Plan
Area L
CAJON CREEK PROJECT

Woodward–Clyde Consultants



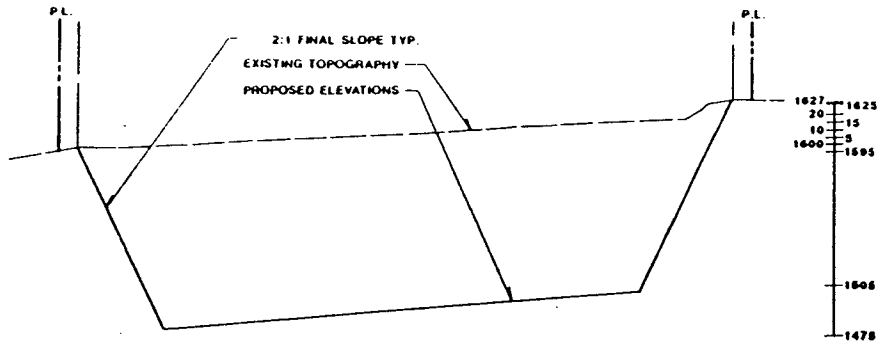
SOURCE: CALMAT CAJON CREEK CONDITIONAL USE PERMIT / RECLAMATION PLAN, MAY 1991.

2.2 Project Description	Figure No: 2.4-7

Mining and Reclamation Plan
Areas M and N
CAJON CREEK PROJECT

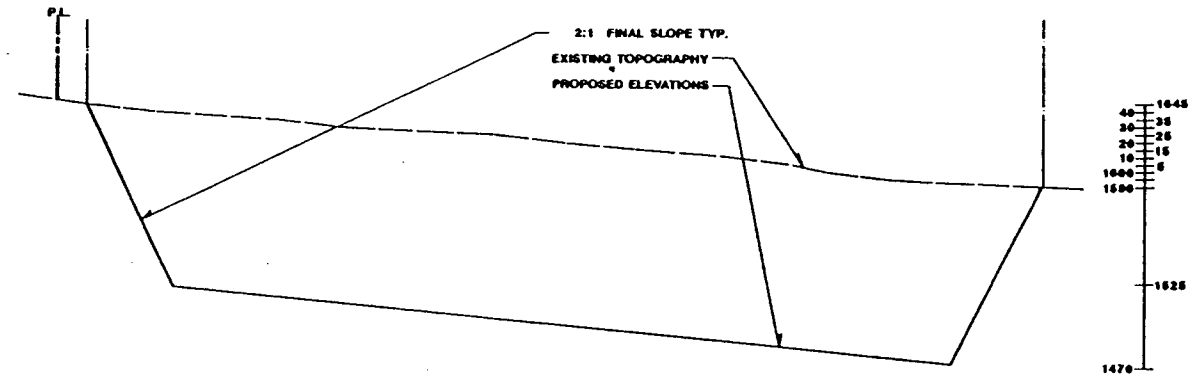
Woodward–Clyde Consultants

PLANNING AREA M



NORTH SOUTH SECTION

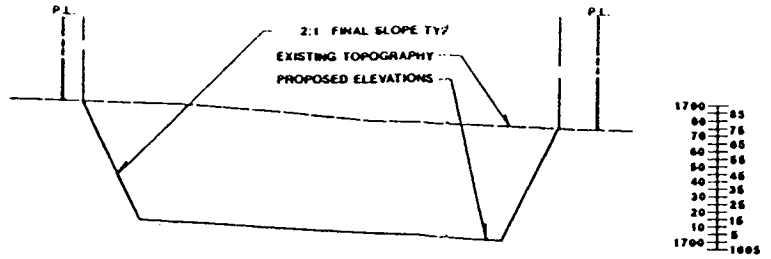
VERTICAL SCALE: 1" = 50'
HORIZONTAL SCALE: 1" = 200'



WEST EAST SECTION

VERTICAL SCALE: 1" = 50'
HORIZONTAL SCALE: 1" = 200'

PLANNING AREA F



NORTH SOUTH SECTION

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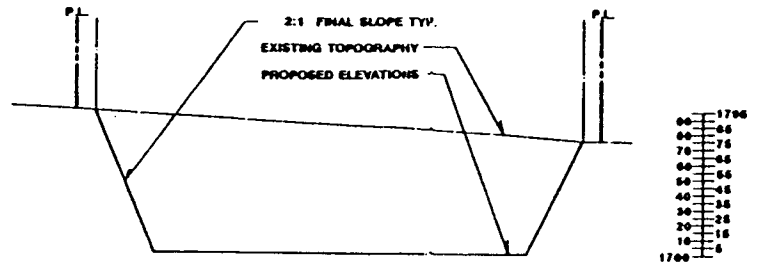
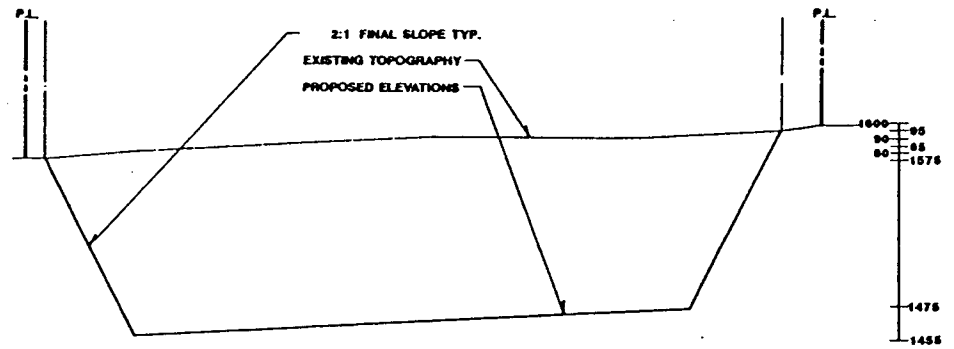
HORIZONTAL SCALE: 1" = 200'



WEST EAST SECTION

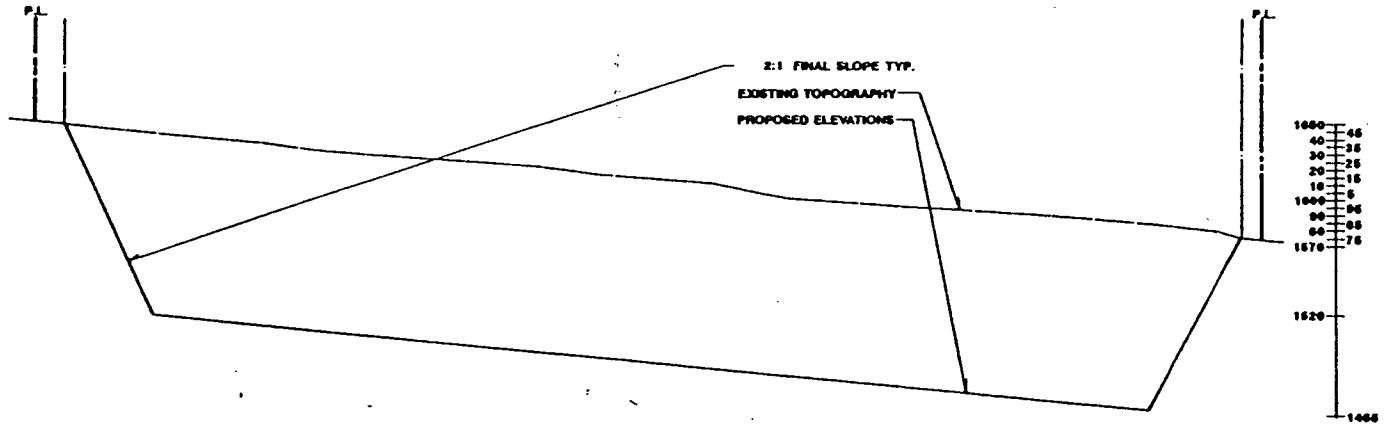
VERTICAL SCALE: 1" = 50'
HORIZONTAL SCALE: 1" = 200'

PLANNING AREA L



NORTH SOUTH SECTION

VERTICAL SCALE: 1" = 50'
HORIZONTAL SCALE: 1" = 200'



WEST EAST SECTION

VERTICAL SCALE: 1" = 50'
HORIZONTAL SCALE: 1" = 200'

SOURCE: CALMAT CAJON CREEK CONDITIONAL USE PERMIT / RECLAMATION PLAN, MAY 1991.

NOTICE!
VERTICAL SCALE HAS BEEN EXAGGERATED FOR PURPOSES OF GRAPHIC CLARITY.

2.2 Project Description	Figure No: 24-8

Mining Cross Sections
Planninng Areas M, L, and F
CAJON CREEK PROJECT

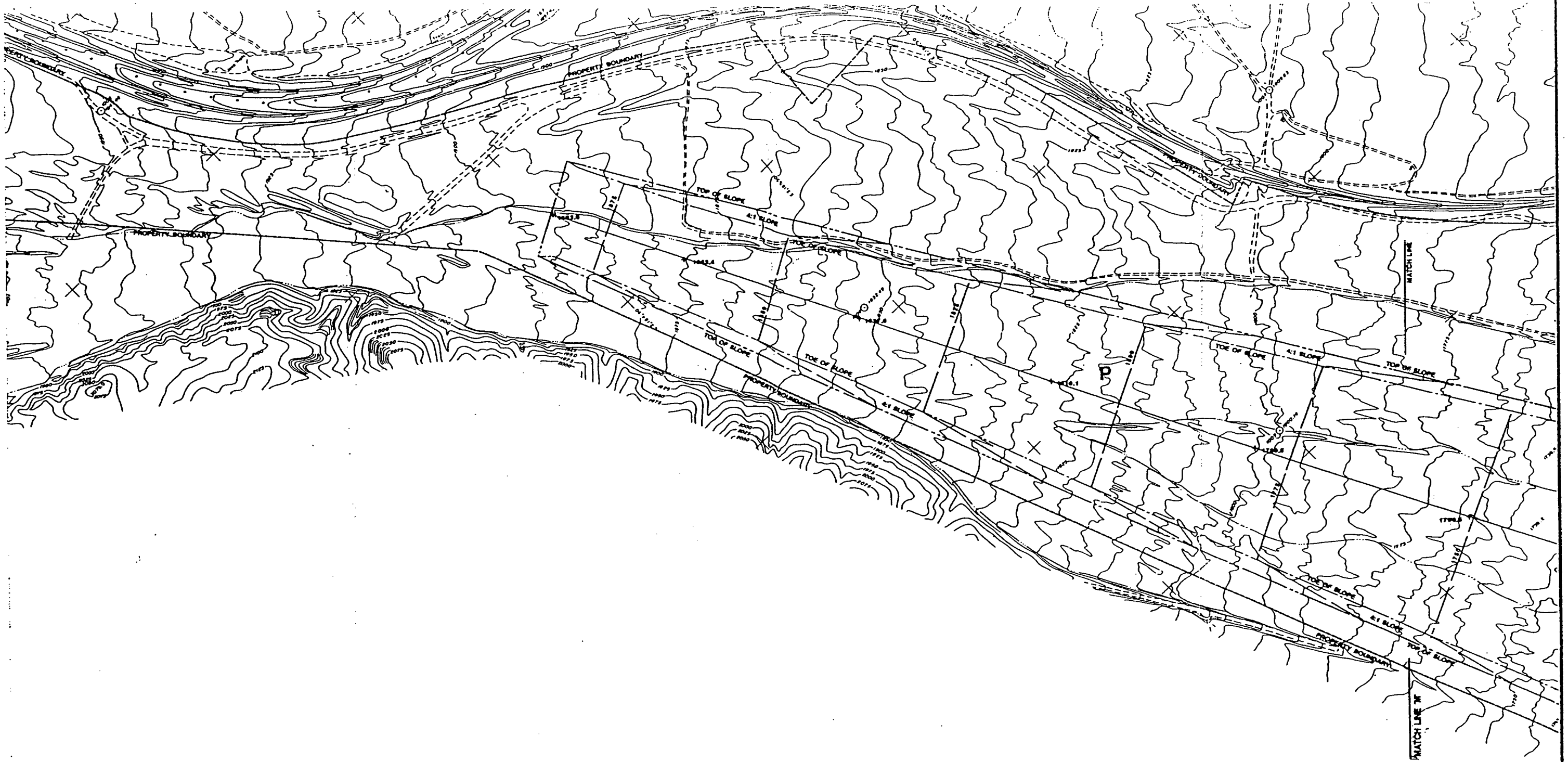
Woodward-Clyde Consultants

SOURCE: CALMAT CAJON CREEK CONDITIONAL USE PERMIT / RECLAMATION PLAN, MAY 1991.

2.2 Project Description	Figure No: 2.4-9

Mining and Reclamation Plan
Areas P and I
CAJON CREEK PROJECT

Woodward-Clyde Consultants



0 200 400

APPROXIMATE GRAPHIC SCALE (FEET)

SOURCE: CALMAT CAJON CREEK CONDITIONAL USE PERMIT / RECLAMATION PLAN, MAY 1991.

2.2 Project Description	Figure No: 2.4-10

Mining and Reclamation Plan
Area P
CAJON CREEK PROJECT

Woodward-Clyde Consultants

2.4.3.1 Mineral Resource Extraction and Processing Operations

The four extractive operations and three related plant sites have been grouped into three individual "Mineral Resource Areas", which are covered under one CUP. The following describes the Planning Area which will be mined, and the mining method to be used; and, where the mined material will be processed. Areas of extraction and processing, and mining depths are summarized in pertinent part in Table 2.4-3.

TABLE 2.4-3

MINERAL RESOURCE EXTRACTION AND PROCESSING

Mineral Resource Area	Extraction Operation and Related Aggregate Processing Plant Sites				
	Mineral Resource Extraction	Acreage	Depth	Plant Site (Aggregate Processing)	Acreage
1	Area F	51.0	75'	Area D	18.5
2	Area L Area M	130.5 97.5	120'	Area N Area N	70.0
3	Area P	257.0	25'	Area I, (or Area D) (or Area N)	36.5 18.5 70.0

In accordance with the CUP application, no blasting will be utilized. All aggregate processing operations and aggregate extractive operations will be limited to 6:00 a.m. to 10:00 p.m. each day, Monday through Saturday. No processing operations or mining operations will be conducted on Sundays. An allowable exception would be in response to an emergency to protect life or property, or in response to the requirements of governmental agencies beyond the control of the operator. Plant maintenance activity may be conducted at any time. A brief description of each Mineral Resource and Extraction Area follows.

2.4.3.1.1 Mineral Resource Area 1. This area consists of mineral resource extraction in Planning Area F, and aggregate processing in Planning Area D.

Planning Area D. In accordance with the Specific Plan, the primary interim use of Planning Area D will be to process rock, sand and gravel aggregate extracted either from adjacent Planning Area F or from Planning Area P, located within Cajon Creek to the west of the Southern Pacific Railroad. In the case of the latter, upon securing of permission from the railroad, a conveyor tunnel and/or vehicular undercrossing may be constructed under the railroad to allow movement of extracted material to Planning Area D for processing. Other compatible interim uses, in accordance with the Specific Plan, will be permitted to the extent that they can be demonstrated to be compatible with aggregate processing through Development Permit review, in accordance with the City of San Bernardino Development Code.

A portable aggregate processing plant of up to 1,000 ton-per-hour capacity, will be located within the central portion of Planning Area D (Figure 2.4-5). Recrushing of imported portland cement concrete and asphaltic concrete may also be done. All aggregate processing-related facilities will be of a portable nature, or removable upon completion of such activities.

The processing plant is expected to be both a wet and dry operation. Although coarse aggregate will be dry processed; a wet-processing sand plant may be provided in order to produce washed concrete sand. Process water will be reclaimed and re-used by means of settling ponds and a re-circulating system.

More prominent aspects of the aggregate processing operation will be located away from Cajon Boulevard. Where feasible, material stockpiles will be used to attenuate noise of the processing plant from Cajon Boulevard or other development which may occur within Planning Area E. Appropriate landscape screening or other visual buffering, in keeping with Specific Plan Planning Area Regulations and Design Guidelines, will be used along Cajon

Boulevard frontage. Active portions of the processing plant will be enclosed with a six-foot chain link fence for safety reasons. If appropriate, this fence will be used in conjunction with landscape screen vegetation, in accordance with Specific Plan Design Guidelines.

Planning Area F. Planning Area F will be used for mineral resource extraction, in accordance with the Specific Plan. Mineral resource extracted within Planning Area F will be transported to and processed on adjacent Planning Area D. Primary crushing and/or removal of excess fines (scalping) may occur within the active extractive area prior to transport to the Planning Area D plant site.

Mining will be of the open quarry type. No blasting will be utilized. Extraction is expected to occur to a final floor depth of about 75 feet. Fifty-foot setbacks will be observed on all sides of Planning Area F, except along the Cal-Nev pipeline easement to the southwest, adjacent to the Southern Pacific Railroad embankment, where a 100-foot setback will be observed. Peripheral slopes will be mined to a 1:1 slope and reclaimed to a 2:1 slope ratio, in accordance with the Reclamation Plan.

Planned light industrial development within adjacent Planning Area E will be used to "buffer" extractive operations within Planning Area F from Cajon Boulevard. Should commencement of extractive operations precede such buffer industrial development, earthen berms and/or landscape screen vegetation will be used to accomplish the same objective. The entire Planning Area F active extractive operation will be enclosed with a six-foot chain link fence for safety reasons.

2.4.3.1.2 Mineral Resource Area 2. Mineral Resource Area 2 consists of mineral resource extraction in Planning Areas L and M, and aggregate processing in Planning Area N.

Planning Area L. Planning Area L will be used for long-term mineral resource extraction purposes, in accordance with the Specific Plan. Usage of

portions of Planning Area L, both prior to, as mining progresses, and after reclamation, may be for open-storage related uses, such as a Construction Material Users Park or other compatible uses provided for in the Specific Plan.

General (non-aggregate) truck access to Cajon Boulevard from Area L will be through the southern portion of Planning Area K. However, mineral resource extracted from this area will be transported directly to adjacent Planning Area N for processing. A conveyor tunnel and/or vehicular undercrossing will be constructed under the railroad, in order to allow movement of aggregate material from Planning Area L to Planning Area N for processing.

Primary processing may occur in the active extraction area within Planning Area L. Such activities will be limited for primary crushing and/or scalping prior to transport to Planning Area N plant site. Recrushing of imported portland cement concrete and asphaltic concrete may also be done.

Mining will be of the open quarry type (Figure 2.4-6). No blasting will be utilized. Extraction may occur to a final floor depth of 120 feet. Fifty-foot setbacks will be observed on the south and east sides of Planning Area L. An 80-foot setback will be observed to the north of Planning Area L, where adjacent to the San Gabriel Valley Municipal Water District aqueduct. A 100-foot setback will be provided to the west, adjacent to the Cal-Nev pipeline which is adjacent to the Southern Pacific Railroad embankment. Peripheral slopes will be mined to a 1:1 slope and reclaimed to a 2:1 slope ratio, in accordance with the Reclamation Plan.

Planned light industrial development within adjacent Planning Area K will be used to "buffer" extractive operations within Planning Area L from Cajon Boulevard. Should commencement of extractive operations precede such buffer industrial development, earthen berms and/or landscape screen vegetation will be used to accomplish the same objective. Planning Area L active extractive operations will be enclosed with a six-foot chain link fence

for safety reasons. This fence will be utilized in conjunction with landscape screen vegetation, where appropriate, in keeping with Specific Plan Guidelines.

Planning Area M. Planning Area M will be used for long-term mineral resource extraction purposes, in accordance with the Specific Plan. It is expected to be extracted at some point well into the future, after Planning Area L is depleted of its resource. Over the short-term, Planning Area M will be used as a Construction Material Users Park or for other compatible uses provided for in the Specific Plan. After extraction and reclamation of Planning Area L is completed, it is expected that the Construction Material Users Park, and other interim uses, would be relocated to Planning Area L, to allow extraction in Planning Area M. Should Planning Area M be excavated first the reverse would occur.

Mineral resource extracted within Planning Area M will be transported to and processed on adjacent Planning Area N. Primary processing may occur in the active extraction area within Planning Area M. A portion of Planning Area N plant site activities, including the placement of settling ponds, may occur on the southern part of Planning Area M. Re-crushing of imported Portland cement concrete and asphaltic concrete is also permitted.

Mining will be of the open quarry type (Figures 2.4-7 and 2.4-8). No blasting will be utilized. Extraction may occur to a final floor depth of 120 feet. Fifty-foot setbacks will be observed on the eastern and western sides of Planning Area M. An 80-foot setback will occur at the northern side of Planning Area M, adjacent to the San Gabriel Valley Municipal Water District aqueduct. Peripheral slopes will be mined to a 1:1 slope and graded and reclaimed to a 2:1 slope ratio, in accordance with the Reclamation Plan.

The permanent aggregate processing plant site, located in Planning Area N immediately to the south, is expected to adequately buffer Planning Area M interim and extractive uses from the south. Such uses will be similarly

buffered by the above-grade Southern Pacific railroad on the east, Planning Area J on the north, and Muscoy Groin No. 2 along most of the west. The active Planning Area M extractive operation will be enclosed with a six-foot chain link fence for safety reasons. This fence will be utilized in conjunction with landscape screen vegetation, where appropriate, in keeping with the Specific Plan Design Guidelines.

Adequate access shall be provided for both on-site uses, as well as for the provision of an on-site access road for aggregate material transport trucks, connecting Planning Area J and Institution Road with Planning Area N to the south. If necessary, portions of Planning Area M may be used for providing rail access to Planning Area N.

Planning Area N. Planning Area N will be used as a permanent rock, sand and gravel aggregate processing plant site as long as mining occurs, in accordance with the Specific Plan. The aggregate plant will process the mineral resource extracted from Planning Areas L and M, and possibly Area P. The 1,000-ton-per-hour aggregate plant, which may also include a ready-mixed concrete plant, an asphaltic concrete plant, cement-treated base plant, portland cement concrete and asphaltic concrete re-crush operations, and other similar and related facilities (Figure 2.4-7). Rail shipment facilities may also be constructed.

Water utilized in wet aggregate processing operations, which will be obtained from the City of San Bernardino, will be clarified and recirculated (recycled).

If feasible, rail shipment of aggregate in processed or partially processed form may occur. Rail access may be developed in conjunction with Planning Areas M and J, in order to provide sufficient spur track length. If necessary portions of the southern part of Planning Area N will be utilized in order to construct rail access, providing such areas are removed from the FEMA-mapped 100-year floodplain.

2.4.3.1.3 Mineral Resource Area 3. Mineral Resource Area 3 consists of mineral resource extraction in Planning Area P, and aggregate processing in Planning Area I. Aggregate processing may alternatively be done in Areas D or N.

Planning Area P. Planning Area P will be used for rock, sand and gravel extraction, in accordance with the Specific Plan. Shallow mining ("skimming") within Planning Area P will be in conformance with the results of a "redline" engineering study (discussed in Section 4.4, Surface Hydrology). No blasting will be utilized. No aggregate processing, other than primary crushing of material larger than six-inches in diameter, or removal of excess "fine" material (scalping) with portable equipment, will be conducted within Planning Area P because of its location within the FEMA-mapped Cajon Creek 100-year floodplain (Figures 2.4-9 and 2.4-10).

Aggregate extracted from Planning Area P may be processed at a portable plant which will be located in Planning Area I. Transport of material extracted within Planning Area P will require traversing portions of Planning Area O, open space. This will be done in the most direct and/or environmentally sensitive manner. Alternatively, material extracted may be processed within Planning Areas D or N.

Mining will occur starting at the downstream end and progress in an upstream direction, in accordance with the mining plan (Figures 2.4-9 and 2.4-10). No more area will be exposed than can be extracted in a reasonable period of time. The approved mining and reclamation plan provides for progressive recontouring and revegetation as mining progresses.

Once initial extraction of Planning Area P has occurred, replenished in-stream material resulting from flooding or stream flow in this area may again be extracted, in accordance with the Mining and Reclamation Plan.

Planning Area I. Planning Area I will be utilized, on an interim basis, as a Construction Material Users Park, as well as for aggregate processing, in

accordance with the Specific Plan. The on-site aggregate processing plant will be a dry operation utilizing a 1,000-ton-per-hour portable plant (Figure 2.4-9). All facilities will be of a portable nature or readily removable upon completion of such activities. This processing operation will process material extracted from the portion of the 100-year floodplain of Cajon Creek located within Planning Area P. Other related aggregate processing activities may occur, including the re-crushing of imported portland cement concrete and asphaltic concrete, although no mining will be conducted within Planning Area I.

2.4.3.2 Reclamation Plan

The proposed CalMat Cajon Creek Reclamation Plan covers the Mineral Resource Areas (identified above) within the proposed CalMat Cajon Creek Specific Plan, in accordance with the California Surface Mining and Reclamation Act of 1975 and the City of San Bernardino Development Code. The objective of the Reclamation Plan is to return the mined areas (Planning Areas F, L or M), and the plant sites (Planning Areas D,I and N), to a condition suitable for the industrial uses, and to return the mined Area P to a condition suitable for open space use.

Phasing of excavation and subsequent reclamation for each Mineral Resource Area will be done in accordance with the Reclamation Plan so that as each mining phase is completed, subsequent reclamation for each excavation area (Planning Areas F,L,M and P) will take place (see Figures 2.4-5 through 2.4-10). The following describes the Reclamation Plan measures which will be undertaken within each Mineral Resource Area.

2.4.3.2.1 Mineral Resource Area 1-Reclamation. The reclamation program for this area includes the mined portion of the site known as Planning Area F, and the accompanying plant site within Planning Area D.

The final landform for Planning Area F will be a quarry which may be up to 75 feet in final floor depth. Side slopes will be graded to a 2:1 slope (horizontal to vertical) and revegetated in accordance with the Revegetation Plan. Surface drainage within the extracted areas will

be collected at a low point of the quarry area for percolation. Portions of the extracted area may be filled by process fines and imported inert fill to original grade or some subgrade elevation, pursuant to the CalMat Cajon Creek Specific Plan. Such filling shall be done in accordance with the City of San Bernardino's Grading Ordinance, and be suitable for future industrial development. Potential impacts related to importation of inert fill are discussed in Section 4.0 (4.2.2.5 Reclamation Activity Impacts, 4.4.2.4 Water Quality, and 4.7.2.1 Traffic Generation).

Upon completion of mining activity, the processing plant, associated equipment and stockpiles will be removed and the site (Planning Area D), left in a clean condition, and revegetated to control erosion.

2.4.3.2.2 Mineral Resource Area 2-Reclamation. The reclamation program for this area includes the mined Planning Areas L and M and the plant site area, Planning Area N.

The final landform for Planning Areas L and M will be quarries which may be up to 120 feet in depth. Side slopes will be graded to a 2:1 slope (horizontal to vertical) and revegetated in accordance with the Revegetation Plan. Surface drainage within the excavation will be collected at a low point in each extraction area for percolation.

As mining activities progress, the previously extracted portions of Planning Area L may be utilized for a Construction Material Users Park. Extracted areas may also be filled by process fines and imported inert fill to the original or some subgrade elevation, pursuant to the Specific Plan. Such filling shall be done in accordance with the City of San Bernardino Grading Ordinance, and be suitable for future industrial development.

Upon completion of long-term mining and processing operations, the processing plant, associated equipment, and stockpiles, will be removed, and the site (Planning Area N) left in a clean condition and revegetated to control erosion.

2.4.3.2.3 Mineral Resource Area 3 Reclamation. The reclamation program for this area includes the mined area, Planning Area P, and processing plant site, Planning Area I.

The final landform will be a shallow excavation, up to a depth of about 25 feet, which daylights at its upstream and downstream ends. Side slopes will be graded to a 4:1 slope (horizontal to vertical). The extracted area will be revegetated to re-establish a Riversidean Alluvial fan sage scrub habitat, in accordance with the Revegetation Plan. Surface drainage will be unrestricted and flow through the extraction site.

The processing plant, associated equipment and stockpiles, will be removed from Specific Plan Area I, and the site left in a clean condition, revegetated to control erosion.

3.0
ENVIRONMENTAL SETTING

3.1 GENERAL OVERVIEW

The proposed CalMat Cajon Creek Specific Plan project consists of an 1,392-acre area located within southwestern San Bernardino County, partially within and adjacent to the northwestern portion of the City of San Bernardino. Cajon Boulevard, which parallels Interstate Highway 215, delineates the eastern boundary of the project, from the Devore area, southward to the Cable Creek Flood Control Channel. Glen Helen Regional Park and Glen Helen Rehabilitation Facility approximate the projects's western boundary. The Southern Pacific Railroad bisects the property along its long, north-south axis. Institution Road crosses in the southern third of the study area, providing the only east-west access.

The project property is situated within the Rancho Muscupiabe Land Grant, an unsectioned area of the county. As projected from the U.S.G.S. 7.5' Devore and San Bernardino North topographic quadrangles, portions of the property are located within sections 33 and 34 of Township 2 North and Range 5 West, and sections 2, 3, 10, 11, 12, 13 and 14 of Township 1 North and Range 5 West, SBBM (Figure 3.1-1).

The project site is generally a broad, flat, relatively featureless area, except for the raised Southern Pacific Railroad main line which traverses the site. Most of the site contains scattered low-growing scrub-type vegetation with occasional scattered taller native shrubs. Riversidian alluvial fan sage scrub, much of which is in a disturbed state, is typical of the overall Cajon Creek Wash area.

Cajon Wash, a large north-south trending drainage, is the dominant feature of the project site. The site's gentle slope is associated with the Cajon Creek Wash and its broad alluvial fan which extends from the Cajon Pass, located approximately 15 miles to the north of the I-15 and I-215 junction, to just south of the proposed project site, not owned by the applicant, where Cajon Creek joins Lytle Creek.

On-site elevations generally range from around 2020 feet above mean sea level (MSL) in the northern portion near Devore, to approximately 1680 feet MSL just north of Institution Road, to about 1,500 feet MSL in the southern-most portion of the project area. The average north-south natural gradient is about 2.5 percent. From west to east, elevations perpendicular to the Cajon Creek Wash rise less than 10 to 20 feet.

Three railroads, the Union Pacific, Southern Pacific and AT&SF Railroads share a common main line road bed in the northern portion of the project site. Approximately one mile south of Devore Road the Southern Pacific diverges from the Union Pacific and AT&SF Railroads, which cross Cajon Boulevard about 2,000 feet to the south and then generally parallel Cajon Boulevard's east side. The Southern Pacific continues south on a raised road bed, approximately 20 feet above adjacent terrain, generally bisecting much of the project site. It crosses Institution Road by means of a concrete overcrossing.

The 100-year flood plain of Cajon Creek Wash, on its east side, generally follows the Southern Pacific Railroad, jogging southwestward as a result of a groin designed to protect the westerly portion of the former landfill. It crosses Institution Road approximately one-third mile west of Cajon Boulevard, then follows Muscoy Groin No. 2 which extends generally southward from Institution Road for a distance of one-half mile, then jogs to the southeast across the southern part of the CalMat ownership, and again follows the Southern Pacific Railroad.

The west side of the Cajon Creek Wash (100-year FEMA flood plain) southward from Devore Road, follows an approximately one-half mile long dike which protects Glen Helen Regional Park, and then follows the base of the hills to the south for a distance of about 0.8 mile, where it is again contained by a series of dikes which protect an adjacent off-road racetrack and the Glen Helen Rehabilitation Facility located to the southwest. South of Institution Road, the western side of the Cajon Creek floodplain converges with that of Lytle Creek. Except for the 257-acre instream mining area, Planning Area P, most of the Specific Plan area which lies to the east of Cajon Creek Wash is protected from 100-year floods by a combination of engineered levees and railroad embankments. A levee similarly protects the former County landfill.

Geologic mapping indicates the occurrence of Quaternary Wash Deposits (alluvial deposits of modern washes) in the area west of the railroad tracks and Quaternary Older Wash Deposits (alluvial deposits of abandoned washes) to the east. The active washes contain relatively clean, coarse sands with abundant boulder and cobble sized rock, and are generally free of vegetation except for sparse grasses. A silty soil has developed over most of the older alluvial deposits and although generally weak, these support varying densities of vegetation. On the more stable, older deposits loamy soils have accumulated allowing the growth of dense stands of brush and trees.

4.1 BIOLOGICAL RESOURCES

Biological investigations of the proposed CalMat Cajon Creek project site were conducted by Tierra Madre Consultants, Inc. (TMC), of Riverside, California (1990). The purpose of the investigation was to inventory the biological resources within the site in order to assess the potential impacts of the proposed mining, processing, reclamation and development designated by the CalMat Cajon Creek Specific Plan.

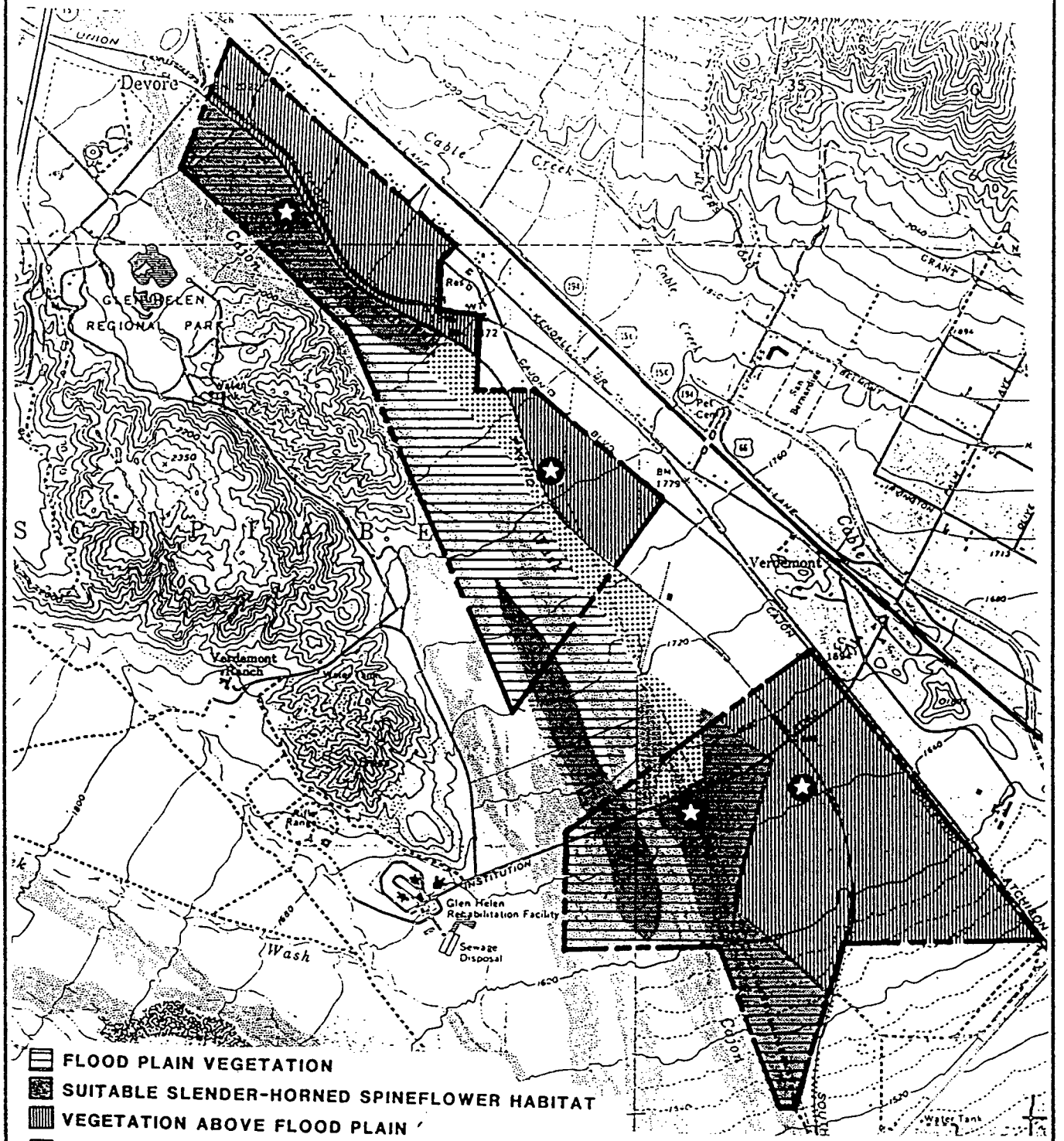
TMC determined the potential species of concern following a literature search on plant communities, plants, and animals known to occur within the subject area. TMC's assessment of project impacts on biological resources was based on data gathered from the reviews, field observations, vegetation mapping and a wildlife survey within the proposed project site.

It was determined from the literature search that portions of the project area within the Cajon Creek Wash may be suitable habitat for two state and federal listed endangered plant species, the Santa Ana River woolly star (*Eriastrum densifolium ssp. sanctorum*) and the Slender-horned spineflower (*Centrostegia leptoceras*). The study included a careful examination of the site for these endangered species.

The biological report in its entirety is included in Technical Appendix B of this document. Resources present within the Cajon Creek project area are summarized in this Section. Further details on the survey methods, together with the complete compilation of observed reptiles, birds, mammals and plants are included in the Appendix.

4.1.1 Existing Conditions

The areal extent of existing biological resources on the CalMat Cajon Creek project site and their distribution is illustrated in Figure 4.1-1. The vegetation in the project area within the 100-year floodplain, west of the railroad tracks and flood control structures, is primarily



SOURCE: TIERRA MADRE CONSULTANTS, 1990. (USGS 7.5' DEVORE & SAN BERNARDINO NORTH QUADRANGLES)

4.1 Biological Resources	Figure No: 4.1-1

On-Site Biological Resources

CAJON CREEK PROJECT

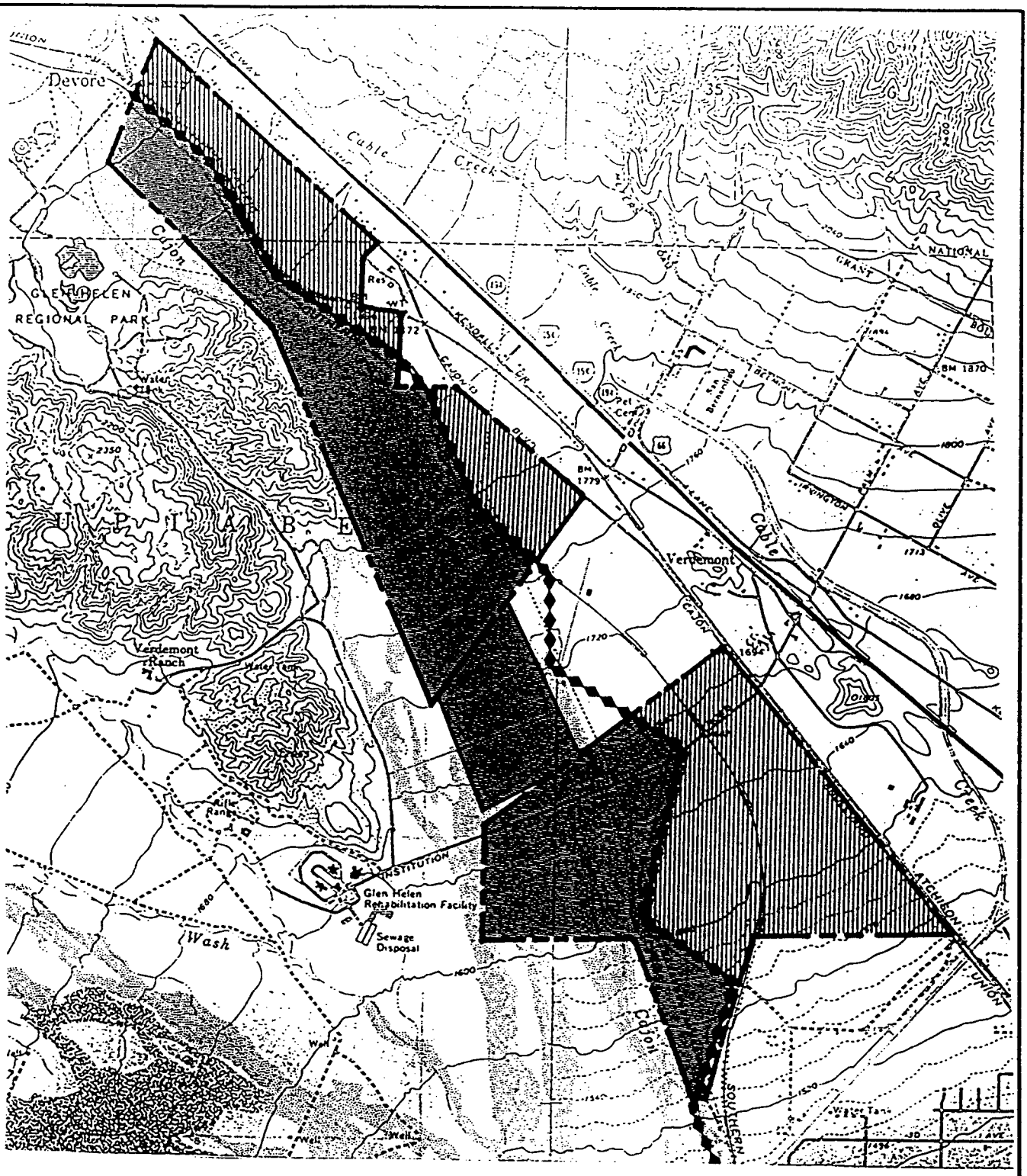
Riversidian alluvial fan sage scrub. Most of it is found in a natural state, however, the area is subject to man-made disturbances due to off-road vehicle trails and illegal disposal of trash. The Riversidian plant community is considered sensitive primarily due to its reliance on periodic flooding. Portions of the project site still subject to natural flooding are therefore more representative of this sensitive community than lands which are not. Portions of the site outside of the floodplain would be expected to develop into plant communities resembling upland chaparral as succession continues (See Figure 4.1-2, 100-Year Floodplain). These latter areas have a heavy cover of weeding plants, and have been somewhat disturbed by human activity.

Riversidian alluvial fan sage scrub in the Cajon Wash area is particularly noteworthy because of desert plants occurring there. Desert agave and antelope bush, two plants not normally found on the coastal side of the mountains, were both located on the property.

4.1.1.1 Vegetation and Flora

Two plant communities that dominate the site (Floodplain vegetation and Upland vegetation) are distinguished by location: Upland-within land no longer subject to natural flooding, and Floodplain within land subject to natural flooding (Figure 4.1-2). Ruderal (weedy) vegetation is found in both locations wherever natural vegetation has been disturbed. It is most common along the roads surrounding the site, and trails within the site. Disturbed areas include those portions of the site which have been cleared for various reasons, mostly associated with the Cajon Boulevard Landfill and human activities (grading, illegal trash dumping, off-road vehicle use, etc.). Plants of these disturbed areas are largely herbaceous weedy species, and native shrubs which have adapted to the disturbances.

4.1.1.1.1 Floodplain Vegetation. The area encompassing the Cajon Wash 100-year floodplain is a patchwork of open washes and alluvial benches resulting from past flood events, representing various successional stages of the plant community. Open washes are dominated by California buckwheat and scalebroom with sparse cover of herbs including chia, Thurber's buckwheat and phacelia. Alluvial benches support these plants, along with chaparral yucca, prickly-pear cactus, mountain mahogany, deerweed and basketbush. Older



HABITAT PROTECTED FROM NATURAL FLOODING

HABITAT STILL SUBJECT TO PERIODIC NATURAL FLOODING

BOUNDARY OF 100-YEAR FLOODPLAIN

0 1500 3000

APPROXIMATE GRAPHIC SCALE (FEET)

N

SOURCE: TIERRA MADRE CONSULTANTS, 1990.

4.1 Biological Resources	Figure No: 4.1-2

100-Year Floodplain

CAJON CREEK PROJECT

alluvial benches support older and larger woody plants such as redberry, walnut, sycamore and juniper, along with other shrubs and herbs.

4.1.1.1.2 Upland Vegetation. This area is east of the railroad tracks and levees. The vegetation in this location within the site has been degraded by human activity and has been altered by protection from natural flooding. Riversidian alluvial fan sage scrub vegetation experiences periodic natural flood events which remove vegetation and rework soils, leading to a new cycle of plant succession. In areas protected by levees and raised railroad tracks the vegetation has aged and is following a successional pattern characterized by gradation into upland chaparral, dominated by chamise, hoary-leaf ceanothus, sugar bush, basketbush and other shrubs. There is also a large component of herbaceous weedy plants among the native shrubs in this location. These annual weeds tend to reduce habitat quality and alter natural fire behavior by igniting easily and carrying fire through open areas.

4.1.1.2 Wildlife and Fauna

The majority of the project site provides habitat for wildlife species common to the region. Fauna on the site display a desert influence comparable to the flora.

The floodplain habitat, being dominated by the diverse assemblage of plant species associated with Riversidian alluvial fan sage scrub, provides abundant seeds and green plant material for herbivorous animals. The habitat also supports a variety of reptiles and birds, and a moderate assemblage of mammals.

Degraded habitat to the east of the railroad tracks and levees supports an assemblage of birds and mammals similar to the more natural areas to the west. Vegetation provides cover and nest sites for bird species. Bird species believed to nest within the site include the California thrasher, California quail, Bewick's wren, Loggerhead shrike, the Rufous-sided towhee, and many others.

The area provides foraging habitat for birds of prey such as Red-tailed hawks, kestrels, Great horned owls, Golden Eagles and Prairie falcons.

Several small mammals were observed within the site, those include the Audubon cottontail and Beechy ground squirrel. Other small mammals evidenced within the alluvial scrub habitat include the Botta pocket gopher, desert wood rats, coyote and gray fox.

Reptiles observed on the site include red racer, San Diego horned lizard, zebra-tailed lizard and others.

4.1.1.3 Sensitive Biological Resources

The literature review conducted by TMC revealed sixteen sensitive elements known to occur within a five mile radius of the subject property. Those sensitive species are listed in Table 4.1-1. Plant and animal taxa may be considered sensitive due to declining populations, vulnerability to habitat change on restricted distribution. Certain sensitive species are those which are either listed by the federal, state or local government, and/or identified by local concerns (e.g., California Nature Plant Society, Audubon Society). They are categorized by the California Department of Fish and Game (CDFG), the California Natural Diversity Data Base (NDDB), and the U.S. Fish and Wildlife Service (USFWS).

The property is unsuitable for five of the sixteen sensitive plants and three of the sensitive plant communities known to occur within a five mile radius of the CalMat Cajon Creek project area. No species of plant or animal designated as threatened, rare, or endangered by the USFWS or the CDFG were observed on the project site during the survey. However, two federally and state listed endangered plant species and several plant and animal species considered sensitive by natural resource agencies may occur within the project boundaries. Sensitive plants and plant communities observed on the site are described below.

4.1.1.3.1 Sensitive Plant Communities. The project site contains the Riversidian alluvial fan sage scrub community which is described below:

- Riversidian alluvial fan sage scrub. This sensitive plant community is a variety of coastal sage scrub occurring on alluvial fan soils (Smith, 1980) in interior southern California (Holland, 1986). It is distinct from other forms of coastal sage scrub in its species composition and in the physical forces that

TABLE 4.1-1

SENSITIVE SPECIES CONSIDERED FOR CALMAT CAJON CREEK PROJECT

Sensitive Element	Associated Habitat	Status Designation*	Number of Sightings
Plummer's mariposa lily *Calochortus plummerae*	Mountains, foothills, and washes	(noteworthy)	about 30
Slender-horned spineflower *Centrostegia leptoceras*	Alluvial benches	E, CE, CNPSIB (R3, E3, D3)	0
Santa Ana River woolly-star *Eriastrum densifolium* ssp. *sanctorum*	Flood plain of Santa Ana River and tributaries	E, CE, CNPSIB (R3, E3, D3)	0
Orange-throated whiptail *Cnemidophorus hyperythrus*	Brush with rock outcrops	C2,CSC	0
San Diego horned lizard *Phrynosoma coronatum blainvillei*	Sandy areas in grassland or brush	C2, CSC	4
Northern harrier *Circus cyaneus*	Various open areas	CSC	0
Golden Eagle *Aquilia chrysaetos*	Grassland, brushland, hills and mountains	CP, CSC	2
Sharp-shinned hawk *Accipiter striatus*	Hilly areas, brush, woodlands	CSC, W	0
Prairie falcon *Falco mexicanus*	Grassland, brushland, hills and mountains	CSC	2
California gnatcatcher *Polioptila californica*	Coastal sage scrub	C2, CSC	0
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Coastal sage scrub and grassland	C2, CSC	0
Riversidian alluvial fan sage scrub		CHIP	(sighted)

* status designations are defined at end of table.

TABLE 4.1-1
(Concluded)

KEY TO STATUS DESIGNATION:

CNPS1B California Native Plant Society list of plants which are rare or endangered in California and elsewhere - may be considered significant under CEQA.

R3 (Rarity): Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E3 (Endangered): Endangered throughout its range.

D3 (Distribution): Endemic to California.

C2 Federal Candidate for listing for which insufficient data exists to support listing - may be considered significant under CEQA.

CSC California Species of Special Concern (California Department of Fish and Game) - may be considered significant under CEQA.

CHIP California Species Communities with highest inventory priority.

CP California Fully Protected under California Fish and Game Code, Sections 3511, 4700, 5050, 5515. May be considered significant under CEQA.

CE State listed as endangered - considered significant under CEQA.

E Federally listed as endangered - considered significant under CEQA.

W State of California "Watch List" - not significant under CEQA.

Species listed as "**noteworthy**" are considered by Tierra Madre Consultants to be unusual occurrences, species of limited distribution, or ecologically significant.

influence it, particularly flooding. On the subject property, its uniqueness relates to the alluvial fans of the San Bernardino Mountains and Cajon and Lytle Creeks.

Most of the Riversidian alluvial fan sage scrub to the west of the flood control structures is in an undisturbed state due to the lack of flood waters through the Cajon Wash. However, human disturbances are evident. Western portions of the project site contain off-road vehicle trails which have degraded the quality of the habitat. Other areas of major disturbance which have degraded alluvial vegetation include the Cajon Boulevard County landfill, north of Institution Road and east of the County land planned for in-stream mining (Planning Area P of the Specific Plan), and grading and off-road vehicle use east of the railroad tracks and levees. Flood control structures and urbanization have also created disturbances of the vegetation by altering flows.

4.1.1.3.2 Sensitive Plant and Animal Taxa. Several sensitive plants and animals were observed within the CalMat Cajon Creek project area. With the exception of the two Golden eagles, which were foraging over the property, the following briefly describes the sensitive plant and animal taxa sited on the property:

- Plummer's mariposa-lily (*Calochortus Plummerae*). Thirty plants were sighted within the CalMat Cajon Creek project area. This species is widely distributed in southern California, from the Santa Monica Mountains to the San Jacintos and San Bernardinos. It occurs on sandy and rocky soils, usually granitic or alluvial material, in open yellow pine forest, and grasslands. TMC has identified this specie as "noteworthy" because many of the collection sites have been extirpated, and much of the species' habitat has been lost to development. However, it is not included in the Inventory of Rare and Endangered Vascular Plants of California.

- San Diego horned lizard (*Phrynosoma coronatum blainvillei*). This species is found in a variety of habitat types including coastal sage scrub,

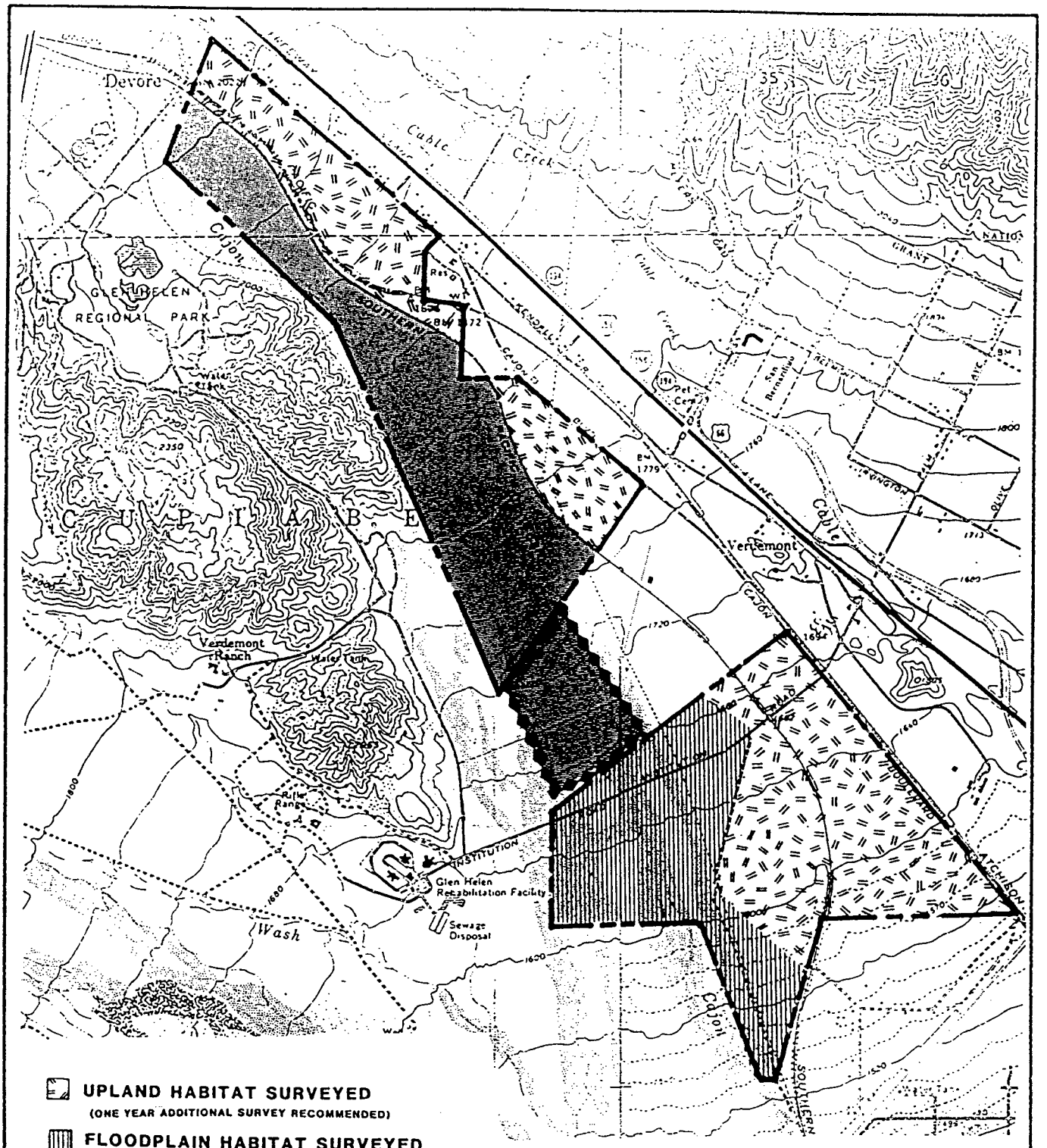
broad-leaved woodlands, and grasslands where there is loose sandy soil with low-growing brush nearby. Four San Diego horned lizards were sighted within the CalMat Cajon Creek project area.

- Golden eagle (*Aquilia chrysaetos*). Though no suitable nesting sites are present on the property, two eagles were seen foraging over the site due to the suitable foraging habitat provided there.

- Prairie falcon (*Falco mexicanus*). Prairie falcons are known to nest in the Mormon Rocks area near Cajon Pass. Two Prairie falcons were seen foraging over the site due to the suitable foraging habitat provided there.

4.1.1.3.3 Sensitive Plant and Animal Taxa Potentially Occurring on the Site. The following sensitive plant and animal taxa were not observed on the proposed CalMat Cajon Creek project area, though TMC believed there to be a probability of their occurrence, which was investigated. The following findings were noted.

- Slender-horned spineflower (*Centrostegia leptoceras*). The habitat for this specie is characteristically dry sandy benches of washes within coastal sage scrub vegetation. Populations range from the San Fernando Valley to the San Bernardino Valley and the Elsinore area. The spineflower blooms between April and June and cannot be detected outside this period. Furthermore, the plant may not germinate every year, possibly due to fluctuations in rainfall or other environmental factors. It is also a difficult plant to identify because it is so small. The plant seems to be dependent on periodic flooding, therefore urbanization and flood control channel modifications have historically eliminated spineflower habitat. The slender-horned spineflower was not located during the Spring 1989 surveys conducted by TMC (See Figure 4.1-3 for surveyed area). Alluvial benches on the western portion of the property seem to provide the best habitat because they are still subject to natural flooding but none were observed during the surveys.



SOURCE: TIERRA MADRE CONSULTANTS, 1990.
(USGS 7.5' DEVORE & SAN BERNARDINO NORTH QUADRANGLES)

4.1 Biological Resources	Figure No: 4.1-3

Slender-Horned Spine Flower Survey

CAJON CREEK PROJECT

Woodward-Clyde Consultants

- Santa Ana River woolly-star (*Eriastrum densifolium ssp. sanctorum*). This species occurs in alluvial fan sage scrub communities in the flood plain terraces of the Santa Ana River and its tributaries. The Santa Ana River woolly-star is closely related to a more common subspecies, the chaparral woolly-star (Eriastrum densifolium ssp. elongatum) having populations in six identified study areas within the project site. The locations of these areas are provided in the Biological Assessment (Appendix B). Detecting the difference between species is difficult, requiring detection of differential features. However, after extensive study of woolly-star populations in the area of the site, it was determined that those in occurrence are the more common subspecies, the chaparral woolly-star, which does not have a sensitivity status.

- Northern Harrier (*Circus cyaneus*). A northern harrier was seen foraging about three miles west of the Specific Plan area in the winter of 1989-90. Northern harriers were not seen over the subject property during the survey conducted for this biological assessment.

- Orange-throated whiptail (*Cnemidophorus hyperythrus*). The whiptail is a lizard which occupies sandy washes where there are rocks and patches of brush nearby. There were no sitings of the whiptail, most likely because the property is at the northern edge of the species' range, where the habitat is marginal at best.

- Sharp-shinned hawk (*Accipiter striatus*). This raptor was not identified during TMC's survey most likely because the site does not provide ideal habitat and no woodlands occur there.

- California gnatcatcher (*Polioptila californica*). The property is near the boundary of the species' known range, however, this specie was not sited. Their absence within the site may be because the Riversidian alluvial fan sage scrub is more open than other forms of coastal sage scrub and is dominated by plant species which differ from the gnatcatcher's favored coastal sage scrub habitat.

- Los Angeles pocket mouse (*Perognathus longimembris breuinasus*). Urbanization and cultivation have eliminated much of the habitat of this mammal, and though the proposed project area is believed by TMC to have a high probability of supporting the mouse, there have been no recorded sitings on the subject property. TMC identified the mouse on San Bernardino Flood Control property between the northern and southern CalMat parcels during a 1990 survey. The literature search conducted by TMC found that prior to their as-yet undocumented siting, the last record of a siting was in 1931, and was reported several miles from the subject property.

4.1.2 Project Impacts

As discussed in Section 2.4 (Project Characteristics), light and heavy industrial development will comprise 298 acres, mining will comprise a combined total of 606 acres in four locations, of which 181 acres will comprise the processing plants and facilities. The remaining 488 acres will be undisturbed open space, with an additional 257 acres of open space ultimately being contributed to the area as a result of reclamation of Planning Area P following in-stream mining. Potential impacts associated with these uses are discussed individually as follows:

4.1.2.1 Impacts to Plant Communities

About half of the proposed project site contains Riversidian alluvial fan sage scrub, predominantly to the west of the railroad tracks and SCE Easement, still subject to natural flooding. However, there have been no recent flood water disturbances on which these plant communities depend. Though some of this vegetation would be destroyed by proposed aggregate mining, and industrial development, about 488 acres would be conserved within designated open space, and another 257 acres re-established concurrently through the phased re-vegetation of reclaimed mined areas. The loss of plant communities through this combination of habitat conservation and reclamation will be mitigated to below a level of significance.

4.1.2.2 Impacts to Sensitive Plant and Animal Taxa

As previously discussed, the TMC 1990 Spring survey yielded no observation of the slender-horned spineflower on site. To the east of the railroad tracks and flood control structures, the project area will not provide suitable habitat for spineflowers long into the future because of the absence of flooding in this area (east of the actual floodplain), therefore, development in this area is not expected to result in a significant impact. However, suitable habitat for this plant is present to the west of the railroad tracks and flood control structures, which includes portions of Planning Areas O and P. Development in these areas may potentially result in a significant impact if spineflower plants are present there. According to TMC restoration of natural conditions may allow eventual natural regeneration of Riversidian alluvial fan sage scrub, which would also provide suitable habitat for the slender-horned spineflower. Since the proposed "redline" in-stream mining (described in Section 4.4.2.2) removes excess material within the floodplain, it also provides for a more natural stream channel which may be conducive to the re-establishment of spineflower habitat.

Some habitat for the orange-throated whiptail and the San Diego horned lizard would be lost due to development and mining of the proposed project; and some habitat would be conserved within the proposed open space areas. Both species range over a large area, and the property under consideration for this project represents only a small portion of their range.

The Sharp-shinned hawks, Golden eagles, Prairie falcons and Northern harriers feed primarily on prey within the productive habitat provided on the site where these raptors forage. The area is presently impacted by the noise and disturbance of nearby railroad tracks, the off-road vehicle park and other unrestricted uses. Mining and development will increase noise and other disturbances which would impact the foraging habitat for these four sensitive species. However, open space conserved by the project will continue to provide suitable foraging habitat. Nonetheless, development in the region continues to cumulatively impact raptors. It is therefore expected that this loss would contribute incrementally to the loss of habitat for raptors in the region resulting in a cumulatively significant impact. This impact is discussed under section 6.4, Cumulative Impacts.

It is not expected that the California gnatcatchers will be impacted by the proposed project since they do not occupy the site. Furthermore, since the habitat within the Planning Areas is marginal, no significant impact is represented.

4.1.3 Significance of Impacts

The proposed CalMat Cajon Creek project, with its associated industrial development, mining and processing operation, is not anticipated to result in a significant impact to sensitive plants and animals or their habitats. Proposed development will occur gradually over an estimated 25-year period, as opposed to all at once, thus reducing the impact to entire communities. TMC concluded that the loss of Riversidian alluvial fan sage scrub habitat and the plants and animals found there are considered the most important biological impacts, but did not identify these as significant impacts. Nonetheless, mitigation of impacts has been considered, as evidenced by the large open space provision of the Specific Plan, together with the Reclamation Plan and Revegetation Plan.

The biological survey conducted by TMC in the Spring of 1990 did not identify the presence of the slender-horned spineflower, a state and federally listed endangered plant specie, in surveyed areas on the project site. However, the survey was inconclusive due to: 1) an inability to detect the plant outside of its blooming period between April and June; and, 2) the fact that germination may not occur every year, possibly due to fluctuations in rainfall. In order to confirm whether or not there is a significant impact to individual spineflower plants, the project applicant has committed to surveys within the project area, as recommended by TMC. The area to the east of the floodplain represents a degraded habitat and will be surveyed over two additional years. The area within the floodplain represents suitable habitat for the spineflower and will be surveyed over three additional years. If the slender-horned spineflower plant is identified as occurring within the project area, then a significant impact to this state and federally listed endangered specie would occur and mitigation would be warranted to protect it.

This potentially significant impact may be partially mitigated through the open space provision of the project, representing approximately 53.5% of the project area, since it also

represents the conservation of suitable spineflower habitat identified to the west of the Southern Pacific Railroad.

Cumulative impacts to biological resources, discussed under Section 6.4, may result from the reduction of native plant communities and associated plants and wildlife habitat within the project area. The most direct losses would occur as a result of grading, brush clearing from excavation, and other disturbances associated with aggregate mining activities (also see Section 6.4, Cumulative Impacts). The biological study (Appendix B) indicates that only impacts to raptor habitat would be significant, but suggests that the impacts may be reduced through several design and mitigation measures, including: retention of substantial natural open space, habitat replacement and enhancement and the use of native species for reclamation.

4.1.4 Mitigation Measures

Based on biological studies, substantial efforts have been made to avoid sensitive areas in developing the currently proposed project. Measures have been incorporated into the CalMat Cajon Creek Specific Plan to reduce the potential for significant adverse biological impacts. Planning Area O, which represents 488 acres of high quality habitat, will be conserved as designated open space. This is proposed to mitigate the loss of biological resources, at least until the impacted in-stream mining area has been fully reclaimed. The Mining and Reclamation is concurrently phased, and will continue to enhance the open space provision of the Specific Plan, within Planning Area P. Reclamation of mined Planning Area P will create an additional 257 acres of revegetated open space; and, though it may subsequently be re-mined if major flooding replenishes the resource, it would again be revegetated. The total ultimate open space area associated with the CalMat Cajon Creek Specific Plan therefore, represents 53.5% of the total project area. This acreage will contribute to the existing open space, creating an enhanced open space region with adjoining land to the west.

In summary, though no significant impacts have been identified in connection with the loss of biological resources, TMC provided "Recommended Mitigation Measures" relative to the following: 1) avoidance of impacts to slender-horned spineflower; (2) preservation of open space; 3) provisions for the long-term management of the open space for biological

resources; and 4) reclamation of mining area within the floodplain (Planning Area P). The design of the project, together with the mitigation measures identified below, considered these recommendations, and were developed to reduce impacts to sensitive biological resources.

- Minimum disturbance of vegetation shall occur within Planning Area O. Grading shall be limited to that required to provide adequate haul road access to allow Planning Area P in-stream mining activities, provide necessary flood control, or to provide for necessary streambed stabilization.

- No permanent structures, other than flood control, streambed stabilization structures, or haul roads associated with Planning Area P, shall be permitted within the Planning Area O 100-year floodplain.

- Planning Areas which are not within the floodplain, including mined areas within Planning Areas L, M and F; and the processing plant areas within Planning Areas D, I and N, shall be planted with seeds to provide erosion control using the natural components of the Riversidian alluvial sage scrub.

Furthermore, the Revegetation Plan, developed as part of the Mining and Reclamation Plan is a required condition of the CUP. (Attachment B of the CUP/Reclamation Plan Application contains the Revegetation Plan). The following mitigation measures shall be implemented in accordance with the Reclamation Plan as provided for in the Revegetation Plan:

- Mined areas within Planning Area P, within the floodplain, shall be planted and seeded with native plants to restore elements of Riversidian alluvial fan sage scrub and bench habitat conditions now present on site.

- Container grown revegetation plant materials shall be propagated from either seeds or cuttings taken from the site. Collection and propagation of seeds and cuttings shall occur approximately one year prior to on-site planting.

- Seeds used for hydroseeding shall consist of only native species, obtained from both on site collection or collection from adjacent properties.

- Maintenance of the revegetation areas shall be limited to weed eradication of invasive exotic species, and replacement of container stock if necessary.

- Monitoring of the revegetation areas shall be done annually, over a five year period in accordance with SMARA Section 2773(a). Minimum standards should be developed by CalMat in conjunction with the lead agency and Divisions of Mines and Geology (DMG).

- Records shall be kept of the initial plantings with details to include; date of planting, planting locations of container materials and seeds. Subsequent monitoring shall determine the total vegetative cover and species health/survival rates. If necessary recommendations for replanting and weed removal shall be made.

4.1.4.1 Slender-Horned Spineflower

Figure 4.1-3 illustrates the recommended surveys to be conducted within areas of the project site identified as suitable habitat for the slender-horned spineflower. Those recommendations include the following: 1) An additional survey shall be conducted in upland habitat, which was previously surveyed for slender-horned spineflower. This area corresponds primarily with Planning Areas to the east of the Southern Pacific Railroad, together with Planning Area M and portions of Planning Areas I, J and N; 2) Two additional consecutive spring surveys, shall be conducted within floodplain habitat, which was also previously surveyed. This area corresponds with portions of Planning Areas I, J, N, and 0; and 3) Three additional consecutive spring surveys shall be conducted in the area which has not yet been surveyed. This area corresponds with a portion of Planning Area O and Planning Area P.

CalMat will conduct the first of the recommended spring surveys in the spring of 1992. At the same time CalMat will commence early consultation with the CDFG in order to begin the Streambed Alteration permit application process in complaince with CDFG Code Section

1603. The remaining consecutive spring surveys, or if appropriate, a modified survey approach will be completed prior to project construction within the suitable spineflower habitat areas.

- If the slender-horned spineflower is located during any of the spring surveys, the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) shall be notified of its presence on the site, and, if recommendations warrant it, a diligent effort will be made to salvage a plant population. A diligent effort to salvage a plant population will provide for the following:

  - If during a survey native species of the slender-horned spineflower are identified on the project site, its position will be marked (e.g. flagged or staked);

  - All identified locations where slender-horned spineflower plants were marked shall be revisited after the blooming season (i.e. July) for seed collection; and,

  - Seeds of native species which have been collected from the site will provide for research and the establishment of a population under the guidance of the USFWS and the CDFG.

4.2 AIR QUALITY

An air quality impact analysis was conducted by Giroux & Associates (May 1991) to analyze the air related impacts which may be anticipated with implementation of the CalMat Cajon Creek Project. The report is included in Appendix C and summarized below.

4.2.1 Existing Conditions

4.2.1.1 Meteorology and Climate

The climate of the San Bernardino area, as with all of Southern California, is governed largely by the strength and location of the semi-permanent high pressure center over the Pacific Ocean and the moderating effects of the nearby vast oceanic heat reservoir. Local climatic conditions are characterized by very warm summers, mild winters, infrequent rainfall, moderate daytime on-shore breezes, and comfortable humidities. At times these climatic conditions combine to severely restrict the ability of the local atmosphere to disperse the large volumes of air pollution generated by the population and industry. The resulting smog gives San Bernardino some of the worst air quality in all of California.

There is a unidirectional onshore flow of wind across the project site from the southwest to northwest. The onshore flow is strongest in summer. A weaker offshore return flow from the northeast, is strongest on winter nights when the land is colder than the ocean. The onshore winds during the day average 8 to 12 mph, while the offshore flow is often calm or drifts slowly westward at 1 to 3 mph. During the daytime, any locally generated air emissions are thus rapidly transported eastward toward Cajon Pass without generating any localized air quality impacts. The nocturnal drainage winds which move slowly across the area have some potential for localized stagnation, but these winds have their origin in the adjacent mountains where background pollution levels are low, such that any localized contributions do not create unhealthful impacts.

In addition to winds that govern the horizontal rate and course of air pollutants, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed: marine inversions and radiation inversions. Marine inversions

occur when summer on-shore flow is capped by a massive dome of warm air that acts like a giant lid over the basin. These marine inversions allow for local mixing of emissions, but they confine the entire polluted air mass within the basin until it escapes into the desert or along the thermal chimneys formed along heated mountain slopes. Radiation inversions typically occur in the winter when the air near the ground cools while the air aloft remains warm. When a radiation inversion occurs, low-level emissions near their sources, in areas such as freeways and shopping centers, creates microscale air pollution "hot spots" forming localized violations of clean air standards.

4.2.1.2 Ambient Air Quality Standards (AAQS)

In order to gauge the significance of the air quality impacts of the proposed CalMat Cajon Creek project, project impacts, together with existing background air quality levels, must be compared to applicable ambient air quality standards. State and federal clean air standards currently in effect in California are shown in Table 4.2-1.

4.2.1.3 Baseline Air Quality

Existing and probable future levels of air quality around the project area were based on ambient air quality measurements conducted by the South Coast Air Quality Management District (SCAQMD) at a monitoring station in San Bernardino. This station measures all of the pollutants for which there are clean air standards. The data from this source indicate that baseline air quality levels near the CalMat Cajon Creek project site are occasionally very unhealthful. Table 4.2-2 summarizes the last six years of published monitoring data from the San Bernardino station. Ozone, the primary ingredient in photochemical smog, is the biggest pollution problem in the area. About one-third of all days of the year experience a violation of the national hourly ozone standard with 25 to 30 first stage alerts called each year. There have been no second stage smog alerts in San Bernardino since 1982, and there has been a general reduction in average ozone concentrations throughout the 1980s. While the secondary pollution levels of ozone, and to a certain extent particulates, are high from transport of pollution into the area, the primary vehicular pollution levels of carbon monoxide (CO) and nitrogen oxides (NOx) are quite low and standards for these pollutants are not violated in San Bernardino. In contrast to the high pollution levels during the summer, winter air quality

TABLE 4.2-1

AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone	1 Hour	0.09 ppm (180 μg/m3)	Ultraviolet Photometry	0.12 ppm (235 μg/m3)	Same as Primary Std.	Ethylene Chemiluminescence
Carbon Monoxide	8 Hour	9.0 ppm (10 mg/m3)	Non-dispersive infrared Spectroscopy (NDIR)	9.0 ppm (10 mg/m3)	Same as Primary Stds.	Non-dispersive infrared Spectroscopy (NDIR)
	1 Hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
Nitrogen Dioxide	Annual Average	-	Gas Phase Chemiluminescence	0.053 ppm (100 μg/m3)	Same as Primary Std.	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 μg/m3)				
Sulfur Dioxide	Annual Average	-	Ultraviolet Fluorescence	80 μg/m3	-	Pararosaniline
	24 Hour	0.05 ppm (131 μg/m3)		365 μg/m3 (0.14 ppm)	-	
	3 Hour	-		-	1300 μg/m3 (0.5 ppm)	
	1 Hour	0.25 ppm (655 μg/m3)		-	-	
Suspended Particulate Matter (PM_{10})	Annual Geometric Mean	30 μg/m3	Size Selective Inlet High Volume Sampler and Gravimetric Analysis	-	-	-
	24 Hour	50 μg/m3		150 μg/m3	Same as Primary Stds.	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	-	-	50 μg/m3		
Sulfates	24 Hour	25 μg/m3	Turbidimetric Barium Sulfate	-	-	-
Lead	30 Day Average	1.5 μg/m3	Atomic Absorption	-	-	Atomic Absorption
	Calendar Quarter	-		1.5 μg/m3	Same as Primary Std.	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m3)	Cadmium Hydroxide STRactan	-	-	-
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 μg/m3)	Tedlar Bag Collection, Gas Chromatography	-	-	-
Visibility Reducing Particles	1 Observation	Insufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%		-	-	-
Applicable Only in the Lake Tahoe Air Basin						
Carbon Monoxide	8 Hour	6 ppm (7 mg/m3)	NDIR	-	-	-
Visibility Reducing Particles	1 Observation	Insufficient amount to reduce the prevailing visibility to less than 30 miles when the relative humidity is less than 70%		-	-	-

Source: ARB Fact Sheet 38 (revised 7/88)

TABLE 4.2-2

AIR QUALITY MONITORING SUMMARY

CAJON CREEK AGGREGATE PROJECT
(Days Exceeding Standards and Observed Maximum Levels)

Pollutant/Standard	1984	1985	1986	1987	1988	1989
Ozone:						
1-Hour > 0.09 ppm	173	155	149	166	173	159
1-Hour > 0.12 ppm	125	111	108	117	121	115
1-Hour ≥ 0.20 ppm	36	30	41	27	31	22
1-Hour ≥ 0.35 ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.30	0.27	0.30	0.25	0.28	0.30
Carbon Monoxide:						
1-Hour > 20. ppm	0	0	0	0	0	0
8-Hour > 9. ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	9	9	9	11	9	11
Max. 8-Hour Conc. (ppm)	5.1	5.3	6.7	6.7	7.6	8.1
Nitrogen Dioxide:						
1-Hour > 0.25 ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.20	0.15	0.18	0.19	0.19	0.18
Suspended Particulate:						
24-Hour ≥ 100 $\mu g/m^3$	37/57	33/60	25/35	35/60	42/59	43/60
24-Hour > 260 $\mu g/m^3$	0/57	1/60	1/35	2/60	3/59	2/60
Max. 24-Hour Conc. ($\mu g/m^3$)	219.	277.	385.	271.	486.	327.
Particulate Lead:						
1-Month ≥ 1.5 $\mu g/m^3$	0/57	0/60	0/25	0/60	0/59	0/60
Max. 1-Month Conc. ($\mu g/m^3$)	0.47	0.31	0.23	0.15	0.12	0.09
Particulate Sulfate:						
24-Hour ≥ 25. $\mu g/m^3$	-	-	0/29	0/61	0/56	0/59
Max. 24-Hour Conc. ($\mu g/m^3$)	-	-	18.4	18.3	17.8	18.5
Inhalable Particulate (PM_{10})						
24-Hour > 50 $\mu g/m^3$	-	-	20/29	36/61	38/47	44/59
24-Hour > 150 $\mu g/m^3$	-	-	2/29	2/61	3/47	3/59
Max. 24-Hour Conc. ($\mu g/m^3$)	-	-	285.	211.	289.	271.

Source: South Coast AQMD Annual Summaries, 1984-89, San Bernardino Monitoring Stations.
- = No data available

around the project site is good. The air quality impact implications of existing baseline air quality levels in the San Bernardino area are that such development will be exposed to occasional levels of regional pollutants such as ozone and particulates far in excess of healthful standards. The low levels of primary vehicular pollutants such as CO and NOx, however, also mean that the atmosphere has considerable excess carrying capacity that will allow such development to occur with only a negligible impact on localized levels of these pollutants (see Table 4.2-2).

In addition to gaseous air pollution concerns, western San Bernardino County experiences frequent violations of standards for the respirable fraction of dust emissions, particulate matter (PM-10), as well as for larger diameter total suspended particulates (TSP)(dust). High dust levels occur during Santa Ana wind conditions, as well as from the trapped accumulation of soot, roadway dust and byproducts of atmospheric chemical reactions during warm season days with poor visibility. The existence of elevated baseline PM-10 levels is a vital concern to planned aggregate operations in Cajon Creek that may incrementally add particulate matter to the current violations of standards. Due to the prevailing winds which move through Cajon Creek during the day when plant dust emissions may occur, there is expected to be a potentially limited receptor population exposed to project-related additions to existing PM-10 violations.

4.2.1.4 Air Quality Management Planning

The continued violations of national ambient air quality standards (AAQS), particularly for ozone in the Inland Empire area, requires that an implementation plan be developed outlining the pollution control measures that will be undertaken to improve air quality and reach attainment. In San Bernardino County this attainment planning process is contained in a document prepared by the SCAQMD and the Southern California Association of Governments (SCAG) called the South Coast Air Quality Management Plan (AQMP). The 1989 AQMP was recently revised (1991 AQMP) to comply with the California Clean Air Act (CCAA) requirements. The 1991 AQMP is being reviewed by the California Air Resources Board (ARB) and will be submitted to the Environmental Protection Agency (EPA) for approval as the revised State Implementation Plan (SIP).

Proposed development of the CalMat Cajon Creek project relates to the AQMP through the land use assumptions used by SCAG to forecast land use and transportation patterns in the air basin. The most applicable AQMP measure relative to the proposed project deals with contributing to a jobs/housing balance. As discussed in Section 2.1, Project Area Charecteristics, SCAG's residential growth projections are considerable and will result in increased housing. Residents will continue to travel distances outside of the City unless employment is provided within the City. Because the industrial component of the project is jobs intensive, it would contribute to the jobs/housing balance. The CalMat Cajon Creek project is likely, therefore, to have a positive regional air quality impact by reducing vehicle miles traveled (VMT). Reduction in VMT will not occur, however, if regional employment growth in San Bernardino County does not keep pace with residential growth. Nevertheless, the incremental air quality impact of any development, while small on a basin-wide scale may be perceived as creating an adverse air quality impact.

4.2.2 Project Impacts

The sources of air impact from implementation of the CalMat Cajon Creek Specific Plan will derive from several sources. Air quality impacts from development on heavy industry parcels will derive primarily from transportation sources (trucks, employee commuting and possibly rail delivery of goods). Minor emissions may result from light industrial activities (surface coating, parts cleaning, sandblasting, etc.). The exact nature of any such emissions is unknown. However, air quality rules strictly limit even small emitters, and the AQMD also has general rules prohibiting emissions of fumes, odors, dusts, mists, etc., that may cause annoyance or nuisance to any substantial number of people even if the emissions are not regulated by specific prohibitions. Thus, although air quality impacts from such potential uses cannot be completely predicted at this time, the presumption is that the AQMD will not allow siting such uses if they have the potential to create an adverse air quality impact.

The most readily identifiable sources of possible impact associated with the implementation of the CalMat Cajon Creek Specific Plan are the proposed aggregate extractive and processing activities, construction aggregate product manufacturing operations, and vehicular emissions. These activities are also controlled by AQMD permit conditions and by specified control measures in the District's Best Available Control Technology (BACT) guidelines.

BACT in aggregate operations requires highly efficient dust collectors on major sources points within the aggregate process stream. Concrete production (i.e., asphalt, ready-mix, etc.) requires the utilization of stringent controls on all steps of such operations. Aggregate emissions derive more from scattered sources not amenable to fully effective control (called fugitive sources) rather than from specific pieces of processing equipment. Although impacts can generally be maintained within acceptable levels through the use of control measures, i.e. from good operational practices, proper housekeeping and use of supplemental dust suppression measures, there will be instances where aggregate resource development may incrementally degrade air quality (especially for particulates) beyond the project boundary. This may be expected since Cajon Creek is in a high wind hazard zone, from Santa Ana Winds blowing north to south into West San Bernardino, such that loose dust is readily blown southward into populated areas. (The hazard zone extends northward from Highland Avenue to Cajon Pass.) For the most part, impacts from aggregate operations, including truck traffic on area streets, represents the major air quality impact concern of project implementation.

4.2.2.1 Dust Emissions and Impacts

Onsite dust emissions from aggregate operations were calculated using factors supplied by the AQMD. Based on ultimate rock plant production levels (1,000 tons/hour processing cycle), the Air Quality Study (Appendix C) indicates TSP emissions of 6 pounds/day. As a worst-case assumption, a permanent plant on Planning Area N, and one portable plant was assumed operating simultaneously, with a maximum throughput of 12,000 tons/day at each site. A TSP level of 78 pounds per day is predicted from all rock extraction, crushing, processing and distribution within the Specific Plan area. If processing operations occur over a 12-hour period, these dust emission levels would be around 6.5 pounds per hour.

The range of project-related PM-10 emissions is somewhere between 10 to 50 percent of the TSP emissions, i.e, from 7.8 to 39 pounds per day, or 0.65 to 3.25 pounds per hour. The estimate of ambient air quality impacts of PM-10 were based on the assumption that these emissions were 33% of TSP; and, that these emissions were approximately homogeneously mixed into a parcel of air 100 meters deep and 1,000 meters wide during normal daytime upcanyon winds of 3 m/sec (about 6 mph). Calculations performed for the hourly PM-10

level downwind of the proposed processing and hauling operations yielded the following PM-10 levels:

Hourly PM-10	1.1 ug/m^3
Daily PM-10	0.5 ug/m^3
Annual PM-10	0.1 ug/m^3

The 24-hour PM-10 impact of 0.5 ug/m^3 compares to a State standard of 50 ug/m^3 and a federal standard of 150 ug/m^3. According to the air quality study, the project will not "make measurably worse" the existing violations of state and federal PM-10 standards. (The significance threshold for PM-10 was based on a 10% change which was defined in the air quality study as a "measurable worsening.")

With the level of controls on aggregate operations now imposed by the AQMD, the fixed plant and one portable plant site will not have a significant air quality impact. This is based on modeling which used a conveyor system for materials transfer between mining and processing Planning Areas. If all or some materials transfer between mining and processing Planning Areas occurs via off-road hauling, the associated increase in dust emissions could result in a significant impact. Such an impact would be mitigated through the implementation of dust control measures required by the AQMD as a provision of permitting.

It would be difficult to isolate any project-specific dust contribution during Santa Ana winds toward San Bernardino because the air already contains high levels of dust from both man-made and natural sources throughout Cajon Creek Canyon. However, some incremental addition to that incoming burden will certainly result from these proposed CalMat Cajon Creek aggregate resource operations. Under atypical conditions, aggregate operations may thus have a significant particulate impact particularly on residences south of Planning Area N main processing plant. Additional mitigation beyond the mandatory measures required by AQMD permits are proposed to reduce the probability of creating a localized dust nuisance, i.e., landscaping and berming.

Cumulative particulate effects from onsite sources may occur in conjunction with vehicular dust generation as traffic levels increase, as well as from other dust generating resource development and site construction effects. Cumulative impacts are discussed in Section 6.4.

4.2.2.1.1 Concrete Batch Plant Dust Impacts. Batch plant emissions at the proposed CalMat Cajon Creek project site will be controlled through standard design features required by AQMD rules. The project will also use a pre-mix drum that blends aggregate, cement and water and then discharges to the mixer truck in a wet slurry instead of a dry powder. Based on an estimated 1,000 yard per day facility, batching operations generate TSP of 10 pounds per day. Compared to the larger fugitive dust burden of about 40 pounds for the aggregate mining and processing, the batch plant dust emissions will add 0.1 $\mu g/m^3$ of PM-10 to the 24-hour project-related ambient particulate impact. This increment does not change the previous conclusion regarding overall project dust impact significance.

4.2.2.1.2 Asphaltic Concrete Dust Impacts. For analysis purposes, a daily production of 2,400 tons of asphaltic concrete was assumed. Emission factors of 0.005 pound of total dust per ton of asphalt was assumed from the use of a rotary drier using a baghouse for dust control. Another 0.005 pounds per ton were said to result from aggregate handling. Total daily dust emissions (TSP) would represent approximately 24 pounds. The fraction of TSP in the PM-10 range is approximately 8 to 12 pounds.

4.2.2.2 Combustion Emissions Impacts

The predominant type of emissions, from both aggregate mining activities, and the gradual conversion of the Specific Plan area into an industrial park, will be vehicular exhausts. A small portion of the emissions will be due to fuel combustion in an asphaltic concrete plant and in onsite thermal energy devices for certain types of industrial uses. Some fuel combustion will result from onsite heavy equipment used to extract rock material, feed the conveying system, and product loading after the aggregate has been processed. Combustion emissions impacts are discussed below in relation to the following project sources: aggregate product hauling, industrial park vehicular traffic, the construction material users parks, and other stationary sources.

4.2.2.2.1 Aggregate Product Hauling Emissions. Aggregate product hauling emissions were estimated based on a worst case assumption; the operation of the permanent plant site in Planning Area N and one of the temporary plants, operating simultaneously. Daily trips generated from the main CalMat Cajon Creek plant in Planning Area N is estimated at 950 trip ends per day, with 650 trips from secondary plant. Assuming an average one-way trip length of 20 miles, and, that approximately 30,000 truck vehicle miles traveled (VMT) would be generated by aggregate resource activities; and, assuming also that 2,000 VMT would be due to employee commutes and all trucks are diesel-powered, the estimated emissions that would be generated from rock product-related travel is shown in Table 4.2-3.

TABLE 4.2-3

AGGREGATE PRODUCT HAULING EMISSIONS (POUNDS/DAY)
COMBUSTION EMISSIONS

Project Air Pollution Type	Commuting	Trucks	Total
Reactive Organic Gases (ROG)	4.2	184.4	188.6
Carbon Monoxide (CO)	56.8	521.8	578.6
Nitrogen Oxides (NOx)	4.4	943.8	948.2
Source: EMFAC7pc Emission Model, Year = 1990, T = 60°F			

These emission levels are substantial by any standard of significance. If the demand for building materials is not met at Cajon Creek, it may be met elsewhere in the area (or even out of the local area) with the same or even greater vehicular emissions. By meeting that demand as close to the source as possible to minimize truck travel, truck and employee commuting emissions, while substantial, are not judged as individually significant.

Nonetheless, exhaust emissions from all vehicles accessing the Cajon Creek site will incrementally impede the ultimate attainment of clean air standards creating a cumulative impact.

4.2.2.2.2 Industrial Park Vehicular Emissions. Vehicular source emissions were calculated, using the URBEMIS3 (Urban Emissions) Computer Program, for four analysis

years (1995, 2000, 2005 and 2010). These programmed years differ from the assumed time-frames identified in the Traffic Study (Appendix G) for analysis purposes, to account for the phasing of the build-out of the Specific Plan. The programmed years for analyses of emissions remain within the same relative time frames used in the Traffic Study.

According to the Traffic Study, after the completion of the Near-Term industrial park development, the CalMat Cajon Creek Specific Plan area will generate around 5,844 daily trips. After the Long-Term development for Planning Areas designated for industrial land use, trip generation will total about 16,942 per day. While these vehicles are generally "cleaner" than the aggregate resource big rigs, they nevertheless will create a substantial volume of exhaust emissions. Table 4.2-4 summarizes the mobile source emissions which hold generally steady at around 110 pounds per day of ROG, 200 pounds per day of NOx and 1,300 pounds per day of CO until after 2005.

TABLE 4.2-4
INDUSTRIAL PARK
MOBILE SOURCE EMISSIONS (Pounds/Day)

Year	ROG[1]	CO	NOx
1995	89.1	973.3	137.5
2000	116.7	1,332.9	201.4
2005	108.6	1,250.2	196.2
2010	211.6	2,439.1	386.1

[1] Assumes 92% of total organic gases (TOG) are reactive organic gases (ROG).

Source: URBEMIS3 Urban Emissions Computer Model

Long-Term conversion of depleted extraction areas to industrial uses after 2005 dramatically increases mobile source emissions. As with the aggregate trucking activity, the mobile sources are substantial and should be considered significant in a cumulative sense (see Section 6.4, Cumulative Impacts). However, since this project includes provisions for all site tenants to participate in a transportation demand management program (TDM), it provides for a reduction of employee trips, in turn contributing to a reduction in vehicular

source emissions. CalMat will be responsible for providing the TDM program for employees in accordance with all SCAG, AQMD and City requirements.

Furthermore, the City of San Bernardino lies within the East San Bernardino Valley subregion, which has been identified as a housing rich subregion wherein the jobs/housing balance ratio of 0.93 in 1984 reaches 0.84 in the year 2010. The CalMat Cajon Creek Specific Plan contributes to the job market in this subregion, which may be considered a positive aspect of the project since more jobs in this area would provide for a reduction in vehicle miles traveled (VMT), which represents a reduction in emissions (see Section 4.2.1.4 Air Quality Management Plan). Though the City of San Bernardino General Plan does not incorporate regional and local jobs/housing balance objectives, one of SCAG's Growth Management Plan policies is to achieve a better jobs/housing balance at a subregional level through encouragement and provision of incentives to attract job growth in housing-rich subregions (1989).

4.2.2.2.3 Construction Material Users Park Emission. Outdoor warehousing of construction materials represents interim uses within Planning Areas I, J, L and M. These Planning Areas will generate limited amounts of traffic, since they are planned as storage and distribution facilities. An estimated trip generation rate of 1,400 per day will only occur toward the later phase of the Intermediate-term development of the area. Daily emissions associated with the Construction Material Users Park are provided in Table 4.2-5.

TABLE 4.2-5
CONSTRUCTION MATERIAL USERS PARK
MOBILE SOURCE EMISSIONS (Pounds/Day)

Year	ROG	CO	NOx
1995	25.1	279.5	38.0
2010	18.8	218.0	34.1

Source: URBEMIS3 Urban Computer Model

Because the number of trips generated have been assumed constant for such uses from 1995 to 2010, there is a decrease in mobile source emissions within the analysis time frame.

The total emissions from Planning Areas I, J, L and M relative to the Construction Material Users Parks does not represent a significant impact. However, these emissions may contribute to a cumulatively significant impact in conjunction with the continued predicted non-attainment status of the air basin into the early part of the 21st century.

4.2.2.2.4 Stationary Source Emissions. Fuel combustion in basin power plants, in light industrial uses for heating, drying, hot water, etc. and for heat to dry the asphaltic concrete, will all result in air pollution byproducts. Electrical and natural gas consumption cannot be estimated very accurately based solely on gross CalMat Cajon Creek acreage until the future tenant mix becomes better defined. However, AQMD rules strongly discourage the use of liquid fuels in power plants, and similarly require the use of electricity or natural gas for any local on-site thermal needs. Natural gas combustion creates substantially less ROG per unit of heat output than does fuel oil. The estimated asphaltic concrete plant stationary source emissions are provided in Table 4.2-6.

The NOx emissions are seen to be the most substantial air pollutant from on-site asphalt production. Emissions off-set requirements (AQMD Regulation XIII) would need to be provided upwind of Cajon Creek. Compliance with AQMD Regulations for off-sets and the use of BACT on the plant, will enable the plant to be built, while maintaining a minimum air quality impact.

TABLE 4.2-6

STATIONARY SOURCE EMISSIONS
FUEL COMBUSTION[1]

Project Air Pollution Type	Emission Factor (lb/ton)	Emissions (lb/day)
Sulfur Dioxide (SO_2)	0.0002	0.5
Nitrogen Oxides (NOx)	0.034	81.6
Reactive Organic Gases (ROG)	0.0004	1.0
Carbon Monoxide (CO)	0.0008	19.2
Particulates	negl. (baghouse control)	

[1] Electrical and natural gas consumption estimated for asphalt concrete plant.

4.2.2.3 Asphaltic Plant Odor Impacts

Any observable air quality impacts from asphalt plants (mainly odor) derive from inadequate emissions controls and poor operational procedures. The AQMD recognizes the special need for emissions controls from asphalt plants. Stringent controls on asphalt production result in little or no observable odor or other air emissions impacts. The technology to run as asphalt plant with minimal air quality impacts exists. Pollution control features which are required by the AQMD would minimize any odor nuisance potential.

4.2.2.4 Construction Activity Impacts

Construction related to the proposed CalMat Cajon Creek Specific Plan may occur over a 25-year period or more. The AQMD has placed a very strong emphasis on control of construction dust because of its contribution to the non-attainment status of the basin for PM-10. There also continues to be a responsibility on developers/contractors to control emissions as effectively as possible and on local approving agencies to enforce such controls.

The AQMD's average construction dust emission factor is not applicable for the CalMat Cajon Creek development due to several factors. Cajon Creek contains unusually low soil silt; and, since the largest proportion of land will be mined, future needs for grading, clearing and other disturbance are substantially reduced.

4.2.2.5 Reclamation Activity Impacts

The importation of inert fill during reclamation of Planning Area D will generate a limited number of truck trips. Daily emissions associated with the importation of fill are taken into account within the traffic generation estimates, and are therefore factored into the emissions analysis.

4.2.2.6 Toxic Air Contaminant Impacts

Toxic air contaminants (TACs) are generally not associated with quarries, rock plants and other proposed CalMat Cajon Creek land uses. Some TACs may be used in industrial uses as solvents, cleaning compounds, degreasers, etc. The AQMD has authority to regulate these uses.

Within rock processing operations, there may be minerals released that are lung irritants (those which contain asbestiform minerals) however, these are not a major concern in Southern California aggregate operations. The County Health Department and the Department of Environmental Medicine at the University of California, Irvine, concluded that the only identified risk is for occupational exposure, not to the public. Occupational exposure is controlled by MSHA (the Federal Mine Safety and Health Administration). MSHA's position on crystalline silica (found around rock plants) is that as long as occupational standards are met within plant boundaries, it will correspondingly protect public health.

4.2.3 Significance of Impacts

The proposed CalMat Cajon Creek Specific Plan project is really two distinct developments with different types of impacts and different mitigation potential. The aggregate operations are a semi-stationary source of emissions with well-defined control rules, except perhaps for various fugitive dust sources. The industrial component has few stationary sources with the primary impact deriving from vehicular emissions.

Impacts from aggregate materials hauling, processing and distribution of finished product create potentially significant air quality concerns, especially from the creation of dust during the hauling and processing activities. These impacts will be mitigated to below a level of significance. Some incremental addition to the high levels of dust generated during Santa Ana winds may however, have a potentially significant impact on residences south of Planning Area N. Stationary source emissions of NOx and CO from the proposed asphaltic concrete plant are not expected to be significant due to the use of offset and BACT requirements.

4.2.4 Mitigation Measures

On-site impact minimization, from dust generation includes the following measures:

- Air quality permits mandated by the AQMD (Authority to Construct and Permit to Operate) will be obtained and renewed as required. The AQMD

will require the best available control technology (BACT) on those processing components amenable to dust control. BACT typically entails the use of water spray on transfer points and a bag house on crushers or other sources amenable to such controls.

- Fugitive dust impacts from materials handling and in-plant travel will be controlled through a program of paving the access road and major intraplant travel paths, i.e., in main roads between the rockplant/stockpile areas, and the scalehouse and the batchplants. Dust control shall also be provided through the use of water or other dust palliatives on storage piles and load out systems, and through an aggressive program of roadway sweeping and watering to remove spillage from public and private roadways. Minimum implementation action of the mitigation measures will be to meet the requirements of AQMD Rule 401, prohibiting a visible dust plume at the project boundary.

- Dust transport away from the facility can be reduced through a landscaping program that utilizes fast-growing species with minimum water demands to reduce wind erosion and off-site transport. Because the strongest winds are from the north during Santa Ana wind conditions, a windbreak will be included in the landscaping north of the Planning Area N processing plant to reduce winds through the plant. Also, a line of landscaping near the southern site boundary will trap dust already picked up. A berm system in conjunction with landscaping will have air quality benefits by allowing the strongest winds to pass over the top of the plant complex while exposing storage piles and loose surface material to much reduced wind velocities.

- The impact potential related to dust generation during Santa Ana wind conditions may be reduced as a result of industrial developments within the Specific Plan Planning Areas due to paving over open areas, the presence of buildings, berming and landscape. These features will reduce the amount of erodible surface and increase surface roughness, thus creating breaks in the wind field.

- Aggregate facilities access/egress shall be designed to minimize use of local arterial roadways or areas of existing or potential future air quality sensitivity.

- CalMat shall provide a transportation demand management program (TDM) for all site tenants.

In order to obtain an Authority to Construct and then a Permit to Operate, plant operators will be required to do the following which will mitigate potentially significant air quality impacts:

- Document that BACT is employed in all phases of plant operations (baghouse for dust control, low pollution fuel in the dryer, water spray on aggregate transfer and storage, etc.)

4.3 GEOLOGIC AND GEOTECHNICAL

Preliminary geotechnical investigation of the proposed CalMat Cajon Creek Project site was conducted by Woodward-Clyde Consultants (1990) for the purpose of evaluating the site for potential geologic hazards. Methodology for the geologic reconnaissance included site investigation of the existing surface conditions, photogeologic interpretation of stereographic aerial photos (1938, 1969, 1978, and 1986); a review of pertinent geologic reports and maps; and consultation with local agencies. Subsurface conditions discussed were based on published and available information (e.g., test boring logs, gradation analyses).

A summary of the preliminary geotechnical investigation, conclusions and recommendations is provided below, with the entire technical report included as Appendix D.

4.3.1 Existing Conditions

4.3.1.1 Geologic Setting

The proposed project area is located in and immediately east of Cajon Creek Wash, upstream of the confluence of Cajon and Lytle Creeks, in the northwesterly portion of the San Bernardino Valley. The valley is bounded by the San Bernardino Mountains to the northeast and by a portion of the Transverse Ranges, the San Gabriel Mountains, to the northwest.

The San Bernardino Valley is a fault-controlled structural block defined by the San Andreas fault zone to the northeast and by the San Jacinto fault zone to the southwest. The southwestern margin of the block is complicated by a series of stepping and branching faults within the San Jacinto fault zone, including the Glen Helen fault which projects into the project site area along three different mapped traces.

Roughly three miles to the west of the site area lies the terminus of the Cucamonga-Sierra Madre fault zone. The Cucamonga-Sierra Madre fault zone is a series of east-west trending thrust faults that define the southern mountain front of the Transverse Ranges in the eastern portion of the Los Angeles Basin. The Cucamonga fault is the easternmost fault in this fault zone.

The San Andreas fault zone is located about 1 to 2 miles northeast of the site and trends roughly parallel to the northeastern site boundary. Individual fault splays within the San Andreas fault zone are mapped to within 1/2 mile of the northernmost portion of the site. Locations of these fault zones are shown on the site plan, and on the Alquist-Priolo Special Studies Zones (APSSZ) Map, Figure 4.3-1.

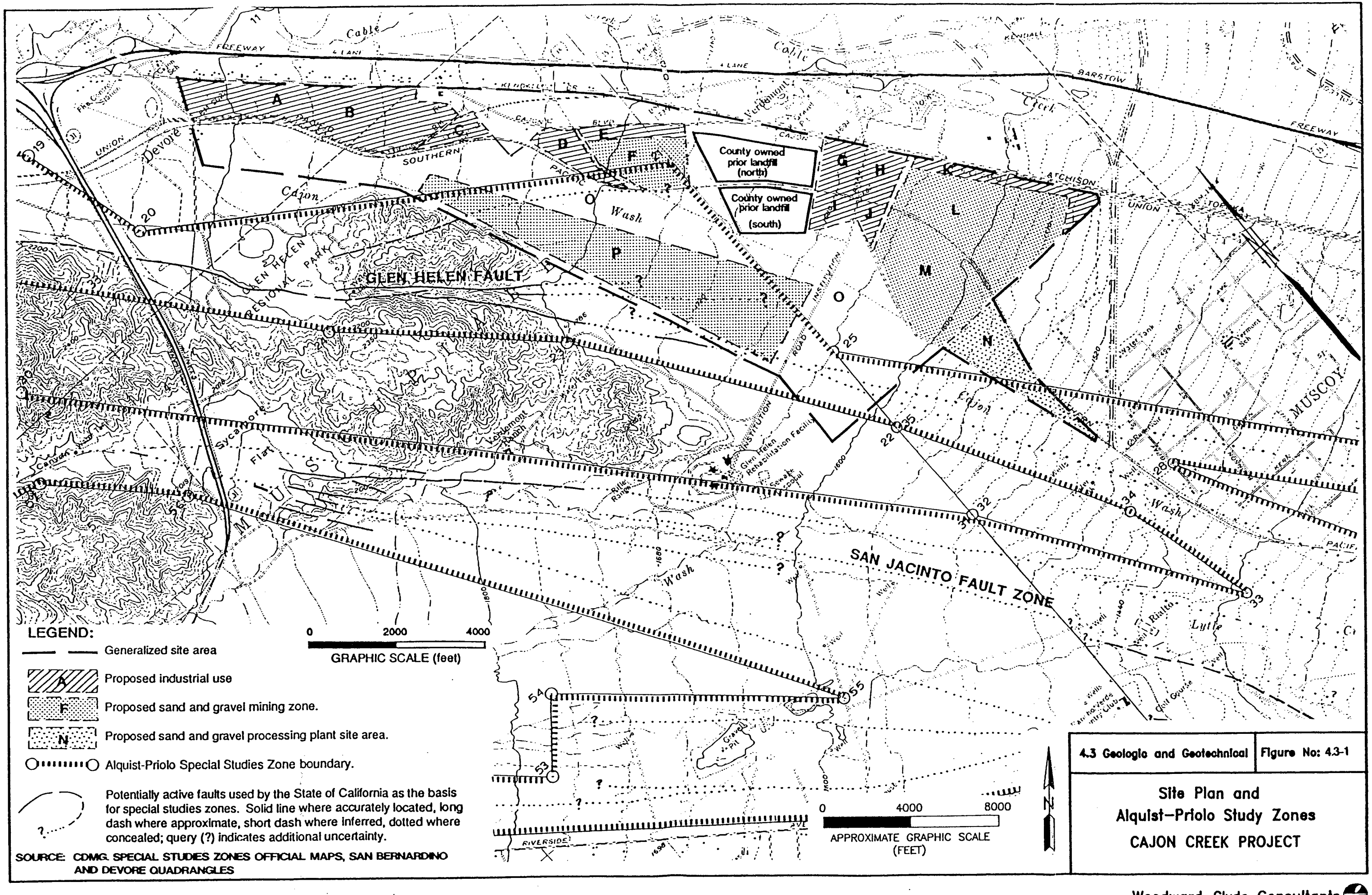
4.3.1.2 Surface Conditions

The study site is in an area of low topographic relief in and adjacent to the active flood plain of Cajon Creek. Cajon Creek is a dry alluvial channel, except during periods of significant rainfall or heavy spring runoff. The active channel areas typically have a very sparse growth of vegetation and are characterized by sand and gravel exposed at the ground surface. The channel margin areas are slightly higher topographically and are underlain by similar deposits of recent sand and gravel.

The site area is undeveloped in terms of habitable structures, but a number of transportation corridors, utility easements, and flood control structures are present on and adjacent to the site. The channel margin areas are slightly higher topographically and are underlain by similar deposits of recent sand and gravel with a very thin, weakly developed mantle of soil. Utilities in the site vicinity include: water aqueducts, overhead power transmission lines, petroleum and gas pipelines, telephone lines and municipal water and sewer lines.

4.3.1.3 Subsurface Conditions

Channel alluvium and alluvial fan deposits dominate the near-surface geology of the Cajon Creek area, which generally contains deposits of very coarse-grained materials with common boulder-sized clasts. Finer grained, predominantly sandy deposits may also occur at depth. In the site vicinity, the coarser, alluvial deposits are likely predominant in the subsurface. Figure 4.3-2 shows the site geology based on existing mapping, aerial photo review, and a limited visual geologic reconnaissance. Based largely on previous geophysical studies, the thickness of alluvial deposits in the San Bernardino area has been contoured and the depth to bedrock in the site area is estimated to vary from 100 to 200 feet in the northern part of



LEGEND:

- Generalized site area
- A — Proposed industrial use
- F — Proposed sand and gravel mining zone.
- N — Proposed sand and gravel processing plant site area.
- Alquist-Priolo Special Studies Zone boundary.
- Potentially active faults used by the State of California as the basis for special studies zones. Solid line where accurately located, long dash where approximate, short dash where inferred, dotted where concealed; query (?) indicates additional uncertainty.

0 2000 4000
GRAPHIC SCALE (feet)

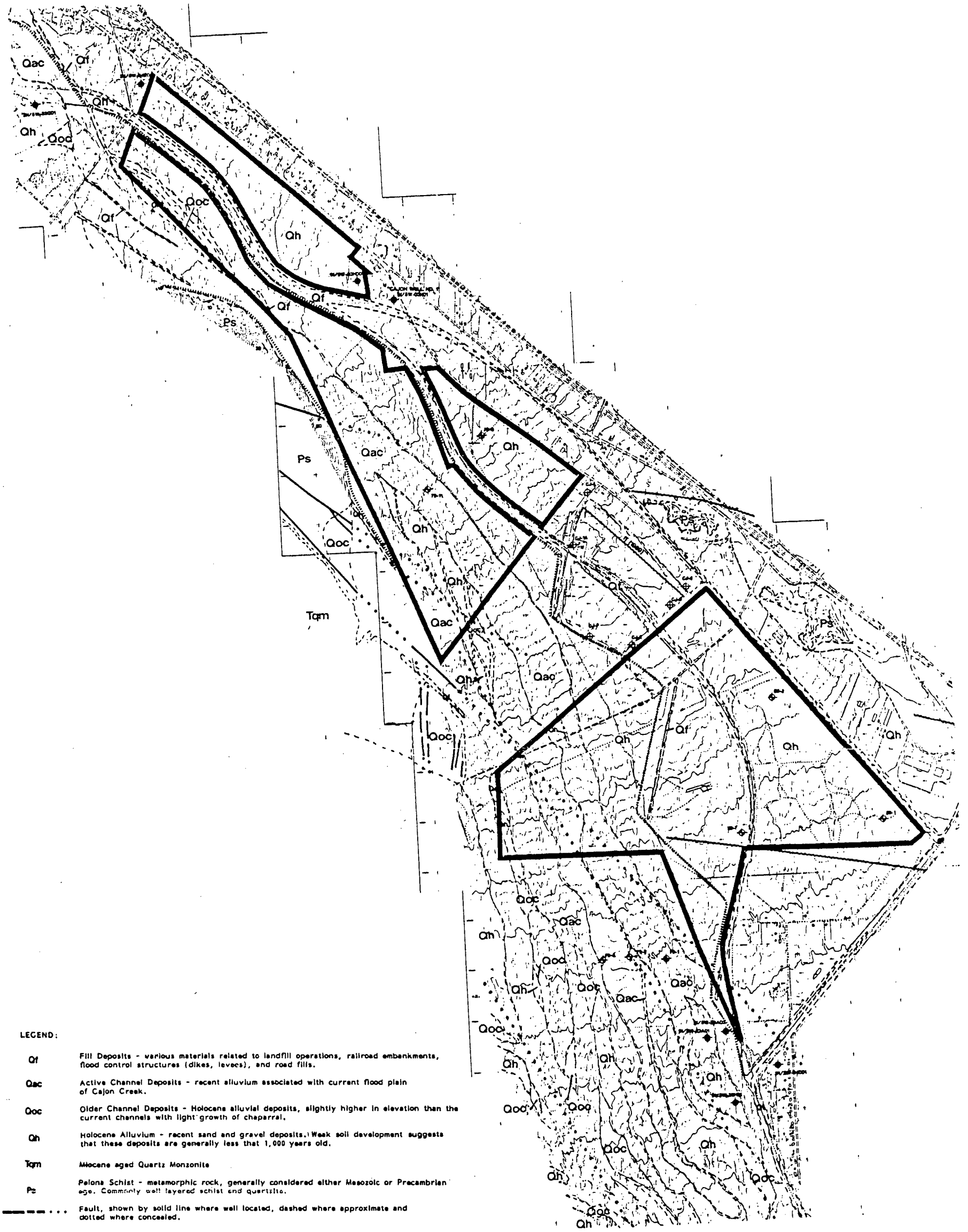
0 4000 8000
APPROXIMATE GRAPHIC SCALE (FEET)

SOURCE: CDMG. SPECIAL STUDIES ZONES OFFICIAL MAPS, SAN BERNARDINO AND DEVORE QUADRANGLES

4.3 Geologic and Geotechnical	Figure No: 4.3-1

Site Plan and Alquist–Priolo Study Zones
CAJON CREEK PROJECT

Woodward–Clyde Consultants



LEGEND:

Qf	Fill Deposits - various materials related to landfill operations, railroad embankments, flood control structures (dikes, levees), and road fills.
Qac	Active Channel Deposits - recent alluvium associated with current flood plain of Cajon Creek.
Qoc	Older Channel Deposits - Holocene alluvial deposits, slightly higher in elevation than the current channels with light growth of chaparral.
Qh	Holocene Alluvium - recent sand and gravel deposits. Weak soil development suggests that these deposits are generally less that 1,000 years old.
Tqm	Miocene aged Quartz Monzonite
Ps	Pelona Schist - metamorphic rock, generally considered either Mesozoic or Precambrian age. Commonly well layered schist and quartzite.
— — . . .	Fault, shown by solid line where well located, dashed where approximate and dotted where concealed.
———	Approximate location of Questionable fault from City of San Bernadino General Plan
IT(1989)	Approximate location of Fault/Ground Water Barrier from IT 1989.
79-1	Approximate location of Exploratory Test Borings by Calmat.
3N/6W-34D01	Approximate location of Water Wells.
CJ-2	Approximate location of Monitoring Wells.
▬▬	Approximate location of Site Boundary
▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	Approximate location of 100 year Floodplain Line

N

SOURCE: WOODWARD-CLYDE CONSULTANTS, AUGUST 1990.

4.3 Geologic and Geotechnical	Figure No: 4.3-2

Site Geologic Map

CAJON CREEK PROJECT

Woodward-Clyde Consultants

the site, and deepening to an estimated 400 to 600 feet in the southern part of the site (Fife and others, 1976).

The proposed areas of mineral resource extraction, identified in the Specific Plan as Planning Areas F, L, M and P, consist of dry conditions, and predominantly gravel and sand deposits.

4.3.1.4 Hydrogeologic Setting and Groundwater Levels

The CalMat Cajon Creek project area lies within the Bunker Hill groundwater basin, an area of about 92 square miles, that is bounded by smaller groundwater basins including the Lytle Creek and Rialto-Colton Basins (Dutcher and Grant, 1963). In general, the hydrologic setting of the area is complex given the restricted basin, local stratigraphic variations, faulting, numerous groundwater barriers, and the seasonal variations in the inflow of water into the system.

The most representative groundwater data for estimation of depth to water in the proposed mining and extractive areas are available from the monitoring wells placed in the vicinity of the former County of San Bernardino Cajon Boulevard Landfill. Depth to groundwater in the landfill area currently varies from 238 feet to greater than 348 feet below the ground surface. However, observations of adjacent wells indicate that an anomaly is present in that depths to groundwater and depth to bedrock show a marked difference. On the basis of these observations, a suspected fault which acts as a groundwater barrier in the deeper portions of the alluvium has been postulated (I.T., 1989) as shown in Figure 4.3-1.

4.3.1.5 Tectonic Setting

The site is located in a complex structural zone near the convergence of the San Jacinto and San Andreas faults. The San Andreas fault zone is the dominant structural element in California. However, roughly one-third of the overall slip found on the San Andreas fault zone in northern and central California is transferred to the San Jacinto fault in southern California. Slip is transferred across this zone of convergence from the San Andreas fault to the San Jacinto fault along a series of an echelon, or stepping, faults.

The Glen Helen fault is one of the northernmost faults in this en echelon zone within the San Jacinto fault system. Movement along the Glen Helen fault, like the San Andreas and the San Jacinto faults, is characterized as right-slip. In the young alluvial deposits of Cajon Creek, however, the Glen Helen fault is not well-located, and the preliminary interpretations of the approximate buried locations (illustrated in Figure 4.3-1) are based on the projections of the faults exposed in the bedrock and other techniques.

Other suspected faults have been mapped by previous workers in the general site vicinity and have been categorized as "questionable faults" on the City of San Bernardino's General Plan. Three of these features have been mapped to the east of the site and are shown in Figure 4.3-1. One of these questionable faults has been mapped on-site in the vicinity of the proposed processing plant located in Planning Area D. Also shown in Figure 4.3-1, is the suspected fault postulated as buried beneath the alluvial deposits on the County of San Bernardino Cajon Landfill.

4.3.2 Project Impacts

Based on the findings of preliminary geotechnical reconnaissance, construction of the proposed project is considered feasible, provided the identified mitigation measures related to planning, design and construction are properly implemented (Appendix D).

The following geologic hazards and geotechnical considerations are considered to be potential factors in the implementation of the project.

4.3.2.1 Faulting and Ground Breakage

Ground rupture along the potentially active fault traces beneath Cajon Creek (shown in Figure 4.3-1) is a potential hazard if a moderate to large earthquake were to occur on the Glen Helen Fault. Current site development plans do not include the construction of any habitable structures within the APPSZ and thus, based on the available information, the potential for damage resulting from ground rupture on the mapped traces of the Glen Helen fault within the CalMat Cajon Creek Specific Plan Planning Areas is considered low.

4.3.2.2 Ground Shaking

The site lies in an area where nearby major active faults are capable of generating moderate to large earthquakes. Strong ground motions are likely to occur at the subject site and the surrounding area in the event of a moderate to large earthquake on one of the nearby faults. Since the project does not propose to locate any habitable structures within the APSSZ (illustrated in Figure 4.3-1), seismic effects are reduced to below a level of significance.

4.3.2.3 Liquefaction

The project lies in an area of high liquefaction susceptibility, as delineated by the City of San Bernardino General Plan; however, for the general subsurface conditions in the Cajon Creek project study area, liquefaction susceptibility is insignificant because of the very coarse grained deposits that predominate in the upper 50 feet, and given that groundwater levels are typically deeper than 50 feet below ground surface.

4.3.2.4 Subsidence

Subsidence has been identified as a potential geologic hazard in the central portions of San Bernardino Valley, but is not considered a significant geologic hazard in the northern portions of the valley where the CalMat Cajon Creek Specific Plan is proposed. This is because historical subsidence has not been reported for the general project area.

4.3.2.5 Groundwater

Groundwater conditions are not likely to be impacted by the industrial development portions of the proposed project. The mining operations in Planning Area F are expected to occur to a depth of 75 feet, while mining in Planning Areas L and M are anticipated to occur to a depth of 120 feet. Groundwater is not expected to occur at these depths, except for short-term responses to heavy rainfall or flood events, therefore impacts to groundwater quality are not considered to be significant.

On-site recharge of the Cajon Creek basin occurs primarily in the active streambed area in Planning Areas O and P. Off-channel Planning Areas F, L and M, where mining will occur, are not considered important recharge areas. Due to the limited extent of mining in Planning Area P, there will be no significant reduction of the recharge rate. Waste material, particularly fine, unusable sediment, would not be placed in Planning Area P. In certain circumstances, mining may enhance the recharge rate by removing fine-grained overburden such as in ground-water spreading basins. Proper site design and mining operation will adequately mitigate this potential environmental impact.

Excavations that permanently expose the groundwater table may contribute to a reduction in the storage capacity of an aquifer. Exposure of the groundwater table may also cause a reduction in water quality through evaporation and direct discharge of poor quality water into the aquifer. However, planned depths of excavation will be well above existing groundwater level. Recharge of poor quality water into the aquifer will be avoided through drainage control, such as by directing surface runoff around the excavated area.

4.3.2.6 Landfill Related Impacts

As noted in Section 4.3.1.4 the most representative data for the estimation of depth-to-groundwater has been collected from monitor wells located near the County of San Bernardino Cajon Boulevard Landfill (see Figure 4.3-2). This data indicates that groundwater is found at a depth of approximately 260 feet to 300 feet in the vicinity of the Landfill. Chemical analyses of groundwater samples from these wells show traces of organic substances indicative of landfill leachate. Planning Area F, located several hundred feet upgradient of the Landfill, has a maximum mining depth of 75 feet; Planning Areas L and M are located 4,000 feet south of the landfill and the maximum mining depth is limited to 120 feet. Based on the Water Solid Waste Assessment Test (Water SWAT) impacts on either the generation or migration of landfill leachate as a result of the project are considered unlikely for the following reasons: (1) mining is limited to a maximum depth which is well above the highest anticipated groundwater level, essentially precluding contact with or exposure of leachate-affected groundwater; (2) the coarse-grained nature of the alluvial material of Cajon Wash suggests that leachate-migration in the vadose zone would be mainly in a vertical direction, and that lateral migration occurs primarily through groundwater

movement; and, (3) the mining areas are either upgradient of the landfill or a sufficient distance downgradient to effectively rule out the possibility of intercepting the leachate plume in the mining pits (IT, 1989b).

Due to the location of proposed industrial developments and mining in proximity to the Cajon Boulevard Landfill, the potential impact of landfill gas migration was examined. Based upon the Air Solid Waste Assessment Test (Air SWAT), together with the Report of Disposal Site Information (RDSI), both surface and subsurface test probe results collected less than 2 ppmv of total organic content (TOC) (AV Projects, 1988 and Leonard, 1988). This substantially less than the concentration required for methane gas combustion. The California Integrated Waste Management Bureau (CIWMB) requires methane gas to be controlled to less than five percent at the landfill's property line. Because of the low methane gas generation rate, the extremely low levels of methane gas currently in the soil, and the relative distance of mining and development from the landfill, it is not likely that the landfill will have any significant impact on the project.

4.3.2.7 Slope Stability

The Planning Areas, F, L, and M, within which deep mining will be conducted, all have granular soils consisting of various proportions of sand, gravel and cobbles. Preliminary geotechnical investigation has concluded that no major slope instability would be expected from the proposed cut and fill slopes related to these Planning Areas, provided that recommended design and construction techniques are properly implemented. The Planning Areas are mining areas where quarry slopes would be located adjacent to either the Southern Pacific Railroad embankment, the Cal-Nev petroleum pipeline and/or the San Gabriel Valley Municipal Water District (SGVMWD) aqueduct. Specifically, the west side of Planning Area F, is adjacent to the east side of the Southern Pacific Railroad embankment, which contains the Cal-Nev pipeline. The northwest side of Planning Area L is adjacent to the SGVMWD aqueduct, and the west side of Planning Area L is along the east side of the railroad embankment which contains the Cal-Nev pipeline. And, the northwest side of Planning Area M is adjacent to the SGVMWD aqueduct. The Specific Plan Design Criteria incorporates 100 foot setbacks from slopes in these Planning Areas identified as being adjacent to the structures. The setbacks are expected to mitigate impacts to below a level of significance.

4.3.2.8 Foundation Design

The design of building foundations for the proposed light and heavy industrial developments adjacent to mining areas, i.e., Planning Areas D, E, and K, may be subject to differential settlements of footing and floor slabs due to settlement of the alluvial foundation soils during an earthquake. According to the Geologic Reconnaissance (Appendix D) any settlements should be manageable, provided the structures are located at an adequate distance from the tops of slopes. Planning Areas D, E and K are distanced from the tops of slopes through setbacks identified in the Specific Plan Planning Area Regulations, Design Guidelines for the Planning Areas.

The granular soils, which comprise the soils within Specific Plan Planning Areas D, E and K, typically provide a good base on which to build building foundations. Some near-surface recompaction of loose zones may be required prior to construction.

4.3.3 Significance of Impacts

No significant impacts related to differential settlements, subsidence, liquefaction, faulting and ground breakage, or the Cajon Boulevard Landfill, were found to be represented by implementation of the project. A number of potentially significant impacts were identified during the preliminary geotechnical analysis related to ground rupture, ground shaking, groundwater quantity and quality, and slope stability. It is concluded that all potential impacts can be reduced to below a level of significance through standard design and construction measures.

4.3.4 Mitigation Measures

The Preliminary Geologic Reconnaissance (Appendix D) identifies a number of measures designed to mitigate potential geologic and geotechnical impacts associated with implementation of the CalMat Cajon Creek Specific Plan. Based on those recommendations provided in the report, the following mitigation measures shall be completed and fully incorporated into project design prior to issuance of grading permits for construction in each of the Planning Areas.

- Ground Rupture. Site development plans will not include the construction of habitable structures within the designated Alquist-Priolo Special Study Zones, therefore the investigative mitigations called for in that regulation are not necessary.

- Ground Shaking. Human-occupancy structures shall be designed to conform to all applicable standards and guidelines including (but not limited to) appropriate local building codes and the Uniform Building Code.

- Liquefaction. Although the potential for impacts is considered to be less than significant, site-specific geotechnical studies shall be conducted for subsurface individual buildings to further evaluate liquefaction potential. If liquefaction-susceptible areas are identified, mitigation for proposed buildings would be site-specific and will include: enhanced foundation design, remedial grading, and/or relocation of planned structures.

- Groundwater. In the event of temporarily exposed groundwater within deep mining areas, mining will be temporarily suspended within those immediate areas. However, no mitigation is warranted for short-term loss of groundwater to evaporation, as it is not expected to significantly affect groundwater resources. (Refer to Section 4.4 Surface Hydrology, for a discussion of water quality impacts).

- Slope Stability. All slope design, cuts and fills, erosion control, surface and subsurface drainage shall conform to the recommendations of the geotechnical consultant. Slope failure will be controlled by reducing the angle of finished slopes, stabilizing the surface by establishing a suitable ground cover, and by providing adequate setbacks. This potential impact will be mitigated to a level of insignificance through site design, operation, and reclamation.

- Foundation Design. In order to mitigate the effects of potential ground shaking, possible liquefaction, and loose surficial soils, the following is recommended:

- The use of perimeter footings and floor slabs with reinforcing shall be employed where recommended by the geotechnical consultant to mitigate the effects of seismically-induced differential settlements.

- Recompaction of near-surface loose or disturbed zones of soil shall be employed in the proposed light and heavy industrial development areas. Site-specific geotechnical studies shall be made for grading and construction on these sites.

4.4 SURFACE HYDROLOGY

This section of the EIR discusses the analysis of impacts to surface water which could potentially result from implementation of the proposed project. Four major issues are addressed: development in the floodplain area, drainage control, shallow mining in the Cajon Creek Wash streambed, and surface water quality.

A Floodplain Hydrologic Study (Chang, 1990) was prepared to evaluate the maximum floodwater elevations during a 100-year storm event and to identify those portions of the CalMat Cajon Creek Specific Plan Areas located in the area between the estimated high water mark and the FEMA 100-year floodplain. Another engineering study (Nasland Engineering, 1990) was prepared to evaluate the streambed hydrology and channel profile of Planning Area P. Both documents are referenced as Technical Appendices to the CalMat Cajon Creek Specific Plan. The Nasland Study is provided as Appendix E to this EIR. The analysis of onsite hydrology is summarized below.

4.4.1 Existing Conditions

Almost the entire project site is comprised of gently-sloping terrain associated with the Cajon Creek Wash and its broad alluvial fan, which extends from Cajon Canyon, located to the northeast of I-15, I-215 junction, to just south of the project boundary, where Cajon Creek joins Lytle Creek.

The total drainage of Cajon Creek is 41 square miles. Because of the region's arid climate, stream flows in Cajon Creek are ephemeral. In drought years the wash may have no recordable surface flow. The average annual surface flow has been recorded as 7,150 acre-feet. The wash ranges in width from a few hundred yards, in the upper portion of the project site, to about one mile at the confluence of Lytle Creek Wash.

In terms of streambed morphology, Cajon Creek is properly classified as a nonsinuous, braided river. Streambed morphology is the study of the shape of alluvial channels and its response to outside factors. The braided condition of Cajon Creek is associated with its steep slope. Nonsinuous braided rivers, such as Cajon Creek, exist on steep slopes with

heavy bed-material load and low silt-clay content. Such rivers are highly braided and have moderate rates of lateral migration. The branch channels shift at random within the banklines.

The County of San Bernardino Emergency Public Works Agency, Transportation/Flood Control Department (the County EPWA) is responsible for facilities to control storm waters. Likewise, the Federal Emergency Management Agency (FEMA) is responsible for mapping the extent of the 100-year storm floods for use in the Federal Flood Insurance Program. The 100-year floodplain is identified in the City of San Bernardino General Plan, Public Safety Element (Section 16.0).

The presently-mapped FEMA 100-year floodplain of the Cajon Creek Wash, on its east side, generally follows the Southern Pacific Railroad, jogging southwestward as a result of a groin designed to protect the western portion of the former landfill. It crosses Institution Road approximately one-third of a mile west of Cajon Boulevard, then follows Muscoy Groin No. 2 which extends generally southward from Institution Road for a distance of one-half mile, then jogs southeasterly across the southern part of the CalMat ownership, and again follows the Southern Pacific Railroad. The western side of the Cajon Creek Wash (100-year floodplain) southward from Devore Road, follows an approximately one-half mile long dike which protects Glen Helen Regional Park, and then follows the base of the hills to the south for a distance of about 0.8 mile, where it is again contained by a series of dikes which protect an adjacent off-road racetrack and the Glen Helen Rehabilitation Facility located in the southwest. Southward of Institution Road, the western side of the Cajon Creek floodplain converges with that of Lytle Creek.

4.4.2 Project Impacts

4.4.2.1 Floodplain

The western portions of Planning Areas I and J, and a portion of Planning Area N, west of the Southern California Edison (SCE) easement, are within the presently-mapped FEMA 100-year floodplain. However, according to Howard M. Chang of the U.S. Army Corps of Engineers, these are areas of ineffective flow based on calculated floodwater elevations

(see HEC-2 study, Appendix E). It is Dr. Chang's opinion that these areas easterly of the SCE easement can be encroached upon within the guidelines of the FEMA. Typically, this would mean that fill could be placed in the fringe/ineffective flow area as long as the 100-year water surface elevation is not raised over one foot. It is anticipated a request would be made to FEMA to change the 100-year floodplain limits in this area.

No development activity, as provided for by the Specific Plan, except for mineral resource-related haul roads, shall occur within the presently-mapped FEMA 100-year floodplain until the FEMA floodplain map has been officially revised. All permanent structures will be located outside of the FEMA-mapped Cajon Creek 100-year floodplain.

The Specific Plan does however, provide for the expansion of useable area at several locations within the presently mapped FEMA 100-year floodplain. Those areas include: the southwestern portions of Planning Areas I and J, adjacent and to the east of the SCE easement, to be used for industrial development; and, the western portion of Planning Area N, west of the SCE easement, for aggregate processing equipment. Should these areas be required for use prior to official revision of the FEMA floodplain map, Regional Water Quality Control Board (RWQCB) and U.S. Army Corps of Engineers (COE) approval will be obtained, as may be required.

4.4.2.2 In-Stream Mining

Planning Area P. Planning Area P is located within the FEMA-mapped Cajon Creek 100-year floodplain. The "normal" channel profile (profile of equilibrium) of the Planning Area P reach of Cajon Creek was evaluated. In-stream material that presently exists can be removed without causing significant upstream or downstream impacts, particularly on Institution Road, the Metropolitan Water District and San Gabriel Valley Municipal Water District aqueducts, the eight-inch petroleum products pipeline located to the west, the Southern Pacific railroad or other adjacent areas of concern. (Nasland Engineering, 1990). Implementation of the project will incorporate measures into its design, at the downstream end, to assure that floodflows maintain their pre-extraction velocities, so that excessive downstream sedimentation does not occur.

Shallow mining (skimming) will be conducted in order to remove material in excess of that which would be found in a "normal" channel configuration, that is, above the streambed's natural profile of equilibrium. No permanent structures will be placed within Planning Area P; and no operating equipment, other than a portable primary crusher and/or scalping plant, will remain within Planning Area P during non-operating hours, or at any time surface flow is anticipated.

No aggregate processing, other than primary crushing of material larger than six-inches in diameter, or removal of excess "fine" material (scalping) with portable equipment, will be conducted within Planning Area P because of its location within the FEMA-mapped Cajon Creek 100-year floodplain.

4.4.2.3 Drainage

Adequate mining area and aggregate processing plant site drainage will be provided in accordance with the CalMat Cajon Creek Specific Plan, Design Guidelines. All light and heavy industrial development within the CalMat Cajon Creek Specific Plan will be adequately served by storm drainage facilities so that all surface runoff from within the extraction area will be internally draining, except in the Cajon Creek floodway, where such runoff shall be conveyed through or around the extraction area.

With regard to those Planning Areas subject to industrial development, phasing of storm drainage improvements will be in accordance with the Specific Plan Infrastructure Improvement Plan (see Section 4.7 Traffic and Circulation, Figure 4.7-2). All project related drainage facilities shall be designed to accommodate run-off associated with a 25-year flood event. As required by the City of San Bernardino General Plan Utilities Element, the San Bernardino County Flood Control District and the City Public Works Department will approve development plans with respect to the adequacy of proposed storm drain facilities as a condition of project approval.

4.4.2.4 Water Quality

The proposed project could potentially degrade surface water quality both within and downstream from the site. This would include short-term impacts related to construction activity as well as long-term effects of mineral-resource extraction operations.

Construction-related effects pose potential impacts to water quality from the proposed industrial developments, primarily in the form of sediment and suspended solids. Excavation and site-grading and, to a lesser extent, the creation of cut and fill slopes would increase the potential for erosion and transport of material within and off the site. Construction-related sediment loss from the project site could contribute to the cumulative degradation of local water quality, as well as related resources.

A number of construction-related erosion controlling techniques will be included in the project design to minimize sediment movement on disturbed areas, including appropriate design of pads and slopes, the use of approved and properly compacted fill materials, and proper maintenance of erosion control facilities. All proposed erosion control measures will be subject to review and modification by the City of San Bernardino Public Works Department prior to project approval. With timely and proper implementation, these measures are considered capable of mitigating potential construction-related water quality impacts to below a level of significance. Since such measures are incorporated into the project design, they will be implemented as part of the construction activities.

It should be noted that the aggregate processing plants in Planning Areas D and N will utilize wet operations. A wet-processing component will be provided in order to produce washed concrete sand at Planning Area D, and washed sand and gravel at Planning Area N. Process water will be reclaimed and re-used by means of settling ponds and a re-circulating system. This process is not expected to result in any significant impact to water quality because there would be no discharge from the processing plant.

Potential impacts to water quality from the proposed project would however, include the discharge of hazardous or toxic materials directly or indirectly into surface drainage systems. The trucks, earthmoving equipment and processing machinery used in aggregate production

typically involves the use of fuels, oils and lubricants, which are considered hazardous by the State law. Mitigation measures for reducing these impacts are discussed in Section 4.10 Hazardous Materials. Restrictions on the handling, storage, and/or usage of hazardous materials associated with industrial development are discussed in the CalMat Cajon Creek Specific Plan.

The importation of inert fill for reclamation of Planning Area D will only consist of fill materials that are classified as inert waste under California Code of Regulations, Title 23, Chapter 15, Article 2, Section 2524 and would pose no threat to groundwater.

The San Bernardino County Environmental Health Department is preparing the County Hazardous Waste Management Plan, which will develop regulations at the local level for the creation, storage and handling of hazardous materials. Of particular interest to the current analysis is the objective to establish water resource protection as a recognized commitment of the County, and the establishment of a policy to protect surface water and groundwater quality from new contamination. (Groundwater impacts are discussed in Section 4.3 Geologic and Geotechnical.)

4.4.3 Significance of Impacts

The CalMat Cajon Creek Specific Plan incorporates design requirements, as well as engineering measures and recommendations, that are anticipated to mitigate all potential flooding impacts to below levels of significance. Furthermore, erosion control and existing hydraulic structures will facilitate both erosion and sedimentation control so that they do not significantly affect the quality of surface waters.

4.4.4 Mitigation Measures

The following mitigation measures are required to ensure that all potentially adverse surface hydrology impacts are reduced to below levels of significance:

- Proposed site design and drainage system plans shall be submitted for review to the City of San Bernardino. The San Bernardino County Flood Control District and the City Water Department will approve development plans with respect to adequacy of storm drain facilities as a condition of project approval. Final design shall include all requirements and recommendations provided by the agency.

- Adequate mining area and aggregate processing plantsite drainage shall include the following measures:

  - Surface drainage will be diverted around the mining pits within Planning Areas F, L and M. Internal drainage will be collected at the lower end of excavation for percolation.

  - Adequate surface drainage control shall be designed for aggregate processing plantsites within Planning Areas I and N, so that erosion and sedimentation does not develop in the adjacent Cajon Creek.

- All project-related drainage facilities shall be designed to accommodate runoff associated with a 25-year flood event pursuant to requirements of the City of San Bernardino Public Works Department.

- Final design specifications shall include a schedule for regular maintenance of all drainage facilities to ensure proper working condition.

- Discharge of surface runoff, whether from storm drains or diversions from pit areas, are subject to Stormwater Discharge Permits from the RWQCB.

- Erosion control measures described in the project design shall be inspected after emplacement by a qualified engineering or hydrological consultant to insure proper working condition.

- Erosion control measures associated with the proposed project shall include the following:

  - Implementation of the Revegetation Plan, required in accordance with the Reclamation Plan, which provides for hydroseeding all disturbed areas.

- Recommendations on the design and location of all drainage facilities provided during geotechnical or hydrological observations of grading and construction activities shall be incorporated into final project design.

- Process water from plants in Planning Areas D and N will be reclaimed and re-used by means of settling ponds and a recirculating system.

- All facilities subject to flooding damage shall be located outside of the 100-year floodplain or otherwise protected per direction of the project engineering, geotechnical, or hydrological consultants, and the City of San Bernardino Public Works Department.

- Prior to expansion of useable area within the presently mapped FEMA 100-year floodplain, approvals will be obtained if required from the RWQCB and the COE.

- Prior to granting of City approval, CalMat will file a request for a FEMA map revision, a Letter of Map Revision (LOMR) to Panel No. 7920, relative to those portions of the Planning Areas located within the presently mapped FEMA 100-year floodplain where any development is proposed. The LOMR request will be processed through the County of San Bernardino Environmental Management Group prior to construction within those Planning Areas.

With implementation of the above measures, potentially significant impacts relating to surface hydrology would be reduced to below a level of significance. No further mitigation measures are required.

4.5 NOISE

An acoustical analysis was conducted for the CalMat Cajon Creek Specific Plan project by Giroux & Associates (May 1991). The noise impact study is included a Appendix F and summarized below.

4.5.1 Existing Conditions

Existing noise levels within the subject property derive mainly from vehicular sources on the highways and secondary roads in the area. Railroad traffic, occasional aircraft activity and some manufacturing processes constitute additional noise to the overall noise environment. The existing noise levels impacting the proposed project site could be characterized as a partially degraded noise environment. The proposed mineral resource extraction and processing activities, together with industrial uses, will be located within this noise environment.

The Noise Element of the City of San Bernardino General Plan has established a set of community standards which identify compatible exterior noise levels for various types of land uses. In the City of San Bernardino, the Noise/Land Use Compatibility Guidelines, shown in Table 4.5-1, are used to specify a range of community noise exposures acceptable for various receiver site land uses. Though the Office of Noise Control identifies the normally acceptable range of 60-70 dB for residential uses, the City of San Bernardino generally uses the mid-point value of 65 dB(A) community noise equivalent level (CNEL). CNEL is the energy averaged sound level over a 24-hour period, with a 5 to 10 dB increment added as a penalty if the noise occurs during sensitive evening and nighttime hours. Industrial areas are less noise sensitive than residential areas and have a normally acceptable maximum exposure level of below 70 dB CNEL, with exposures between 70 and 80 CNEL being conditionally acceptable, and unacceptable above 80 dB CNEL. If it appears that the exterior noise level at a new development will exceed the standards, the General Plan noise guidelines require that measures be examined to reduce noise levels at the project site.

TABLE 4.5-1

CITY OF SAN BERNARINO
NOISE/LAND USE COMPATIBILITY GUIDELINES

Land Use Category	Community Noise Exposure Ldn or CNEL dB							
	50	55	60	65	70	75	80	85
Residential Land Uses--Low Density Single Family, Duplex, Mobile Homes	A							
		B						
					C			
					D			
Residential--Multi-Family	A							
			B					
					C			
					D			
Transient Lodging: Hotels, Motels	A							
			B					
					C			
								D
Schools, Libraries, Churches, Hospitals, Nursing Homes	A							
			B					
					C			
								D
Auditoriums, Concert Halls, Amphitheaters, Music Shell	B							
				C				
Sports Arenas, Outdoor Spectator Sports	B							
					C			
Playgrounds, Neighborhood Parks	A							
					C			

TABLE 4.5-1 (Continued)

CITY OF SAN BERNARDINO
NOISE/LAND USE COMPATIBILITY GUIDELINES

Land Use Category	Community Noise Exposure Ldn or CNEL dB							
	50	55	60	65	70	75	80	85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	A	A	A	A	C	C	C	D
Office Buildings, Business, Commercial and Professional Services	A	A	A	A	B	B	C	C
Industrial, Manufacturing, Utilities, Agriculture	A	A	A	A	B	B	C	C

Source: Office of Noise Control, California Department of Health--as shown in San Bernardino General Plan Noise Element, Figure 56.

Explanation of Land Use Consequences:

A Normally Acceptable. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without special noise insulation requirements.

B Conditionally Acceptable. New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design.

C Normally Unacceptable. New construction should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

D Clearly Unacceptable. New construction or development should generally not be undertaken.

4.5.1.1 Baseline Noise Levels

Onsite noise monitoring was conducted at locations around the proposed CalMat Cajon Creek project site. The results of this monitoring are summarized in Table 4.5-2. Except in very close proximity to the freeway or railroad tracks, noise exposure is generally low and well below the exterior 60 dB goal for noise sensitive land uses. The acceptable noise limit was only exceeded at three of the monitoring locations. Two of these locations are at Cajon Boulevard at Bennet with 63 dB Leq, and along Cajon Boulevard at the southern end of the proposed project, in an area proposed for a school site, with 62.4 dB Leq. Leq represents the equivalent steady-state noise level which in a defined period of time contains the same noise (acoustic) energy as a time-varying noise during the same period of time. These noise levels are attributed to railroad activity and truck and vehicular traffic along Cajon Boulevard. The noise exposure recorded at Kendall Drive near Yucca Avenue was 72.6 dB Leq. The proximity to traffic on Kendall Drive, plus proximity to both freight and passenger trains passing during the twenty-five minute monitoring period, created a noise exposure level well above the 60 dB CNEL exposure level, which is the most acceptable standard typical for residential exterior noise level exposure.

4.5.2 Project Impacts

The nature of the proposed project is described in Section 2.0 Project Characteristics. Three noise source categories were identified as being related to the proposed CalMat Cajon Creek project: noise levels to be produced from industrial activities, on-site mineral resource processing, and noise levels generated by mobile sources, i.e., traffic and construction equipment. These noise sources are analyzed separately below.

4.5.2.1 Industrial Development Sources Impacts

The CalMat Cajon Creek project involves phased industrial development in Planning Areas A, B, C, D, E, F, G, H, I, J, and K over a twenty-five year span of time. It is impossible to quantify the noise levels which may result from industrial activities, as the exact nature and source will not be known until the tenant mix is identified during the various phases of development. Noise impacts from site activities will therefore be transitional as development

TABLE 4.5-2

ONSITE NOISE MONITORING SUMMARY

Location		Vehicle Type[1] Auto/Med/Hvy	Averages Speed	Leq	Lmax	Lmin	Percentages[2] L01	L10	L25	L50
Southern Residential										
A.	Duffy St. near Mesa o	50/10/0	35	52.6	71.0	38.5	65.5	55.5	48.5	45.0
B.	Duffy St. 150' oo	---	--	49.1	64.5	36.0	62.5	50.0	44.0	41.0
Blake St. Park										
C.	Blake St. 50' oo	---	--	44.1	56.0	37.0	51.0	47.0	44.5	42.0
D.	Blake St. 200' oo	---	--	45.1	64.5	35.5	54.5	47.5	45.5	42.0
Ogden St. near Gray St.										
E.	End of Ogden	---	--	40.6	55.0	35.0	50.5	43.0	39.5	37.5
F.	Other side of tracks 200' East of E.	---	--	38.9	51.0	34.0	47.5	41.0	39.0	37.0
Verdemont Road										
G.	Near Boys Camp o	50/0/0	50	50.1	68.5	37.5	65.0	52.5	45.0	41.0
H.	Verdemont Road o	50/0/0	50	53.3	73.5	35.0	68.0	52.5	46.5	41.5
I.	Off-Road Vehicle Park (no activity)	---	--	50.1	67.0	35.5	62.0	53.0	48.5	43.5
Institute Road										
J.	Near Jail o	60/0/0	45	53.7	66.5	39.0	62.5	57.5	54.5	50.0
K.	R/R Crossing Overpass	60/0/0	65	50.2	63.5	34.0	60.5	54.0	49.5	44.5
Northern Residential										
L.	Cajon Blvd. at Bennet 50' oo	220/0/10	75	63.0	78.5	42.5	75.0	67.5	61.0	52.5
M.	Kendall Dr. near Yucca 50' oo	160/10/0	65	72.6	93.5	41.0	88.5	66.5	62.5	53.5
Proposed School Site										
N.	Cajon Blvd. o	80/20/10	60	62.4	80.0	44.5	75.5	66.0	56.5	49.5
O.	S. Edge	---	--	43.9	53.5	38.0	52.0	48.0	43.5	41.0
P.	NW Edge	---	--	43.9	59.5	36.5	57.0	44.5	41.5	39.0

[1] In-put data

[2] Levels of sound exceeded 1%, 10%, 25% and 50% of the time respectively

--- = no data

o = 50 feet from center of roadway

oo = 50 feet from edge of roadway

L = Level of sound

Source: Giroux and Associates, 1990

occurs within the various industrial designated Planning Areas and contributes to the ambient noise environment. Increased industrial development, such as that permitted by the Planning Area Regulations (see Section 2.4.1 Specific Plan), together with additional automobiles and trucks being dispersed throughout the local transportation system, will create increasingly dominant noise levels. These noises will be complex composites of low frequency, mid-frequency and high-frequency sounds that may cumulatively impact the environment.

4.5.2.2 Mineral Resource Processing Sources Impacts

Noise emissions will be most heavily concentrated within the permanent aggregate processing area (Planning Area N) of the proposed project site, rather than noise from within the extractive areas (Planning Areas F, L, M, and P). This is because noise within the extractive areas will generally be shielded by the walls of the quarry itself, or by the side slopes of the in-stream mining area. The observed noise impact at the nearest residential receptors south and east of the project site from all activities will be a combination of distinct stationary noise sources and a diffuse collection of mobile equipment noise sources.

Two general characteristics of aggregate processing and related uses, such as concrete production, are that the noise is in a relatively steady-state, and of considerably low frequency tones that carry for long distances with only some attenuation.

Noise emission rates from the various sources comprising the aggregate resource operations have been measured on many occasions. And, though noise levels around one plant are often different from comparable plants with similar equipment, patterns of noise emissions are reasonably predicted within a narrow range of uncertainty. Approximate noise levels were developed for the mineral resource processing component of the CalMat Cajon Creek Specific Plan using base noise source measurements from the C.L. Pharris Church Street Plant in the Redlands and Highland area, approximately twelve miles east/southeast of the subject project site.

Residential area noise exposures (calculated from the C.L. Pharris operation) at the nearest offsite residential structure, 1,000 feet from the main processing plant proposed in Planning Area N, will be 64 to 67 dB. The noise exposure to the proposed high school site at 2,000 feet from Planning Area N will be 57 to 60 dB. Noise exposure at the nearest residence and

the proposed school site will be a function of the plant operation hours, as illustrated in Table 4.5-3. Compliance with CNEL exposure levels will depend on the number of hours of operation of the facility and on any measures taken to reduce the overall noise loading.

TABLE 4.5-3

NONATTENUATED FUTURE NOISE LEVEL EXPOSURES ON SENSITIVE LAND USES
(As a Function of Plant Operation Hours)

Hours of Operation	Nearest Home	Proposed High School
7:00 a.m. - 7:00 p.m.	61 - 64	54 - 57
7:00 a.m. - 10:00 p.m.	64 - 68	57 - 60
6:00 a.m. - 7:00 p.m.	64 - 67	57 - 60
6:00 a.m. - 10:00 p.m.	65 - 68	58 - 61
24 hours/day	71 - 74	64 - 67

Noise levels greater than the maximum sensitive land use standard could be substantially exceeded if the plant is operated during increased hours of greater noise sensitivity. Given that there is property east of Planning Area N, which is even closer than the current nearest home that could be developed into residential uses, a potentially significant impact exists.

A number of noise control measures are able to achieve effective noise reduction related to the processing plants in Planning Areas D, I and N. Control measures include: limitations on plant operation hours during sensitive evening hours (10:00 p.m. to 7:00 a.m.), various design features and standards, as well as partially screening the physical line of sight. The portable processing plant, in Planning Area D, will use material stockpiles to attenuate noise where feasible, and the more prominent aspects of the aggregate processing operation will be located away from Cajon Boulevard. As practicable, aspects of the portable aggregate processing operation, in Planning Area I, which are noisiest and most prominent in nature, will be located away from Institution Road. Crusher and screen noise at residences south of the Planning Area N plant can also be reduced by orienting the screens and crushers

northward. Furthermore, berming along the perimeter of the plant site area, together with maintaining a 50-foot maximum height on the top of any screen, will create substantial noise reduction benefits. With full shielding of line of sight of all processing components, except the tops of conveyors and silos, the noise reduction will be 10 to 15 dB.

4.5.2.3 Mobile Source Impacts

Short-term noise impacts would occur during the construction of industrial development parcels within the CalMat Cajon Creek Specific Plan area. Adjacent uses would experience a temporary increase in noise levels due to construction activities. Temporary equipment noise levels of 90 dB may result, but will occur by day under time constraints imposed by grading and construction permits. Furthermore, much of the mobile equipment activity in the southern end of the project will be shielded from the nearest homes by the railroad embankment. At the northern end of the project the separation distance and freeway background will have a masking effect at nearby homes.

Noise generated by future traffic flow will modify roadway noise patterns along site access routes. Truck noise impact calculations were made along Cajon Boulevard using accepted noise analysis guidelines (Traffic Noise Model FHWA-RD-77-108 and CALVENO-85 noise characteristics). Existing and future noise levels were calculated from a 100-foot exposure distance for three horizon years (1997, 2007 and 2017) and are summarized in Table 4.5-4. Distances to noise level contours were also identified in the Noise Impact Study, for distances from the project at which 60, 65 and 70 dB CNEL would be encountered (see Appendix F). The contour distance of 60 dB CNEL is the set-back needed for any noise--sensitive land use not requiring any noise attenuation; a distance of 65 dB is the exposure that is not to be exceeded with or without mitigation; and 70 dB CNEL is the exposure at which noise attenuation must be considered for less noise-sensitive uses such as commercial or light industrial development. The 70 dB exposure contour is shown in Table 4.5-5.

Despite the limited development intensity of the project area, noise levels in close proximity to local roadways exceed the 60 dB CNEL standard out to a moderate distance from area roadways because of heavy truck traffic and rapid travel speeds. However, the 70 dB contour distance is currently within the roadway right of way along all roads analyzed and

TABLE 4.5-4

CNEL AT 100 FEET TO ROADWAY CENTERLINE (dBA)

Roadway Segment	Existing (1989)	1997 NP	1997 WP	2007 NP	2007 WP	2017 NP	2017 WP
Institution/Palm Avenue							
W of RR Tracks	62.4	63.3	64.6	64.6	67.0	66.1	68.2
RR Tracks--Cajon	62.4	63.3	66.6	64.6	68.2	66.1	69.2
Cajon--Kendall	65.3	66.4	68.9	67.1	69.8	68.4	71.0
Cajon Boulevard							
N. of Palm	60.0	61.7	63.4	63.8	64.5	66.0	67.3
S. of Palm	61.3	63.3	65.3	65.1	66.5	67.2	68.7
Kendall Drive							
Cajon--Palm	59.6	61.2	61.2	63.4	63.4	65.5	68.2

Source: FHWA-RD-77-108 (CALVENO-85 mod.)
NP = No Project
WP = With Project

TABLE 4.5-5

DISTANCE FROM CENTERLINE TO 70 dB CNEL CONTOUR

Roadway Segment	Existing (1989)	1997 NP	1997 WP	2007 NP	2007 WP	2017 NP	2017 WP
Institution/Palm Avenue							
W of RR Tracks	<50'	<50'	<50'	<50'	64'	55'	76'
RR Tracks--Cajon	<50'	<50'	59'	<50'	76'	55'	89'
Cajon--Kendall	<50'	58'	84'	64'	97'	78'	117'
Cajon Boulevard							
N. of Palm	<50'	<50'	<50'	<50'	<50'	54'	66'
S. of Palm	<50'	<50'	<50'	<50'	59'	66'	82'
Kendall Drive							
Cajon--Palm	<50'	<50'	<50'	<50'	<50'	50'	76'

Source: FHWA-RD-77-108 (CALVENO-85 mod.)
NP = No Project
WP = With Project

thus presents no development constraint for proposed light or heavy industrial uses governed by the 70 dB CNEL exposure guideline. Although the 3 dB threshold of significance is marginally exceeded for the "with project" versus "no project" condition, there are only limited noise-sensitive land uses where such a change in noise exposure might be evident.

Residential uses along Cajon Boulevard at the north and northeast end of the Specific Plan area, Muscoy residents at the south end, and the proposed school site location, are the three primary sensitive receiver sites identified as potentially being affected by traffic noise changes. Most of the traffic generated by the CalMat Cajon Creek Specific Plan will head southward such that noise impacts near Devore will be limited in any event by the prevailing traffic pattern.

Each of these potentially affected sensitive receiver locations currently experiences background masking noise from Interstate 215 in the north and Cajon Boulevard in the south. Masking, together with development standards for minimum set-backs provided in the Specific Plan, will further preclude formation of significant noise impacts.

The City noise standards require that acceptable exposures not only apply to existing land uses, but for future uses allowed under current zoning or General-Plan designation. Therefore, a noise conflict could occur if future residences southeast of the project site are built in close proximity to Cajon Boulevard without incorporating sufficient acoustic protection from a noise level of 72 dB CNEL at 200 feet from the AT&SF railroad tracks (City General Plan, Section 14, p.14-7). Adherence to Uniform Building Code acoustic requirements and City Noise/Land Use Compatibility Guidelines will similarly protect those same homes from roadway noise exposure. The Noise Impact study therefore found that traffic noise impacts from implementation of CalMat Cajon Creek Specific Plan will not result in a significant impact.

4.5.3 Significance of Impacts

Except in very close proximity to the freeway or railroad tracks, existing noise exposure in the project area is generally low and well below the exterior 60 dB goal for noise sensitive land uses. The acceptable exposure limit was only exceeded at three monitoring locations.

Two locations are Cajon Boulevard at Bennet with 63.0 dB Leq and Cajon Boulevard on the proposed school site with 62.4 dB Leq. Future noise levels could potentially represent significant impacts to future residences and the proposed high school at these locations, which are near the southern end of the project area. Any adverse impacts in these areas would be as a result of their proximity to the processing plant site (Planning Area N). Some berming benefit already exists from the railroad embankment such that a similar berm on other sides of the plant, coupled with conformance with the Design Guidelines related to noise attenuation, will further reduce plant noise impacts. Therefore, implementation of the mitigation measures identified herein are expected to reduce potentially significant noise impacts to below a level of significance.

No significant impacts are represented by short-term construction related noise sources or traffic noise impacts from implementation of the Specific Plan.

4.5.4 Mitigation Measures

The following mitigation measures include those recommended in the Noise Impact Study, together with noise attenuation measures which have been incorporated into the CalMat Cajon Creek Specific Plan. These measures are proposed to reduce potentially significant noise impacts from the permanent aggregate processing plant in Planning Area N, on existing residents and the proposed high school site. Both potential areas of impact are south of Planning Area N and were the only impacts identified as requiring mitigation.

- Plant operations, including aggregate extraction, processing, handling and formulation of any construction materials, shall not cause hourly noise levels to exceed any of the following noise levels at the nearest occupied residence to the processing plant site:

  65 dB Leq from 7:00 a.m. to 7:00 p.m.;
  60 dB Leq from 7:00 p.m. to 10:00 p.m.; and
  55 dB Leq from 10:00 p.m. to 7:00 a.m.

- Plant site layout and design shall be located in such a manner as to minimize impacts to residences to the southwest of Planning Area N, behind the Southern Pacific Railroad embankment.

4.6 LAND USE

4.6.1 Existing Conditions

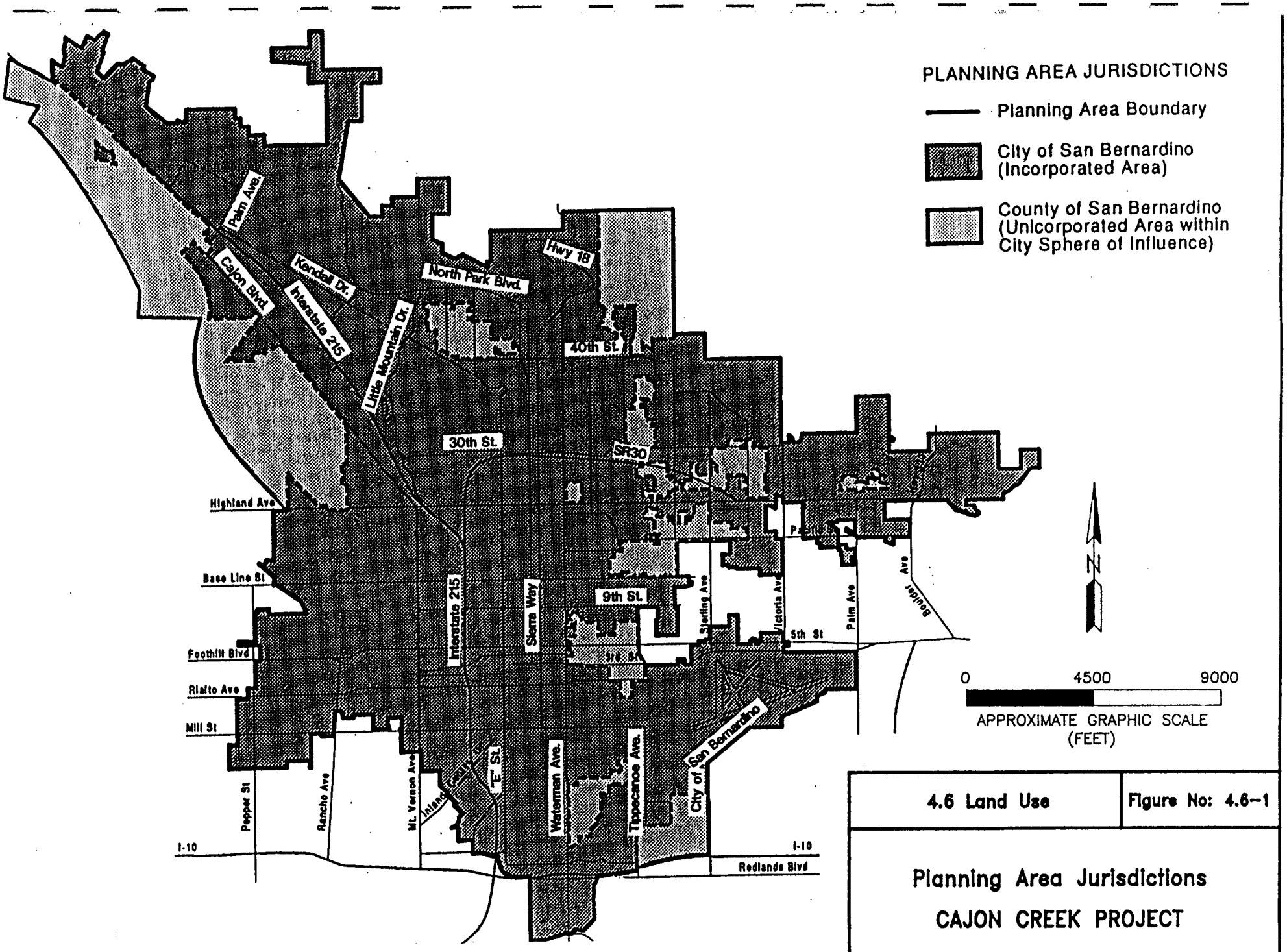
The proposed Cajon Creek project site is situated in several jurisdictions; the City of San Bernardino and the County of San Bernardino (Figure 4.6-1), as well as the Northwest Redevelopment Project area (Figure 4.6-2). The 1,392-acre site is essentially vacant, but a number of transportation corridors, utility easements and flood control structure are present on and adjacent to the site. Three adjacent rail lines, the Southern Pacific, the Santa Fe and Union Pacific, are present in the northern portion of the site. The Southern Pacific railroad passes through the central portion of the site in a generally north to south direction.

4.6.1.1 Surrounding Land Uses

Land uses surrounding the project site, illustrated in Figure 4.6.3, are widely varied in nature, including open space recreational areas, industrial development, and residential development. Portions of the site are somewhat isolated in character. This is primarily a result of the presence of the broad Cajon and Lytle Creek Washes and their 100-year floodplains; the upland area to the west generally associated with the Glen Helen Regional Park and Glen Helen Off Highway Vehicle Park; and the presence of three railroad main lines that pass through the area.

Land uses to the west of the project site located north of Institution Road include Glen Helen Regional Park, off of Devore Road, and the Glen Helen Off Road Vehicle Park accessed by Institution Road and Ranch Road located to the west of Cajon Creek. These uses primarily cover the upland area of rolling hills located between the Cajon Creek and Lytle Creek Washes. Located along the southern portion of this upland area is the Glen Helen Rehabilitation Facility and an associated sewage treatment plant, and the Sheriff's Training Academy. The Verdemont County Boys Camp is located along the western side of this upland, to the west of the off-highway vehicle park.

Surrounding land uses to the west of the project site, located to the south of Institution Road, are primarily vacant, broad floodplain areas associated with the confluence of the Cajon



SOURCE: CITY OF SAN BERNARDINO GENERAL PLAN, 1989.

4.6 Land Use	Figure No: 4.6–1

Planning Area Jurisdictions
CAJON CREEK PROJECT

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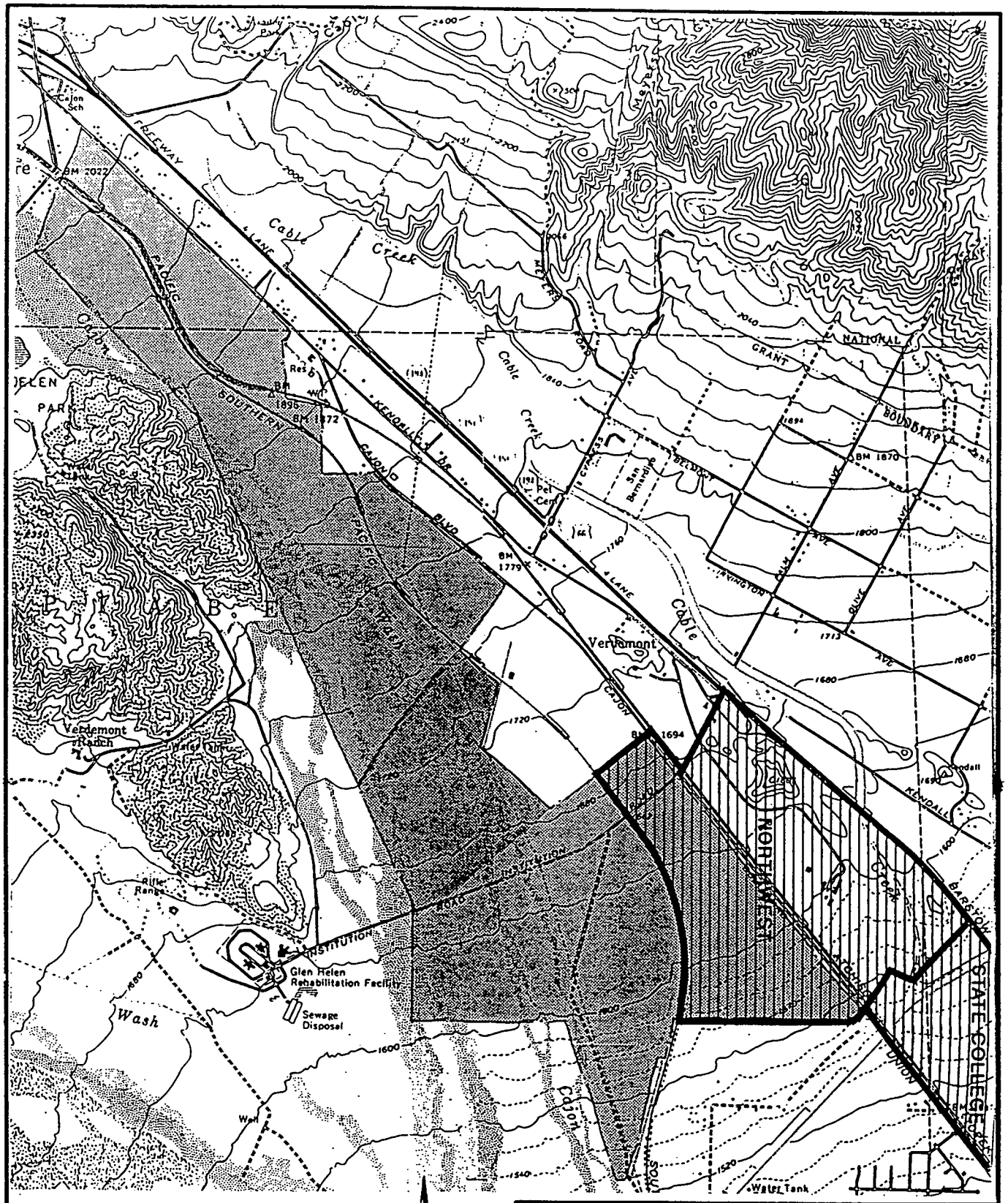


4.6 Land Use	Figure No: 4.6-2

Northwest Redevelopment Project

CAJON CREEK PROJECT

0 2000 4000

APPROXIMATE GRAPHIC SCALE
(FEET)

N

SOURCE: CALMAT CAJON CREEK SPECIFIC PLAN, FEBRUARY 1991.

4.6 Land Use	Figure No: 4.6-3

Surrounding Land Uses

CAJON CREEK PROJECT

Woodward–Clyde Consultants

Creek and Lytle Creek Washes. A major sand and gravel extractive operation, the Owl Rock Products, is located approximately one mile to the southwest of the southern aspect of the project site in the Lytle Creek Wash. A 134-acre County of San Bernardino biological habitat preserve borders on about 1,100 feet of the Specific Plan area on the west, immediately south of the MWD and SGVMWD pipeline easements. This preserve contains Riversidian alluvial fan sage scrub habitat for two federally-endangered plants which require periodic natural flooding.

The community of Muscoy is located south of the Cable Creek Channel, between Lytle Creek and Cajon Boulevard, approximately one-half mile south of the project site. Muscoy is in an unincorporated area of the County of San Bernardino, but within the City's Sphere of influence. Approximately fifteen semi-rural homes within an approximately 235-acre area, are also south of the project site, between the Cable Creek Channel and the railroad. These homes are accessed by 5th Avenue and a portion of Gray Street, both of which are unpaved. A largely undeveloped area containing several houses extends westward of Cajon Boulevard along the north side of the Cable Creek Channel for a distance of about three-quarters of a mile. A school site has been proposed in this location. CalMat's Highland Avenue sand and gravel extractive and processing operation, and the Industrial Asphalt facility, are located two miles to the south, on Highland Avenue along the west side of Lytle Creek.

Surrounding land uses to the east of Cajon Boulevard and south of Palm Avenue include the Union Pacific and the AT&SF Railroads, and heavy industrial uses. Land uses to the east of Cajon Boulevard, between Kendall Drive and Palm Avenue, consist primarily of scattered industrial uses, including the visually-prominent grain elevators of the Cargill Flour Milling facility, a wood working facility and a gunite company. The San Bernardino Municipal Water District Palm Avenue Reservoir and Hydrogeneration Station is located to the north of Palm Avenue, between the railroad tracks and the freeway. The Cajon Boulevard Landfill is an inactive landfill located to the north of Institution Road, within the Cajon Creek floodplain, and includes approximately 180 acres.

4.6.1.2 Adjacent Facilities and Developments

A number of adjacent land uses not associated with the project site are located to the west of Cajon Boulevard, between Institution Road and the Cajon Boulevard and Kendall Drive intersection. These include two small industrial buildings separated by Sheldon Avenue, a small street that joins Cajon Boulevard on the west just north of the landfill, as well as an automobile wrecking yard located just south of where the railroads cross Cajon Boulevard. Other adjacent uses in this area include a City of San Bernardino Municipal Water District water facility and a small motel just to the north, at the Cajon Boulevard and Kendall Drive intersection.

The east side of Cajon Boulevard between the Cajon Boulevard and Kendall Drive intersection and Devore Road, contains an older residential area. Homes in this area face Cajon Boulevard and back onto the I-215 freeway. There are also several mixed commercial uses within this unincorporated area which is designated for future industrial land use on the City of San Bernardino General Plan Land Use Map.

A small area along the west side of Cajon Boulevard between Devore Road and the northern portion of the CalMat Cajon Creek project site, contains several homes and a City of San Bernardino water pumping station. An outdoor contractor storage yard is located to the north of Devore Road, between Cajon Boulevard and the railroad tracks, while land uses further north along Cajon Boulevard include a California Division of Forestry fire station and highway commercial uses.

4.6.1.3 Onsite Land Use Plans and Policies

Of the 1,392-acre project site, approximately 208 acres of the southeastern portion are currently within the City of San Bernardino. The majority of the site, however, is within the County of San Bernardino, but lies within the City of San Bernardino's Sphere of Influence. The Local Agency Formation Commission (LAFCO) has determined that future annexation of that property to the City of San Bernardino is appropriate, and the City is taking steps to annex the approximately 1,184 acres of land within the Specific Plan into the City. Approval is currently pending.

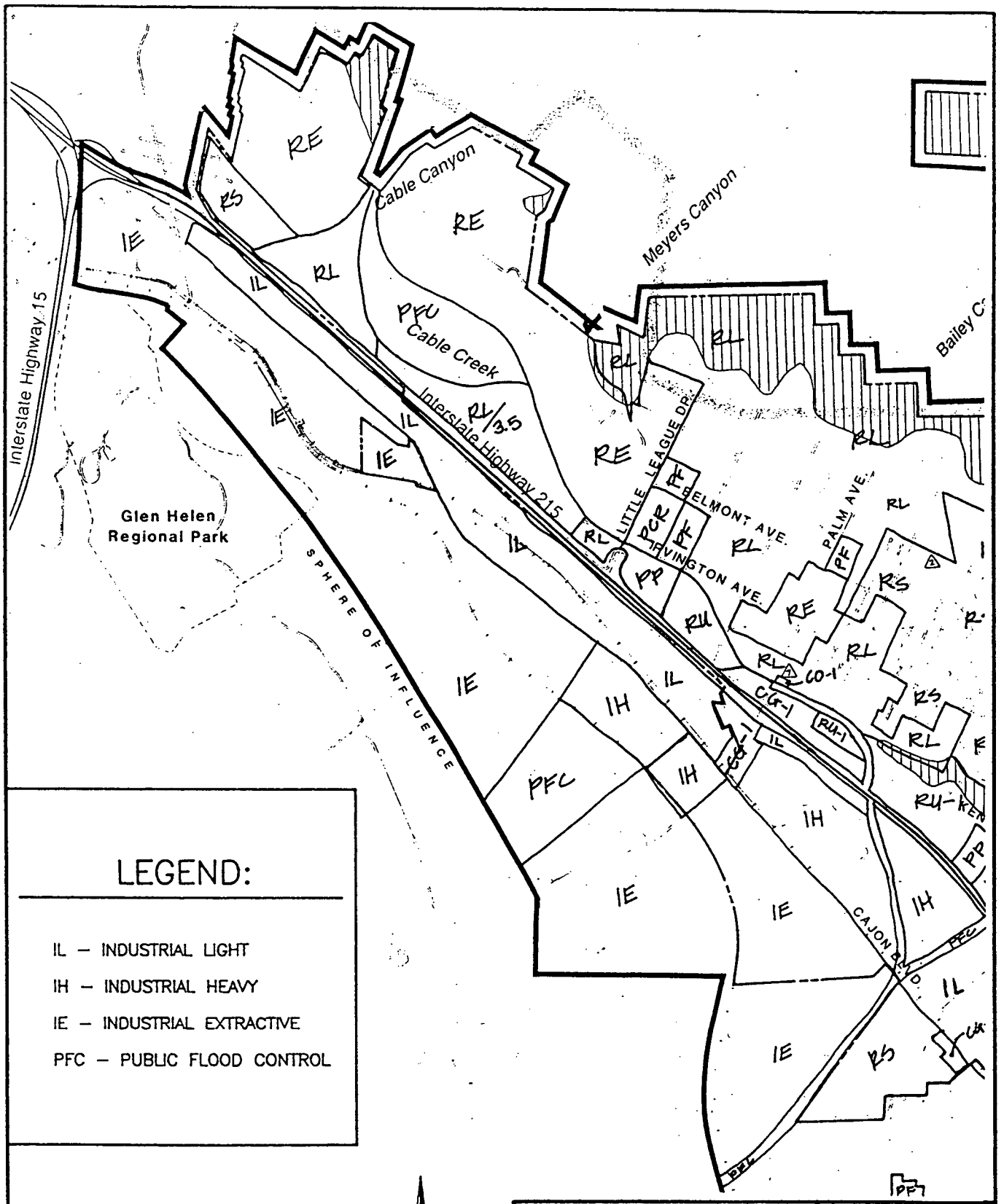
The Northwest Redevelopment Project encompasses approximately 1,500 acres, generally bounded by the I-215 freeway on the east, the Lytle Creek Wash on the west, Palm Avenue and the former County landfill on the north, and Seventh Street on the south (see Figure 4.6-2). Planning Area G, H, K and L, approximately 215 acres, lie within the Northwest Redevelopment Project area.

The Redevelopment Agency of the City, organized in 1952 under the authority of the California Redevelopment law, is charged with the responsibility of revitalizing the City's deteriorating and distressed communities and neighborhoods. The Redevelopment Agency promotes the elimination of blight inside project areas; the stimulation of industrial, commercial, residential and public developments within project areas; an increase in local employment base; the enhancement of low and moderate income housing opportunities; an expansion in the regional boundaries of commercial activities; and an increase in tax increment in project areas.

The City of San Bernardino's existing zoning and land use designation within the CalMat Cajon Creek project area, provide for a mix of Industrial Extraction (IE), Industrial Heavy (IH), and Public Flood Control (PFC), as indicated in the Land Use Element of the General Plan (Figure 4.6-4).

The City of San Bernardino General Plan has been designed to guide development in such a way that community goals are met and that projected growth within the area is accommodated, while providing public facilities and maintaining environmental quality. Relevant objectives and policies within the Land Use and Urban Design Element of the General Plan have been incorporated into the CalMat Cajon Creek Specific Plan for each Planning Area (CalMat Cajon Creek Specific Plan, 1991, pp 21-29).

4.6.1.3.1 General Plan Policies Related to Mineral Extraction. In June 1989, the City of San Bernardino adopted a new General Plan. The City's Land Use Plan Map designates the areas of various land use categories selected as appropriate for the future ultimate development of the City. These uses are based on community needs and the stated goals and objectives of the citizens adopted as the preamble of the City's General Plan. The land use designations indicated therein limit the potential development or redevelopment of property



LEGEND:

- IL – INDUSTRIAL LIGHT
- IH – INDUSTRIAL HEAVY
- IE – INDUSTRIAL EXTRACTIVE
- PFC – PUBLIC FLOOD CONTROL

0 2000 4000

APPROXIMATE GRAPHIC SCALE (FEET)

SOURCE: CITY OF SAN BERNARDINO GENERAL PLAN, 1989.

N

4.6 Land Use	Figure No: 4.6-4

City of San Bernadino
Land Use Plan

CAJON CREEK PROJECT

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to those uses permitted. The City's General Plan recognizes the State's designation of the site as containing regionally significant construction aggregate resources, and designates it as Industrial Extractive (IE), which provides for mining operations (discussed in Section 2.2, Regional Context). The Mineral Resources section of the Natural Resources Element of the General Plan identifies the location of these areas, or Sectors (see Figure 2.2-1, Section 2.2). Mineral resource sectors within the CalMat Cajon Creek project are designated as C-3, C-5 and C-6. The General Plan incorporates policies for the management of these resources and sets forth specific policies relating to sand and gravel extraction. These policies include:

10.7.8 Permit the extraction of mineral resources in areas designated IE, Industrial Extractive, on the Land Use Plan consistent with the aggregate sectors shown on Figure 42 of the General Plan.

10.7.9 Permit interim uses such as outdoor storage, lumber yards, plant nurseries, recreation, and so forth that do not preclude extractive uses.

10.8.2 Establish buffer zones of compatible uses (such as industry) adjacent to mineral resource zones.

10.8.6 Prohibit urban development in areas which have a significant potential for harm to public health, safety and welfare due to mineral extraction and processing.

10.8.7 Design resource extractive operations to maintain the integrity of areas of "high environmental quality" and scenic areas as designated by the City.

4.6.2 Project Impacts

Implementation of the CalMat Cajon Creek Specific Plan would represent a significant land use impact relative to the incomplete recovery of regionally-significant mineral resources within the project area. Furthermore, though much of the area would be converted from vacant land to uses permitted in the City of San Bernardino General Plan, there are several Planning Areas which are proposed for development that are not in conformance with the General Plan, and for which a General Plan Amendment is required. Planning Area A is proposed for light industrial development on land zoned Industrial Extractive (IE); Planning Areas B, I and J are proposed for heavy industrial use on land zoned IE; Planning Areas G

and H are planned for light industrial development on land zoned Heavy Industrial (IH); Planning Area C is planned for heavy industrial development on land zoned Light Industrial (IL); and, Planning Area O is planned for open space on land zoned IE. These issues are discussed below.

4.6.2.1 Conformance to General Plan

The proposed Specific Plan would amend the Land Use Element of the City of San Bernardino General Plan and re-zone portions of the site presently zoned for mineral extraction to allow for a mix of heavy and light industrial development, and open space use, in appropriate areas of the site. Such an amendment would be fully consistent with the City's stated goals and policies on mineral resources, and conservation and enhancement of biological resources. Land use designations established in the City of San Bernardino General Plan and proposed land uses designated in the Specific Plan are identified in Table 4.6-1 as they relate to the project area.

As indicated in Table 4.6-1, compared to the land uses identified in the General Plan, the CalMat Cajon Creek Specific Plan proposes 348 additional acreas of Open Space, 512 less acres for IE uses, 47 additional acres for IH uses, and 77 additional acres for IL uses.

TABLE 4.6-1

GENERAL PLAN LAND USES AND PROPOSED CALMAT CAJON CREEK SPECIFIC PLAN LAND USES

Use	Areas Designated for Use	
	General Plan[1]	Specific Plan[2]
IE/Industrial Extractive	1,118	606.0*
IH/Industrial Heavy	75	122.0
IL/Industrial Light	99	176.0
PFC/Public Flood Control - Open Space	100	448.0*
TOTAL ACRES	1,392.0	1,392.0

[1] Within CalMat Cajon Creek Specific Plan Planning Areas
[2] Based on ultimate uses.
* Following completion of in-stream mining and subsequent reclamation, 257 acres of IE will be utilized for open space.

The open space aspects of the Specific Plan have been designed to coincide with the open space character of the Cajon Creek floodplain area. The floodplain area is considered an important natural environmental resource within the Specific Plan area, with the conservation and enhancement of this area being one of the goals of the Specific Plan. This use of land for open space is in accordance with goals and objective of the City of San Bernardino General Plan and does not represent a significant impact.

The additional industrial development land use will provide employment opportunities for existing and future residents of the City and those of adjacent communities which is a City goal. It will also provide for industrial developments within 298 acres contributing toward the City's goal of 1,000 acres to accommodate new industrial uses. The additional industrial development land use is also provided to reduce incompatibilities between designated areas for mineral resource extraction and other land uses. These goals and objectives are in conformance with the City of San Bernardino General Plan and do not represent a significant impact.

The conversion of State-designated regionally-significant mineral resource lands to lands for other uses shall be addressed in a "Statement of Findings" in accordance with SMARA and Policy 10.7.7 of the City of San Bernardino General Plan. Upon adoption of the Specific Plan, the Statement of Findings shall reconcile the land use conversion permitting the necessary re-zoning classification. However, the loss of use of approximately 124 acres of the regionally-significant mineral resource lands remains an unavoidable significant impact.

4.6.2.2 Relationship to Adjacent Land Uses

Existing land uses which would have the greatest potential to be directly affected by the proposed project include scattered residences on Cajon Boulevard. While this potential conflict represents an adverse land use impact, the Specific Plan provides for the reduction of incompatibilities between designated areas for mineral resource extraction, industrial and other land uses. Land use on portions of the approximately 606 acres of the project area planned for resource extraction or aggregate processing also include interim land uses, such as Construction Material Users Parks, prior to and after their extraction. In the Near-Term and Intermediate-Term phases of Specific Plan development, 488 acres of land will be

conserved as open space. In the Long-term phase of the Specific Plan, 257 acres of reclaimed land from Planning Area P will be added as open space. The total 745 acres of open space will contribute to the existing open space on adjoining land to the west, creating an enhanced open space region.

Light industrial development within Planning Areas E and K, has been incorporated into the Specific Plan, adjacent to Planning Areas F and L, proposed for mining. This development will provide buffering from residences on Cajon Boulevard and other land uses to the east. Should the commencement of extractive operations precede the development of these buffers, the Specific Plan also provides that eastern berms and/or landscape screen vegetation shall be used to accomplish the same objectives.

The permanent processing plant in Planning Area N will be located more than 2,000 feet from the nearest residences, with an elevated railroad embankment to the east side, both of which provide existing buffering. Vacant land between the railroad and these homes is designated Industrial Extractive (IE) by the City's General Plan. Planning Area Regulations for each Specific Plan mining area, set forth requirements designed to assure that resource extraction and processing occur in an environmentally-sensitive manner which is also compatible with surrounding land use.

The proposed project's potential impacts upon surrounding land uses are related primarily to air pollutant emissions, noise, traffic and visual impacts. Each of these issues are addressed in detail in Sections 4.2, 4.5, 4.7 and 4.8 respectively.

4.6.3 Significance of Impacts

The CalMat Cajon Creek Specific Plan has been designed to result in a blend of industrial, mining and aggregate processing land uses which are compatible with the surrounding area. This planning approach will result in the loss of use of approximately 124 acres of State-designated regionally-significant mineral resources in Planning Areas A and B (through rezoning to a land use which is incompatible with mineral extraction), representing a significant land use impact. However, the following overriding consideration is offered: Planning Areas A and B are located across Cajon Boulevard from an intensive residential

area, mining activity would have to be suitably buffered. This would probably take the form of a strip of land along Cajon Boulevard devoted to light industrial uses, similar to buffers planned for other parts of the Specific Plan area to be mined. Such buffering, because of the long and narrow configuration of Planning Areas A and B, reduces the aggregate resources available, making it unfeasible to mine this area.

The rezoning of Planning Areas E, H, I, J, O and K to buffer zone (extensive) industrial, interim uses and/or open space is not a significant impact, because these land uses are compatible with the SMARA designation, as well as the City of San Bernardino General Plan Policies.

4.6.4 Mitigation Measures

The loss of State designated regionally-significant construction aggregate resources in Planning Areas A and B could be mitigated by mining these areas. However, in order to comply with the land use buffer zone requirements of the City of San Bernardino General Plan, only a portion of the 124 acres would be available for mining. The narrow configuration of the non-buffer zone portion would make mining infeasible as a practical matter. For this reason, extraction in Planning Areas A and B is not feasible as a mitigation for the loss of significant mineral resources, which is considered a significant, unavoidable impact.

4.7 TRAFFIC AND CIRCULATION

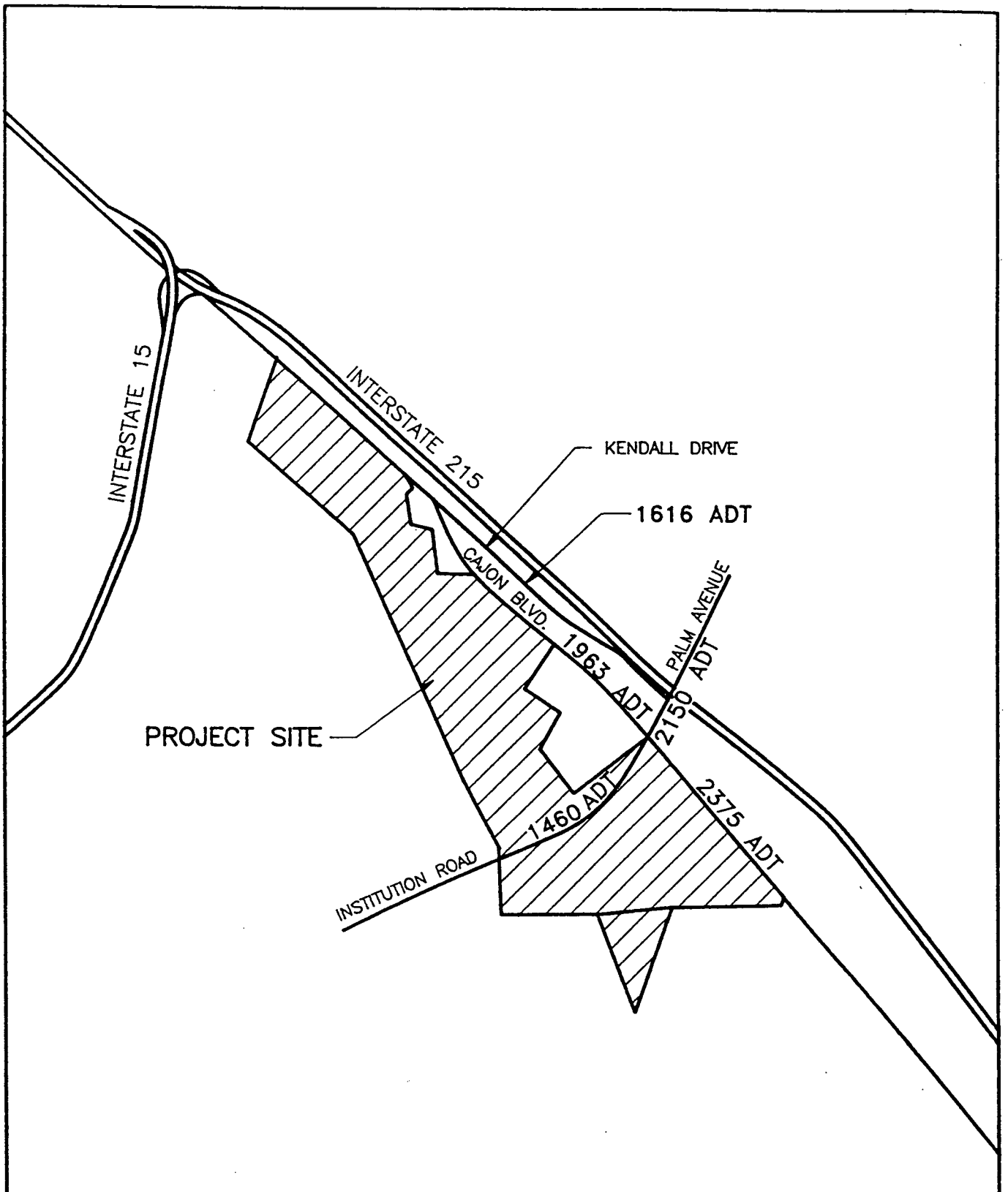
A transportation analysis was conducted by Charles P. Strong & Associates (May, 1991) to analyze the traffic related impacts which may be anticipated with implementation of the CalMat Cajon Creek Specific Plan. The report is included in Appendix G and summarized below.

4.7.1 Existing Conditions

Figure 4.7-1 shows the existing street system and the most current traffic counts in the vicinity of the project. Additional traffic volumes were found to be generated in the project area from time to time due to the proximity of the Don Brown's Racing Facility. These traffic volumes were considered in the analysis and were found to contribute less than a 5% increase in volumes during "special events" over the course of a year. Technical Appendix G contains traffic counts relative to such events.

Cajon Boulevard, which extends the length of the project area, varies in width but is basically a forty-foot roadway in a sixty-foot right-of-way. According to the City of San Bernardino, Cajon Boulevard, Palm Avenue, and Institution Road are all planned for widening.

Turning movement counts taken at the intersections of Cajon Boulevard and Institution Road during the a.m. peak hours of 7:15 a.m. to 8:15 a.m., and the p.m. peak hours of 4:00 p.m. to 5:00 p.m. found the intersection to be operating at Level of Service "A", representing optimal traffic flow. An additional count was taken one and one-half miles south of the project at the intersection of Cajon Boulevard and State College Way at the request of the City. Level of Service "A" was also the operating condition at this intersection. However, due to the offset nature of this intersection and the lack of traffic signals, the intersection functioned poorly. According to the County of San Bernardino, the intersection will be signalized sometime in 1992 or 1993.



SOURCE: CHARLES P. STRONG AND ASSOCIATES, MAY 1991.

4.7 Traffic and Circulation	Figure No: 4.7–1

Project Location and Existing Traffic Volumes CAJON CREEK PROJECT

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4.7.2 Project Impacts

The traffic and circulation impacts associated with implementation of the CalMat Cajon Creek Project were projected based on a 5% per year non-project related traffic growth rate, approved by the City of San Bernardino Department of Public Works. This was done since the project, as proposed, will be phased over an expected twenty-five-year period (See Section 2.4.1.1 Specific Plan Phasing). The 5% per year growth rate was superimposed on existing traffic volumes for purposes of estimating future traffic. Project traffic volumes were further based on assumed time-frames (for analysis purposes) within which each of the phases of the project would be implemented; i.e. Near-Term (1992-1997), Intermediate-Term (1997-2007) and Long-Term (2007-2017). Trip generation, traffic distribution and needed traffic assignment impacts are discussed separately below, together with needed traffic improvements.

4.7.2.1 Trip Generation

Estimated traffic volumes to be generated by the CalMat Cajon Creek Project were based on the following assumptions:

- The portable aggregate processing plants in Planning Areas D and I will generate approximately 650 trips per day (of which 500 trips will be trucks);

- The permanent aggregate processing plant in Planning Area N will generate approximately 950 trips per day (of which 800 trips will be trucks);

- The industrial sites will generate approximately 60 trips per acre;

- The Construction Material Users Parks (CMUPs) in Planning Areas L and M will generate approximately 5 trips per acre; and,

- The importation of inert fill during the reclamation phase of Planning Area F will generate a limited number of truck trips. Trip generation for importation of fill has therefore been factored into the truck trip generation rates.

Tables 4.7-1, 4.7-2 and 4.7-3, Traffic Generation by Planning Area and Phasing Time, summarize the Near-Term, Intermediate-Term and Long-Term traffic projections expected to occur as the Specific Plan is implemented. Though the existing volumes on the local roadways are low, several road improvements are planned in association with the CalMat Cajon Creek Specific Plan, which will be sufficient to handle the existing traffic and projected project traffic before such traffic develops. Cajon Boulevard, formerly U.S. Route 66, had been utilized as a major route of truck travel for many years prior to its replacement by Interstate 15. As a result, it is expected to be adequate to accommodate project-related traffic. Institution Road may require improvement to meet City roadway width and structural standards for the type of traffic that will be generated as a result of implementing the Calmat Cajon Creek Specific Plan.

4.7.2.1.1 Infrastructure Improvements. Figure 4.7-2 shows the improvements needed on the roadways in the project vicinity to accommodate the future project related traffic projections.

Traffic improvements assumed the following conditions, as they relate to the Specific Plan Planning Areas.

- Mining and Construction Material Users Park uses will require only minor improvements.

- Light industrial development will require traffic improvements as conditions of the Subdivision approval process.

A summary of traffic improvements proposed in connection with Near-Term, Intermediate-Term and Long-Term development of the Planning Areas are provided in Tables 4.7-4, 4.7-5 and 4.7-6 respectively. A description of these traffic improvements is provided as follows.

TABLE 4.7-1

TRAFFIC GENERATION BY PLANNING AREA

Near Term

Planning Areas	Acres (ac)	Land Use	Generation Rate	ADT*
A & B	113.0 (net)	Light & Heavy Industrial	- 0 -	0
C	6.0	Heavy Industrial	- 0 -	0
D	18.5	Aggregate Plant	650/Plant	650
E	14.0	Light Industrial	60/ac	840
F	51.0	Mineral Extraction	- 0 -	0
G	25.1 (net)	Light Industrial	60/ac	1506
H	22.3 (net)	Light Industrial	60/ac	1338
I	17.4 (net)	Aggregate Plant	650/Plant	650
I	17.4 (net)	Construction Material Users Park	10/ac	174
J	14.0	Construction Material Users Park	10/ac	140
K	36.0	Light Industrial	60/ac	2160
L	130.5	Construction Material Users Park	5/ac	653
M	97.5	Construction Material Users Park	5/ac	488
N	70.0	Future Aggregate Plant	- 0 -	0
O	488.0	Open Space	- 0 -	0
P	257.0	Mineral Extraction	- 0 -	0
		NEAR TERM TOTAL		8599

*Average Daily Trips

TABLE 4.7-2

TRAFFIC GENERATION BY PLANNING AREA

Intermediate Term

Planning Areas	Acres (ac)	Land Use	Generation Rate	ADT*
A & B	113.0 (net)	Light & Heavy Industrial	- 0 -	0
C	6.0	Heavy Industrial	- 0 -	0
D	18.5	Site Reclamation	- 0 -	0
E	14.0	Light Industrial	60/ac	840
F	51.0	Site Reclamation	- 0 -	0
G	25.1 (net)	Light Industrial	60/ac	1506
H	22.3 (net)	Light Industrial	60/ac	1338
I	34.8 (net)	Heavy Industrial	60/ac	2088
J	14.0	Heavy Industrial	60/ac	840
K	36.0	Light Industrial	60/ac	2160
L	130.5	Mineral Extraction	- 0 -	0
M	97.5	Mineral Extraction	- 0 -	0
N	70.0	Aggregate Plant	950/Plant	950
O	488.0	Open Space	- 0 -	0
P	257.0	Open Space	- 0 -	0
		INTERMEDIATE TERM TOTAL		9722

*Averge Daily Trips

TABLE 4.7-3

TRAFFIC GENERATION BY PLANNING AREA

Long Term

Planning Areas	Acres (ac)	Land Use	Generation Rate	ADT*
A & B	113.0 (net)	Light & Heavy Industrial	60/ac	6780
C	6.0	Heavy Industrial	60/ac	360
D	18.5	Heavy Industrial	60/ac	1110
E	14.0	Light Industrial	60/ac	840
F	30.4 (net)	Construction Material Users Park	10/ac	304
G	25.1 (net)	Light Industrial	60/ac	1506
H	22.3 (net)	Light Industrial	60/ac	1338
I	34.8 (net)	Heavy Industrial	60/ac	2088
J	14.0	Heavy Industrial	60/ac	840
K	36.0	Light Industrial	60/ac	2160
L	130.5	Construction Material Users Park (small part may be light industrial)	5/ac	653
M	97.5	Construction Material Users Park (some extraction may continue)	5/ac	488
N	70.0	Aggregate Plant Site	950/Plant	950
O	488.0	Open Space	- 0 -	0
P	257.0	Open Space	- 0 -	0
		LONG TERM TOTAL		19,417

*Average Daily Trips

TABLE 4.7-4

TRAFFIC IMPROVEMENT REQUIREMENTS

Near Term

Planning Area	Use	Total ADT	Location	Required Traffic Improvements
D	Aggregate Processing	650	Cajon Boulevard	Frontage Improvements
E	Light Industrial	840	Cajon Boulevard	Frontage Improvements
F	Extraction	--		None
G	Light Industrial	1506	Institution Road/Cajon Boulevard Cajon Boulevard/ Institution Road	Intersection Improvements Required Frontage Improvements
H	Light Industrial	1338	Institution Road/Cajon Boulevard Cajon Boulevard/ Institution Road	Intersection Improvements Required Frontage Improvements
I	CMUP	174	Institution Road	Minor
J	CMUP	140	Institution Road	Minor
K	Light Industrial	2160	Cajon Boulevard	Frontage Improvements
L	CMUP	653	Cajon Boulevard	Minor
M	CMUP	488	Institution Road	Minor
P	Extraction	--	Institution Road	Minor
I	Aggregate Processing	650	Institution Road	Minor

TABLE 4.7-5

TRAFFIC IMPROVEMENT REQUIREMENTS

Intermediate Term Development*

Planning Area	Use	ADT	Location	Required Traffic Improvements
L	Extraction	--		None
M	Extraction	--		None
N	Aggregate Processing	950	Institution Road	Access Road/Intersection Improvements
I	Heavy Industrial	2088	Institution Road	Frontage Improvements
J	Heavy Industrial	840	Institution Road	Frontage Improvements

* Assumes Cajon Boulevard/Palm Avenue/Institution Road Intersection has been improved.

TABLE 4.7-6

TRAFFIC IMPROVEMENT REQUIREMENTS

Long Term Development*

Planning Area	Use	Total ADT	Location	Required Traffic Improvements
D	Heavy Industrial	1110		None
F	Heavy Industrial/ CMUP	304		None
A	Light Industrial	6780	Cajon Boulevard	Frontage Improvements
B	Heavy Industrial		Cajon Boulevard/ Kendall Drive	Minor Improvements
C	Heavy Industrial	360	Cajon Boulevard	None
L	CMUP	653		None
M	CMUP	488		None

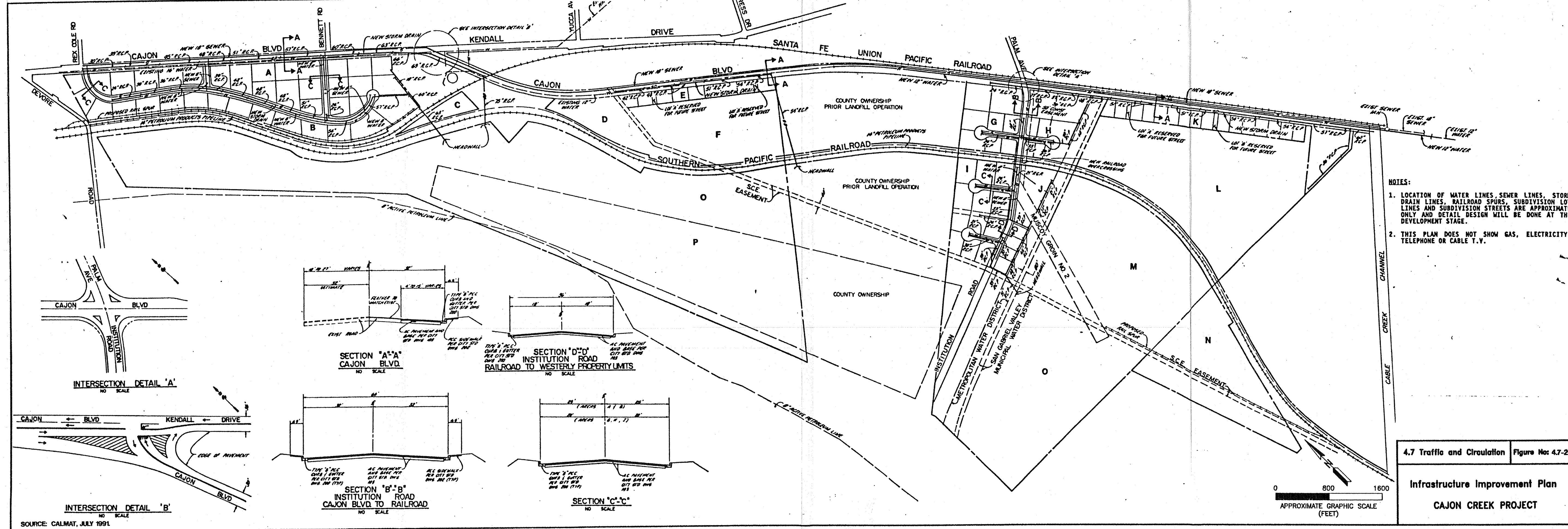
* Assumes Cajon Boulevard/Palm Avenue/Institution Road Intersection has been improved.

The Near-Term implementation of the Specific Plan could result in significant impacts due to additional traffic generated by industrial uses in Planning Areas G and H. However, with proposed frontage improvements along Cajon Boulevard and Institution Road, as well as intersection improvements required as part of the Subdivision approval process, traffic generated by Near-Term development of the Specific Plan will be adequately accommodated by the existing roadway system.

There are two proposed options for the Cajon Boulevard, Institution Road and Palm Avenue intersection improvement. The first is of an interim nature, and involves realignment of the Institution Road leg of the intersection and possible signalization. The other intersection improvement, shown in "Detail A" of Figure 4.7-2, is proposed as an ultimate improvement to accommodate both project-related and non-project related future traffic through the life of the project.

The Intermediate-Term implementation of the Specific Plan could result in potentially significant impacts due to additional traffic volumes generated by: mineral resource extraction activity in Planning Areas L and M; a permanent aggregate processing plant in Planning Area N; and, heavy industrial land use in Planning Areas I and J. However, these impacts would be reduced to below a level of significance through improvements required as a part of the Subdivision approval process, in accordance with the Tentative Maps for Planning Areas G and H, and future Tentative Maps for Planning Areas I and J, and will include: access road intersection improvements at Institution Road, including provision for a westbound left-turn lane; and, full improvements on Institution Road as set forth in the Infrastructure Improvement Plan (Figure 4.7-2). Should the development of the plant site in Planning Area N precede development of Planning Areas G and H or I and J, only minor improvement would be required at the onsite access road and Institution Road. The intersection of Cajon Boulevard and Institution would be adequate for the projected level of traffic.

No further improvements would be expected to be required as a result of the Long-Term development plans for Planning Areas L and M, and Planning Areas D and F, because Cajon Boulevard frontage improvements will already have been made by the developer on the project side of the centerline, adjacent to each Planning Area. However, the Long-Term



INTERSECTION DETAIL 'A'
NO SCALE

INTERSECTION DETAIL 'B'
NO SCALE

SECTION "A"-"A"
CAJON BLVD
NO SCALE

SECTION "D"-"D"
INSTITUTION ROAD
RAILROAD TO WESTERLY PROPERTY LIMITS
NO SCALE

SECTION "B"-"B"
INSTITUTION ROAD
CAJON BLVD TO RAILROAD
NO SCALE

SECTION "C"-"C"
NO SCALE

SOURCE: CALMAT, JULY 1991

NOTES:

1. LOCATION OF WATER LINES, SEWER LINES, STORM DRAIN LINES, RAILROAD SPURS, SUBDIVISION LOT LINES AND SUBDIVISION STREETS ARE APPROXIMATE ONLY AND DETAIL DESIGN WILL BE DONE AT THE DEVELOPMENT STAGE.
2. THIS PLAN DOES NOT SHOW GAS, ELECTRICITY, TELEPHONE OR CABLE T.V.

0 800 1600
APPROXIMATE GRAPHIC SCALE (FEET)

4.7 Traffic and Circulation	Figure No: 4.7-2

Infrastructure Improvement Plan

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implementation of the Specific Plan may represent potential significant impacts due to an increase in traffic volumes generated by: light industrial development in Planning Area A, heavy industrial development in Planning Area B, and travel between Planning Areas E and G, H and K. Additional traffic volumes would be accommodated relative to development of Planning Areas A and B as part of improvements required during the Tentative Map approval process. Through intersection improvements at Cajon Boulevard and Kendall Drive, and frontage road improvements along Cajon Boulevard, these impacts would be reduced to below a level of significance. Improvement of the Cajon Boulevard and Kendall Drive intersection will be made in accordance with the detail shown on the Infrastructure Improvement Plan (Figure 4.7-2). And, Cajon Boulevard frontage improvements will be made by the developer on the project side of the centerline, adjacent to each Planning Area. Palm Avenue from Cajon Boulevard to the I-215 freeway can be striped to accommodate four lanes which will adequately handle future traffic.

4.7.2.1.2 Cajon Boulevard Railroad Underpass. A traffic volumes analysis was conducted at the underpass of the AT & SF Railroad tracks south of the intersection of Cajon Boulevard and Kendall Drive. Future traffic volumes at the underpass will reach 5,000 vehicles per day at the buildout of the project after the Long-Term phase of development. Since the capacity of this roadway is estimated at 12,000 vehicles per day, the underpass will be wide enough to carry the projected traffic volumes along Cajon Boulevard.

4.7.2.2 Traffic Distribution

The estimated directional percentages of traffic distribution were assigned to Kendall Road, Cajon Boulevard, Palm Avenue, Institution Road and I-215. The overall projected traffic distributions in relation to the general region are 85 percent to the south and 15 percent to the north. Projected distributions are summarized in Table 4.7-7, as they relate to the Specific Plan Planning Areas.

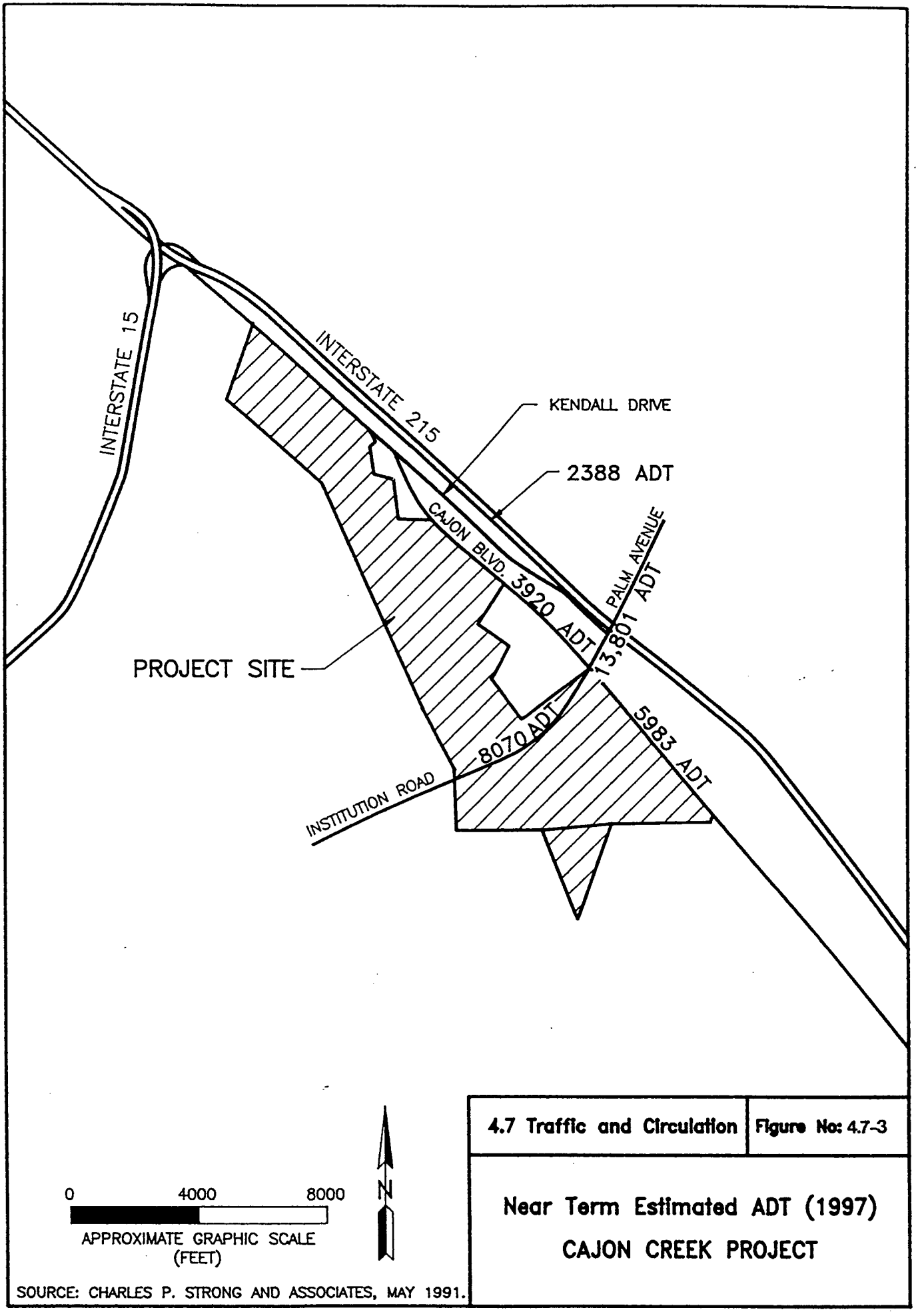
4.7.2.3 Traffic Assignments

Using the trip distributions and the trip generation rates described above, traffic assignments were developed for the Near-Term, Intermediate-Term and Long-Term scenarios for development of the Planning Areas. Therefore, for project generated traffic only, traffic assignments were provided for the years 1997, 2007 and 2017, as shown in Figures 4.7-3, 4.7-4 and 4.7-5 which, for planning and analysis purposes, represent the assumed completion time frames of Near-Term, Intermediate-Term and Long-Term project development.

TABLE 4.7-7

PROJECTED TRAFFIC DISTRIBUTIONS

Planning Area	Travel Direction	Distribution
Areas A, B, and C	south (85% of total)	90% will use Kendall to reach Palm and I-215 10% will use Cajon Boulevard
	north (15% of total)	15% will use Cajon Boulevard
Areas D, E, and F	south (85% of total)	90% will use Cajon Boulevard to Palm to I-215
		10% will use Cajon Boulevard to south of project
	north (15% of total)	15% will use Cajon Boulevard
Areas G, H, I, and J	south and north	90% of all traffic will use Palm Avenue -- I-215 north and south
	south	10% of all traffic will use Cajon Boulevard to south
Area K	south and north	60% of all traffic will use Palm Avenue -- I-215 north and south
	south	40% of all traffic will use Cajon Boulevard to south
Areas L, M, and N	south	30% of all traffic will use Cajon Boulevard to south
	north	70% of all traffic will use Palm Avenue to north



SOURCE: CHARLES P. STRONG AND ASSOCIATES, MAY 1991.

4.7 Traffic and Circulation	Figure No: 4.7-3

Near Term Estimated ADT (1997)

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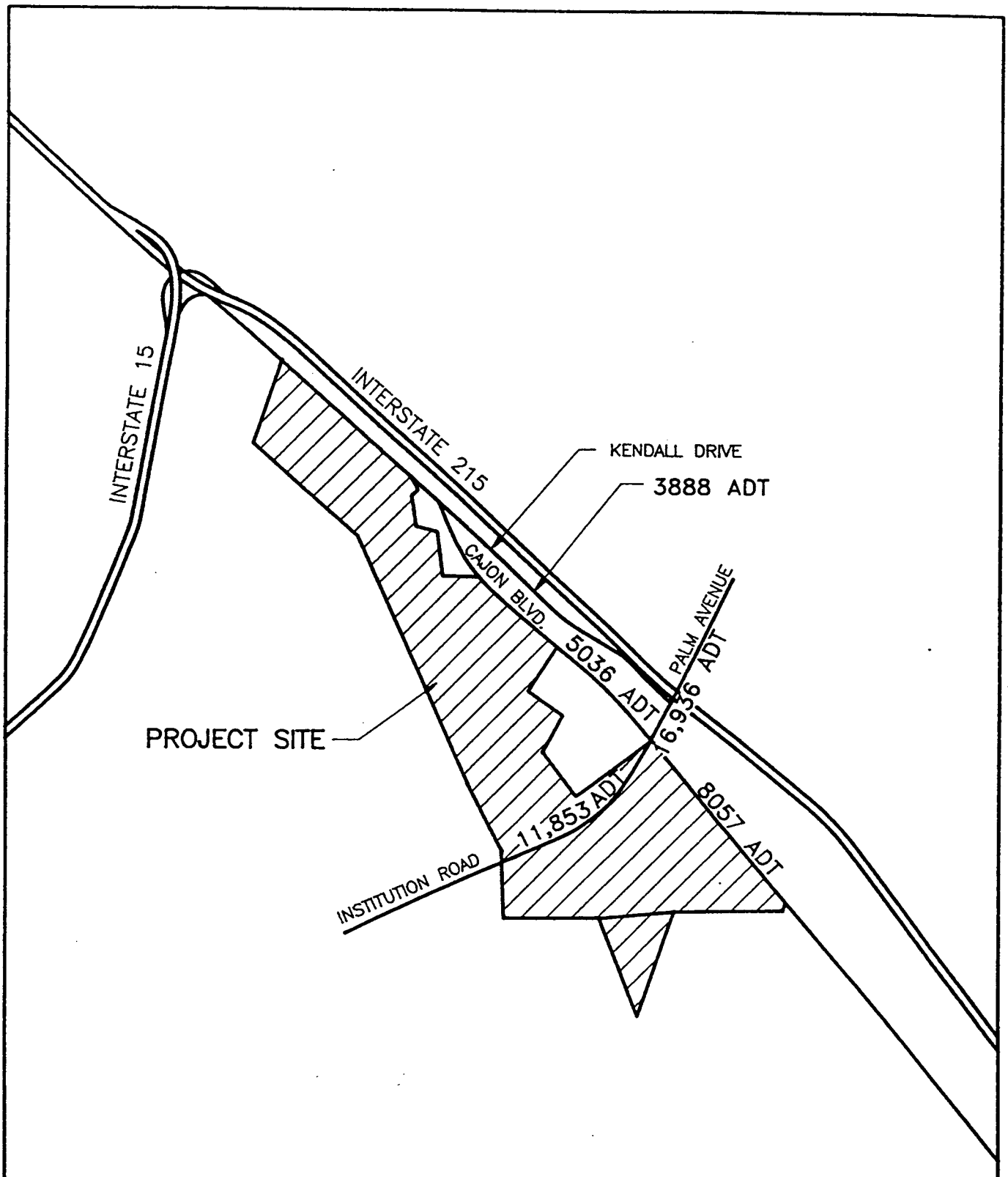

SOURCE: CHARLES P. STRONG AND ASSOCIATES, MAY 1991.

4.7 Traffic and Circulation	Figure No: 4.7-4

Intermediate Term Estimated ADT

(2007)

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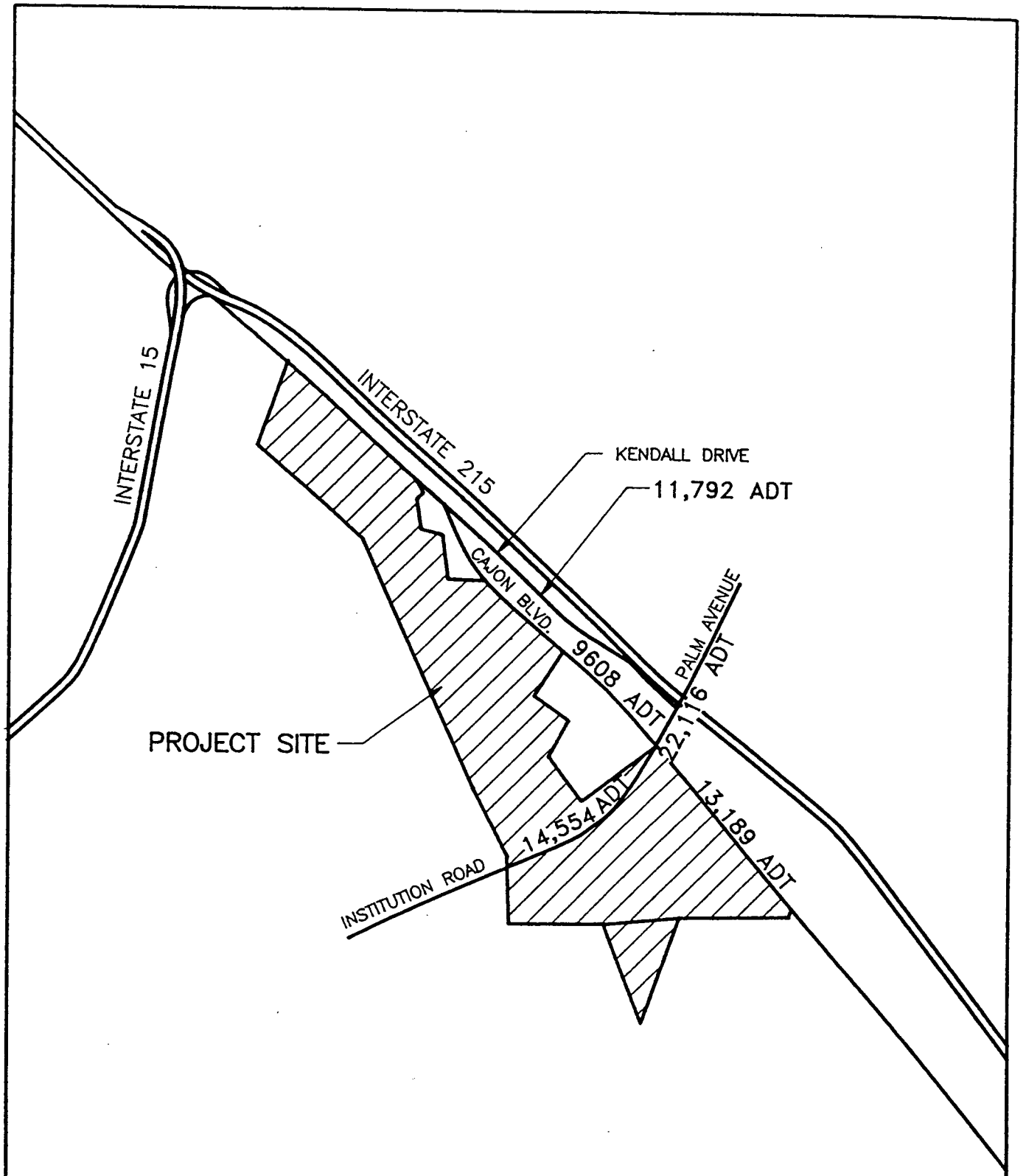


SOURCE: CHARLES P. STRONG AND ASSOCIATES, MAY 1991.

4.7 Traffic and Circulation	Figure No: 4.7-5

Long Term Estimated ADT

(2017)

CAJON CREEK PROJECT

4.7.2.4 Peak Hour Traffic

The Traffic Study conducted a Peak Hour Traffic analysis in accordance with the Draft Congestion Management Program (CMP) requirements. The Draft CMP for the County of San Bernardino County requires a detailed analysis of project generated traffic volumes in order to analyze the impacts of land use decisions on regional transportation systems. The regional traffic analysis is only required when project-generated volumes on any street network or freeway is projected by the year 2000 to exceed 50 vehicles per hour, and 100 vehicles per hour, respectively.

A manual traffic assignment was performed and peak-hour volume estimates were obtained at four locations as provided in Table 4.7-8. The only peak hour traffic volumes in excess of the CMP performance criteria will be on I-215 south of Palm Avenue.

TABLE 4.7-8
PEAK HOUR TRAFFIC VOLUMES

LOCATION	YEAR	ADT	
		A.M.	P.M.
Cajon Boulevard	1997	514	454
north of the project	2007	627	470
Cajon Boulevard	1997	78	54
south of the project	2007	96	73
Palm Avenue	1997	80	54
east of I-215	2007	96	73
I-215 Freeway	1997	514	454
south of Palm Avenue	2007	627	470

4.7.2.5.1 Peak Hour Intersection Traffic. A peak-hour traffic analysis was also conducted on intersection capacities through Palm Avenue and Cajon Boulevard, Palm Avenue and Kendall Avenue (southbound I-215 ramps), and Palm Avenue and northbound I-215 ramps for the existing year (1991). The analysis was based on the relationship of ADT to Levels of Service (LOS) for the years 1997, 2007 and 2017. LOS is characterized from A through F, with LOS A to C generally being acceptable. LOS D through F are not typically

acceptable. The LOS provided for the peak hour intersection analysis are provided in Tables 4.7-9, 4.7-10 and 4.7-11.

According to the traffic study, the traffic volume projections from 1991-2007 and from 1991-2017 are based on an expansion growth factor (of 1991 traffic volumes) which resulted in multiplying existing data by factors of 219% and 355%. The projections are likely to be inflated when compared to actual increases.

Based on the LOS projections the northbound I-215 interchange ramp at Palm Avenue, which currently operates at an unacceptable LOS, will be capable of operating at an acceptable LOS with signalized ramps in 1997.

4.7.3 Significance of Impacts

Development of the CalMat Cajon Creek Specific Plan Planning Areas would contribute a substantial increase in traffic to road segments in the project vicinity. However, with the early construction of the major intersection improvement of Cajon Boulevard and Palm Avenue, there would be no significant transportation or circulation impacts as a result of full development of the project or the growth of existing traffic. The peak hour traffic analysis for project generated traffic will facilitate SANBAGs regional transportation systems analysis for future regional traffic planning.

TABLE 4.7-9

LEVELS OF SERVICE

PALM AVENUE AND CAJON BLVD. INTERSECTION

Year	LOS A.M.	LOS P.M.	Conditions
Existing	A	A	Existing 4-way stop
1997	C	A	Existing 4-way stop
2007	B	B	Ultimate signalized intersection 60 sec. cycle 13.5 & 13.6 sec. delay
2017	B	B	60 sec. cycle 11.5 & 14.3 sec. delay

TABLE 4.7-10

LEVELS OF SERVICE

PALM AVENUE AND I-215 SOUTHBOUND RAMPS/KENDALL INTERSECTION

Year	LOS A.M.	LOS P.M.	Conditions
Existing	A	A	Existing 4-way stop
1997	B	B	4-way stop
1997	B	C	Signalized 60 sec. cycle 13.8 & 16.6 sec. delay
2007	B	B	Signalized 60 sec. cycle 13.9 & 14.9 sec. delay P.M. required a 3-lane ramp from freeway
2017	B	B	Signalized 60 sec. cycle 49.9 & 19.7 sec. delay Added capacity needed in ramp storage

TABLE 4.7-11

LEVELS OF SERVICE

PALM AVENUE AND I-215 NORTHBOUND RAMPS INTERSECTION

Year	LOS A.M.	LOS P.M.	Conditions
Existing	A-D	A-D	Nonsignal no-ramp stop The EB to NB move has delay
1997	B	B	Signalized 60 sec. cycle 9.7 - 9.6 delay Dual left
2007	B	B	Signalized 60 sec. cycle 9.6 - 11.7 sec. delay Dual left
2017	C	--	Signalized 60 sec. cycle 22.6 sec. A.M. delay V/C 1.243 P.M. - must add dual right NB to work

4.7.4 Mitigation Measures

The Specific Plan Planning Area Regulations and Design Guidelines provide for the reduction of significant traffic impacts by incorporating measures to reduce potential impacts, to below a level of significance, which measures include the following:

- Frontage road improvements shall be provided along Cajon Boulevard on the project side of the centerline adjacent to each Planning Area as a condition of the Tentative Map approval process for Planning Areas D, E and F; G and H; K and L; and, A and B.

- Individual lot driveway access, to Planning Areas A, B, D (ultimate), E, G, H and K along Cajon Boulevard shall share points of access.

- Frontage road improvements shall be provided along Institution Road in accordance with the Infrastructure Improvement Plan (Figure 4.7-2) as a condition of the Tentative Map approval process for Planning Areas G and H; and, I and J.

- Access road improvements, including a provision for a west bound left turn lane, shall be made at Institution Road should Planning Areas I and J, or N precede development of Planning Areas G and H.

- Internal street access to Planning Areas I and J shall be limited to two points along Institution Road frontage. Adequate access shall be provided for both on-site uses, as well as the provision of an on-site access road for aggregate transport trucks connecting Planning Areas M and N to the south.

- Interim improvements of the Cajon Boulevard, Institution Road and Palm Avenue intersection shall include realignment of the Institution Road leg of the intersection.

- The ultimate intersection improvement at Cajon Boulevard, Institution Road and Palm Avenue (shown in "Detail A" of Figure 4.7-2) shall be provided as a condition of the Tentative Map approval process for Planning Areas G and H.

- Improvement of the Cajon Boulevard and Kendall Drive intersection shall be provided in accordance with the Infrastructure Improvement Plan (shown in "Detail B" of Figure 4.7-2).

- Palm Avenue shall be restriped between Cajon Boulevard and the I-215 freeway, if warranted in accordance with requirements of the City Engineer, in order to accommodate four lanes of traffic.

- The use of Cajon Boulevard south of the Cable Creek Channel by aggregate truck traffic shall be limited to use for local deliveries.

Given the incorporation of these traffic improvements into the project design, no additional mitigation measures are required.

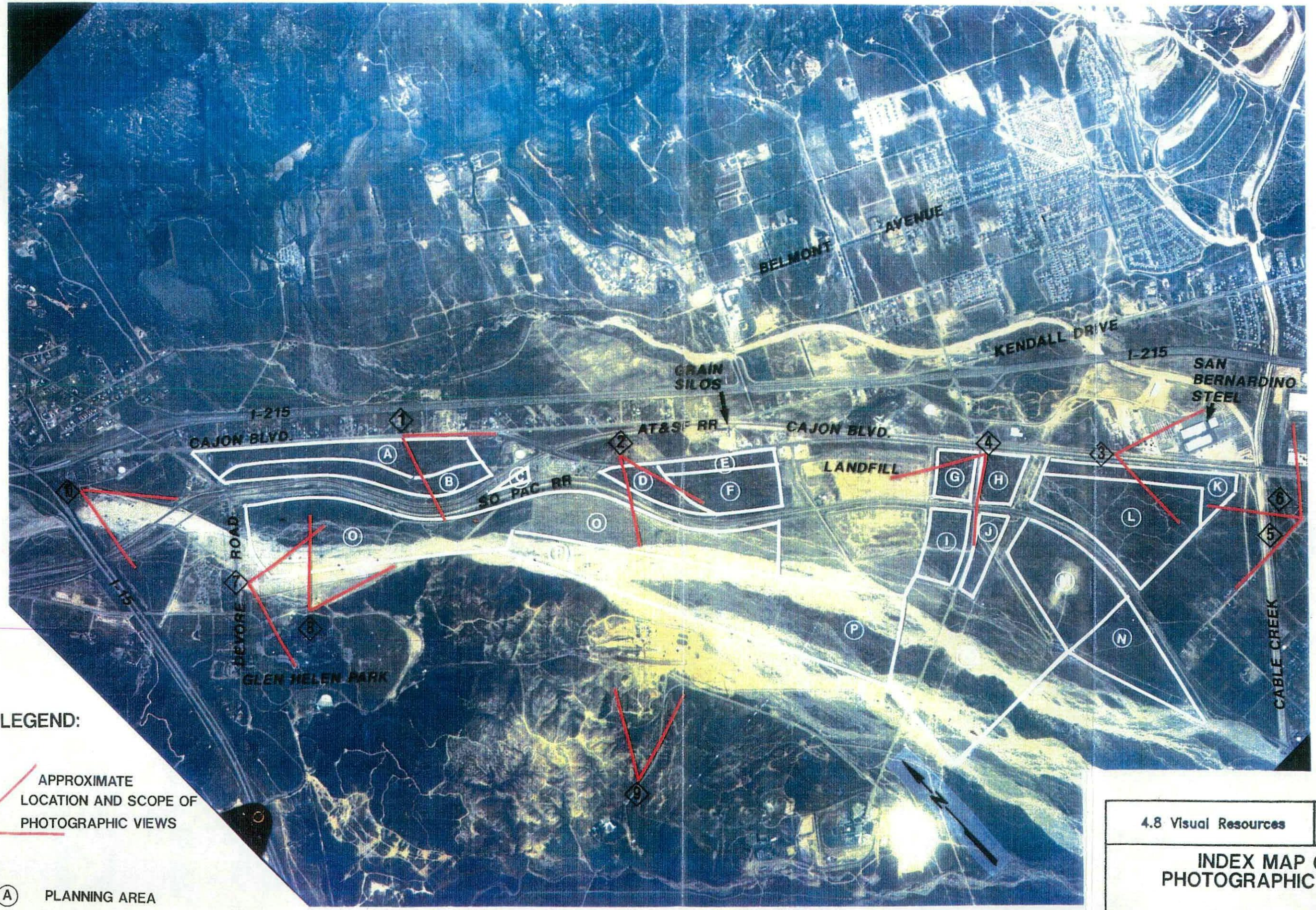
4.8 VISUAL RESOURCES

The objectives of the visual resource analysis were to identify, describe, and document visual resources in the vicinity of the proposed CalMat Cajon Creek project area which could be affected by the implementation of the Specific Plan as proposed. Observations provided information suitable to assess the environmental consequences of the proposed project. The assessment of visual impacts to viewers is based upon Woodward-Clyde's field investigations that determined the approximate number and types of viewers affected, the distance of views from each site, and the elevation from which viewers would view the project facilities. The visual impact assessment (VIA) includes several steps: 1) describe the landscape; 2) characterize the observers; 3) determine line-of-sight; 4) determine viewers' sensitivity levels; 5) assess the project impacts; and 6) assess the severity of impacts and appropriate mitigation measures (U.S. Department of the Interior, 1978).

4.8.1 Existing Conditions

The overall site for the proposed CalMat Cajon Creek Specific Plan project is located partially within and just east of the Cajon Creek Wash and is represented in Figure 4.8-1, an aerial photo. Though located within six miles of a metropolitan area, the site consists of a mixed visual setting which may be characterized as a moderately-disturbed rural, not natural setting. The entire area is relatively flat, forming a gentle slope in a northwest to southwesterly direction. Though the proposed project area is undeveloped it is not pristine in its appearance. Dumped debris is evidenced within the project area and there are numerous dirt roads and trails present in the site, with a number of unrestricted access points. Plant materials characterizing the site are primarily mature scrub commonly associated with river washes, Riversidian alluvial fan sage scrub on the flood plain, and a chaparral scrub dominating the flood protected areas to the east. The site includes utility lines, flood control structures (i.e., groins and levees), and three adjacent rail lines.

The most prominent visual landform encountered on-site is that of the Cajon Creek floodplain, with evidence of stream channels intertwining throughout. However, it has been dry, and there was no evidence of recent waterflow in the channels during the field observations conducted in September and December 1990. Within a regional context, the



LEGEND:

APPROXIMATE LOCATION AND SCOPE OF PHOTOGRAPHIC VIEWS

(A) PLANNING AREA

4.8 Visual Resources	Figure No: 4.8-1

INDEX MAP OF PHOTOGRAPHIC VIEWS

CAJON CREEK PROJECT

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dominating feature comprises the San Bernardino Mountains and San Gabriel Mountains which creates a focal point.

4.8.1.1 Views and Viewers

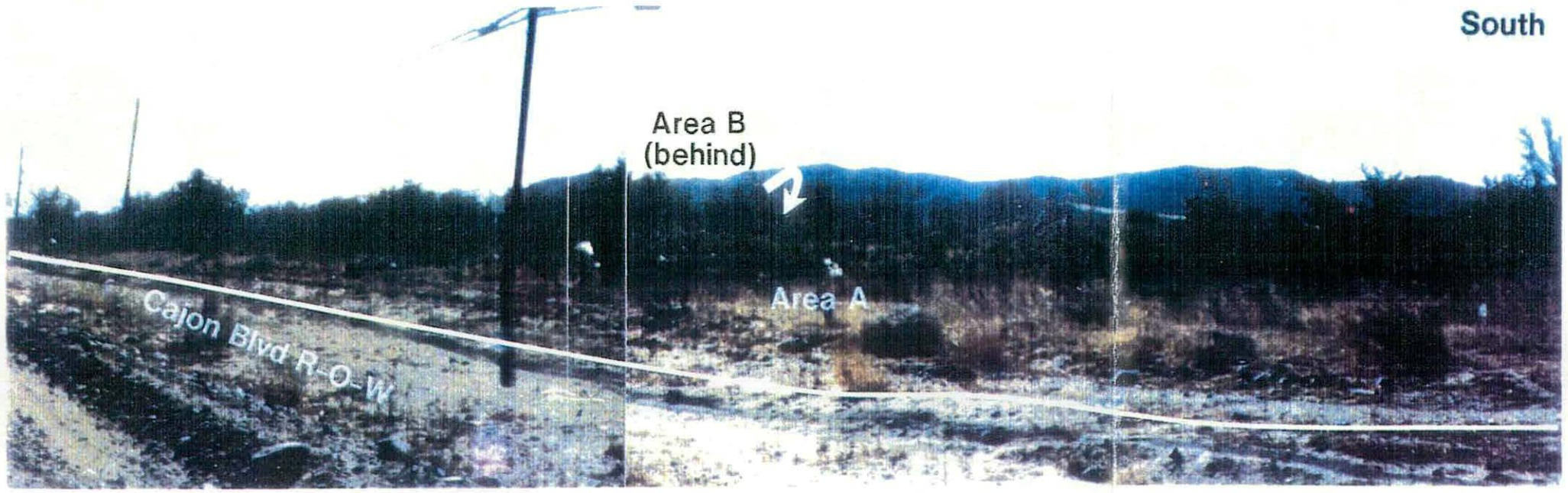
The relative significance of visual impacts is difficult to quantify due to the subjective nature of the resource. Different viewers may perceive similar impacts as adverse or beautiful. Figures 4.8-2 through 4.8-6 are site photos illustrating the visibility of the project area from the vantage points identified in the Index Map, Figure 4.8-1.

Much of the site is visible through normal routes of travel along adjacent areas: the I-15 in the northwest, the I-215, Kendall Drive and Cajon Boulevard to the northeast. Proximate, midrange and distal range views vary, but only distal views available from the San Gabriel Mountain foothills to the northeast, and elevated terrain to the northwest, offer views of the overall project area. All of the views are disturbed by the various man-made features on the landscape.

Viewers and views in the vicinity of the proposed project are identified in Table 4.8-1. Viewers are distinguished in reference to the Planning Areas identified in the Specific Plan according to the project area which is viewed. The key viewpoints include recreation areas, travel routes, residential areas and other locations where observers may have concern for the visual environment. With the exception of Glen Helen Regional Park, all of the potential viewers consist of low and medium density residential and industrial users with partial or full views of the proposed project area, as well as travelers, primarily along Cajon Boulevard, Kendall Drive, I-15 and I-215.

4.8.1.2 Policies and Guidelines for Visual Resources

The nature of the proposed project is described in Section 2.4 Project Characteristics. The Specific Plan and related projects have incorporated the visual quality objectives of the City of San Bernardino General Plan, integrating adequate open space uses into new developments. Proposed structures will be required to conform to the Design Guidelines of the Specific Plan, refined from the City of San Bernardino General Plan. Industrial



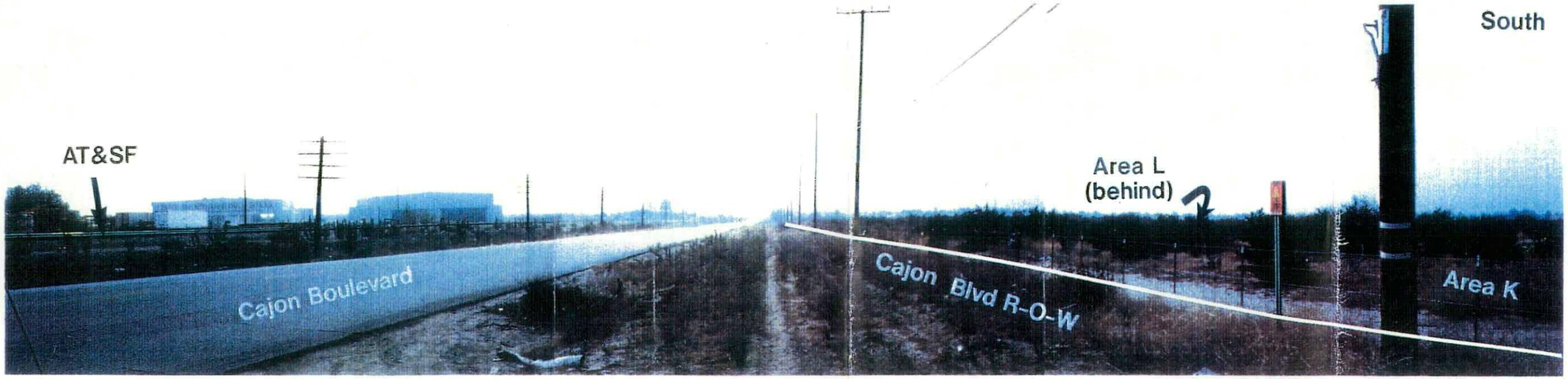
1. View from Cajon Boulevard, approximately 1,800 feet northwest of Kendall Drive intersection; 50° pan from southeast (left) to south (right).

2. View from Cajon Boulevard, approximately 1/2 mile southeast of Kendall Drive intersection; 40° pan from south (left) to south-southwest (right).

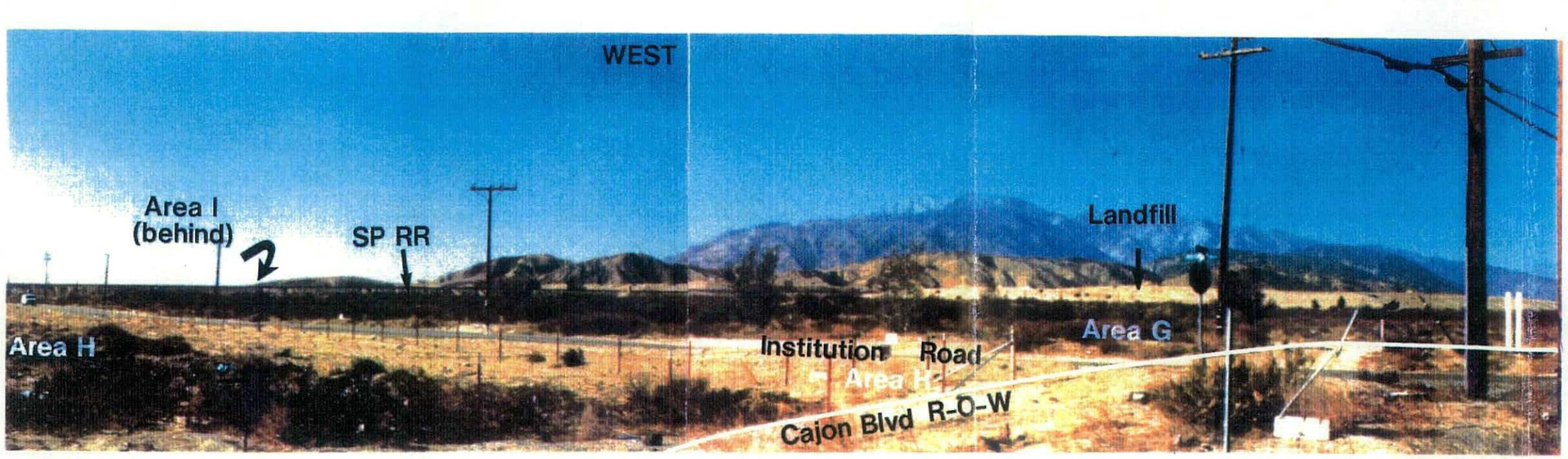
4.8 Visual Resources	Figure No: 4.8-2

PHOTOGRAPHIC VIEWS 1 AND 2

CAJON CREEK PROJECT



3. View from Cajon Boulevard, approximately 1/2 mile south of Institution Road, 90° pan from southeast (left) to south-southwest (right).

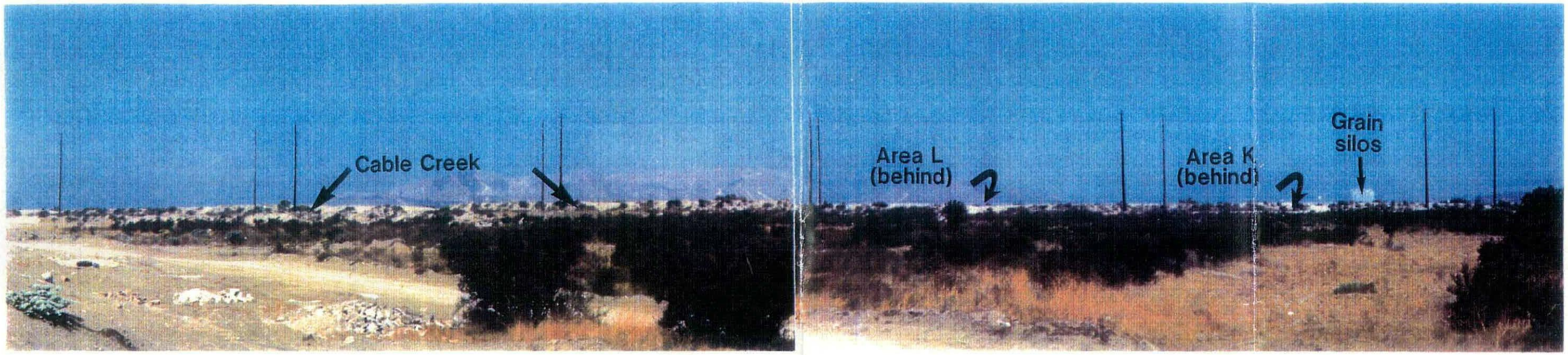


4. View from Cajon Boulevard at Institution Road intersection, 90° pan from southwest (left) to northwest (right).

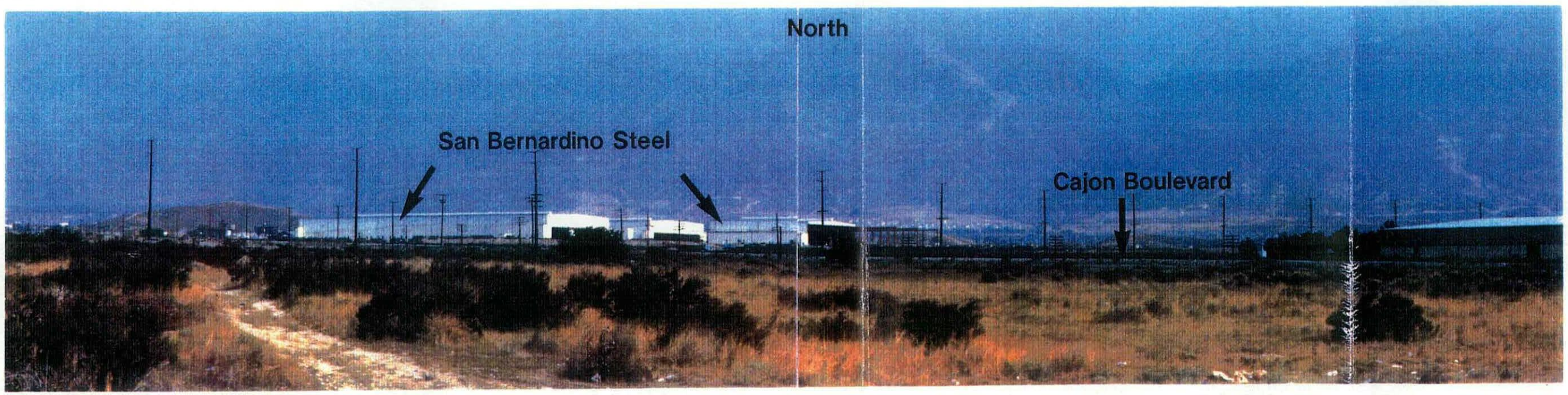
4.8 Visual Resources	Figure No: 4.8-3

PHOTOGRAPHIC VIEWS 3 AND 4

CAJON CREEK PROJECT



5. View from just north of Cimmaron Ranch subdivision, 60° pan from west (left) to northwest (right).



6. View from north of Cimmaron Ranch (same point as View 7), east of Cable Creek and south of Cajon Boulevard; 75° pan, from northwest (left) to northeast (right).

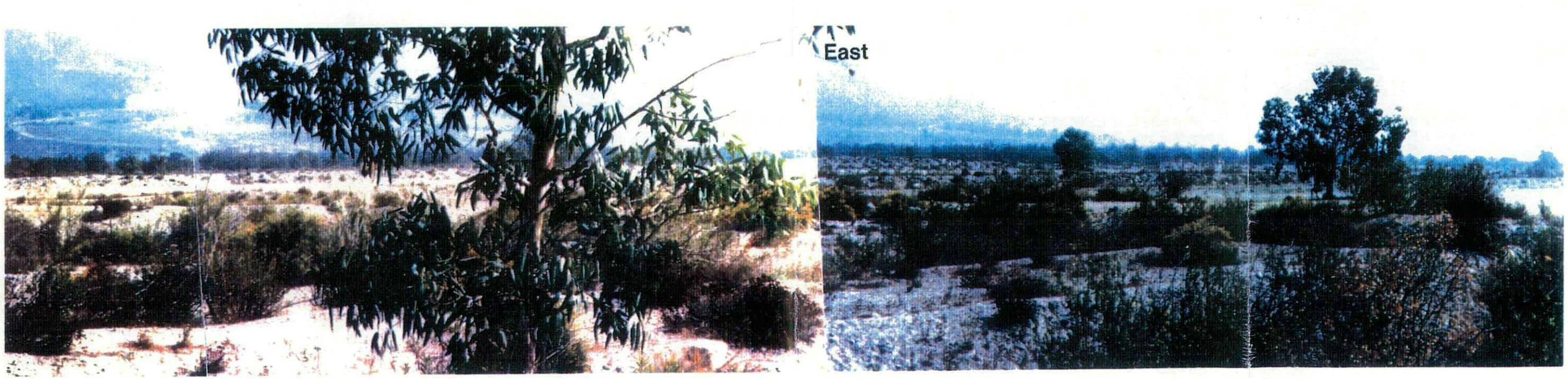
4.8 Visual Resources	Figure No: 4.8-4

PHOTOGRAPHIC VIEWS 5 AND 6

CAJON CREEK PROJECT

Woodward–Clyde Consultants

7. View from Devore Road at northern end of project, near the western bank of Cajon Creek, 100° pan from east-southeast (left) to south-southwest (right).

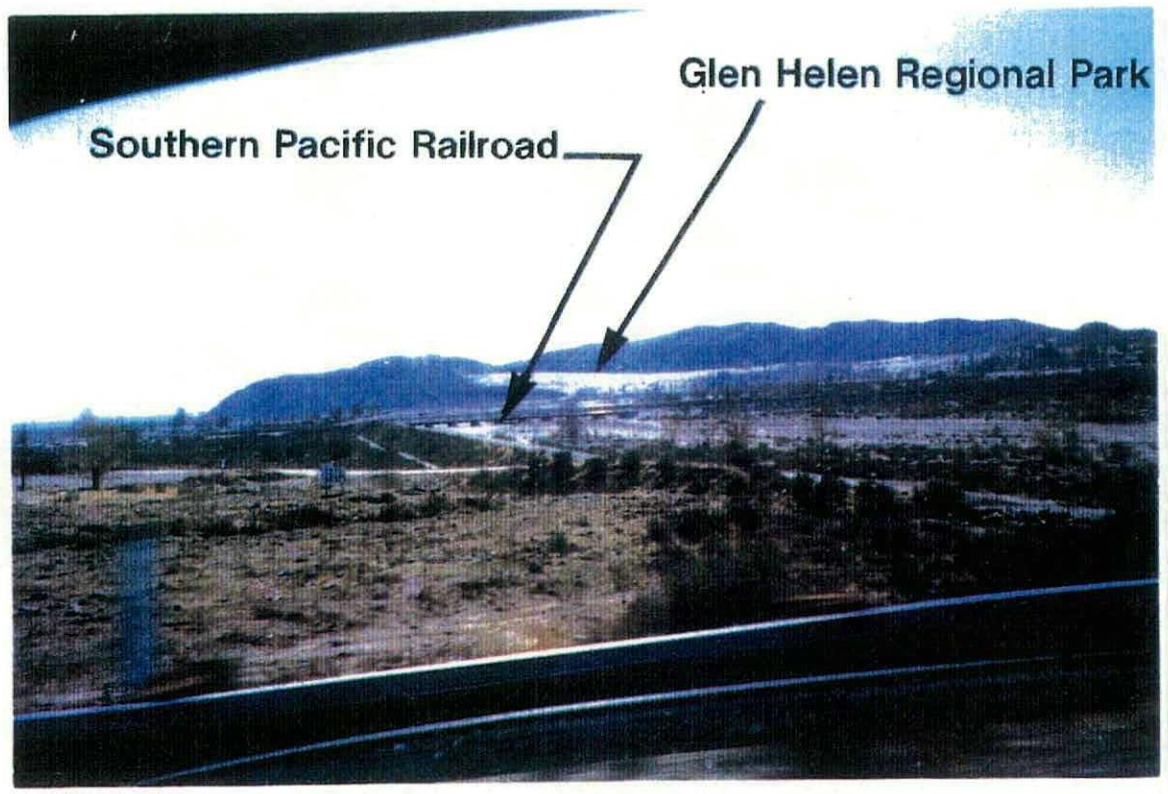


8. View from eastern edge of Glen Helen Park, near fishing lake, 60° pan from northeast (left) to southeast (right).

4.8 Visual Resources	Figure No: 4.8-5

PHOTOGRAPHIC VIEWS
7 AND 8
CAJON CREEK PROJECT

9. View from Verdemont Ranch Road, approximately 1/4 mile west of Off-Road Vehicle Park, looking northeast.



10. View from I-215, approximately 1/4 mile east of junction with I-15, 30° pan from southeast (left) to south (right).

4.8 Visual Resources	Figure No: 4.8-6

PHOTOGRAPHIC VIEWS
9 AND 10

CAJON CREEK PROJECT

developments would be required to minimize disruption of views. Other objectives call for the conservation of existing natural features to the extent feasible.

4.8.2 Project Impacts

4.8.2.1 Visual Characteristics of Project

The planning areas and their uses, as identified in the Specific Plan are generally described as follows (see Section 2.4.1 Specific Plan):

- Light and heavy industrial in Planning Areas A, B, C, D, E, G, H, I, J and K;
- Mineral resource extraction in Planning Areas F, L, M and P;
- Mineral resource processing plants in Planning Areas D, I and N; and
- Open space in Planning Area O.

The visual characteristics of these uses are described below.

4.8.2.1.1 Light and Heavy Industrial Areas

Light and heavy industrial land uses will be implemented by the CalMat Cajon Creek Specific Plan. Definitions of allowable land uses within specified portions of the Specific Plan area, are set forth within the Specific Plan, and are described generally herein.

Light industrial land uses will occur in Planning Areas A, E, G, H and K. Permitted light industrial land uses generally include: automotive and equipment, fleet storage; building maintenance services; business equipment sales and services; construction sales and services; manufacturing/light industrial; consumer repair services; research and development; and, wholesaling, storage and distribution, within enclosed structures.

Heavy industrial land uses will occur in Planning Areas B, C, D, I, and J. Permitted heavy industrial land uses generally include: automotive and equipment, fleet storage; general/heavy industrial uses; manufacturing/light industrial; wholesaling, storage and distribution, within enclosed structure and/or in the open air.

4.8.2.1.2 Mineral Resources Extraction and Processing Areas. The facilities described as being a part of the proposed extractive areas (Planning Areas F, L, M and P) would consist of equipment associated with sand and gravel mining and processing operations, e.g. primary and secondary crushers (50 feet high), washing stations (45 feet high), stock piles (approximately 30 feet high), conveyors, and a variety of associated outbuildings, and earth moving equipment (which would characteristically traverse mining pits). Those facilities comprising aggregate processing in Planning Areas D, I and N would consist of crushers, screens, storage bins; trucks, material hauling equipment, conveyors, scale house, stock piles, office building parking, and batch plants (concrete/asphaltic). Other activities include those such as processing, weighing, storage and loading of sand, rock and gravel, as well as related batch plants.

4.8.2.1.3 Open Space Areas. Planning Area O is intended to be used as open space, which may also facilitate conservation and/or enhancement of biological habitats found in that area. This area is planned to encompass portions of the CalMat Cajon Creek Specific Plan area which are not proposed for industrial development, mineral resource extraction or processing activities, or in-stream mining stabilization purposes.

4.8.2.2 Landform Alteration

Due to the conceptual nature of the Specific Plan, the amounts of grading, and type of building and landscape, that would be required for individual projects are only available for the industrial development covered by Tentative Parcel Maps, and is identified in Section 2.4.2 Tentative Parcel Maps. The site is predominantly flat and would not require substantial landform modification. Some remedial grading techniques may be required to reduce settlement hazards, but landforms would have virtually the same configuration after grading. Furthermore, the view of actual mining activity in Planning Areas F, L and M will become progressively less visible as the depth of the site is increased and as extracted areas

are reclaimed. The visual quality of the project area would be enhanced as the mining operations are reclaimed and subsequent Specific Plan land uses are implemented. Thus, the visual impact may be somewhat lessened in the later stages of mining operations. No impacts are foreseen with regard to landform modification; and, no impacts as a result of conflicts with the City of San Bernardino General Plan are anticipated, as the Specific Plan Guidelines are in conformance with the General Plan Guidelines. No significant adverse visual impacts related to landform alterations are therefore anticipated as a result of the industrial development of the Specific Plan Planning Areas.

4.8.2.3 Lighting

Implementation of the mining plan will present lighting near mining operations in Planning Areas F, L and M, and on the in-stream mining area (Planning Area P). Lighting in the mining pits will be focused downward and inward onto work areas and machinery in operating areas. Mining in Planning Area P will use loaders and trucks which present an additional source of lighting.

Lighting at the plant sites (Planning Areas D, I and N) will be required at night, primarily for security purposes, as no operations, other than maintenance, will be conducted during night time hours. Development of the proposed mining areas and plant sites would thus introduce a new source of lighting to the area. However, with implementation of mitigation measures incorporated into the Specific Plan Design Guidelines (p. 173), any potential impact will be reduced to below a level of significance.

4.8.2.4 Views

The following is a discussion of the project's visual impact to views. The photographs in Figures 4.8-2 through 4.8-6 depict the general visual quality of the proposed project area and identify the project site by location in reference to the Specific Plan Planning Areas. Impacts related to the Specific Plan and related projects are discussed concurrently.

4.8.2.4.1 North and East (proximate). The views in this area are: Planning Areas A, B, C, D, E and F, the Cajon Boulevard Landfill, and I-215. Figure 4.8-2 (Photographic Views

Nos. 1 and 2) depicts the existing character of these Planning Areas from proximate locations. Cajon Boulevard intervenes between residences adjacent to the east, and Planning Areas A, B and C, and the existing views from residences in this area are of a roadside character. Potential views of the proposed project will consist of industrial development planned for Planning Areas A, B and C. The degree of change in view that residents will experience from any of these project developments will contrast with the existing setting and several residences potentially exposed to views of the industrial developments in Planning Areas A and B may represent an adverse impact. The Design Guidelines (pp. 158-176) and Development Standards of the Specific Plan (pp. 98-105), require that buildings in Planning Areas A and B be designed to convey visual interest, and that they provide extensive building and landscape setbacks.

Planning Area C is not visible from proximate locations adjacent to the project area because it is located between two elevated railroad grades (See Figure 4.8-1).

Viewers associated with Planning Areas D, E and F consist of industrial land users, e.g., Cargill (grain silos). Operation of the project would not result in significant visual impacts at these locations due to the nature of these land uses, which do not represent sensitive viewers.

Portions of the proposed project may be visible along I-215 from approximately the interchange with I-15 in the north, to approximately Palm Road in the south, and may be seen primarily by southbound travelers. The proposed project is partially screened by mature trees and vegetation, as well as by residential and industrial land uses along I-215, with the exception of the interchange area which provides a slightly elevated view with no screening. Interstate 215 is not designated as a scenic highway by the California State Legislature. Furthermore, due to the overall diversity of the roadside views and the partial visibility of the project area, visual impacts to travelers are not considered to be significant.

4.8.2.4.2 <u>North and East (midrange and distal)</u>. Foothill communities represent viewers at a distance of over one mile from the project to the north and northeast of the proposed project area. These communities currently experience a combination urbanized and rural view. Due to the overall character of these views, the intervening distance, the degraded

nature of the undeveloped land within the project area, and the presence of industrial land uses in the middleground, visual contrasts of the proposed project is limited. No significant adverse visual impacts are considered to be imposed by the proposed project.

4.8.2.4.3 South and East (proximate). Figure 4.8-3 (Photographic Views Nos. 3 and 4) illustrates the existing character of proposed project areas as viewed from proximate locations south and east of the project. The views at this location are of Planning Areas G, H, I, and J and K and L. There are no residential developments adjacent to these proposed development areas. Viewers include San Bernardino Steel and some other industrial users. Views from this location will potentially include the buffer developments proposed for Planning Areas G, H, I, J and K. These would intervene between any potential sensitive viewers and mining proposed for Planning Areas L and M. Due to the nature of the existing land uses, implementation of the project would not be considered a significant impact to viewers at these locations.

4.8.2.4.4 South (midrange). The south end of the project area contains Planning Areas K and L, and M and N. Potential viewers in this area consist of the "Cimmaron Ranch" community and a newly constructed tract of single family homes adjacent to the west of Cimmaron Ranch. Figure 4.8-4 (Photographic Views Nos. 5 and 6) portrays the existing character of the potential view at this location. Planning Area M will not be in view from this location as it is screened from view by the Southern Pacific Railroad embankment. The Cimmaron Ranch community is screened from view of the project area by a seven-foot wall running along an approximate 3-foot berm at the northern boundary of the neighborhood, south of the Cable Creek Channel. Due to this existing screening, as well as the distance between this community and the Planning Areas at the south end of the project, the proposed project would not result in a significant visual impact.

The new tract of single family homes adjacent to the west of Cimmaron Ranch may be exposed to views of the southwesterly project Planning Area L. However, potential visibility would be from a distance of over one-quarter mile from the proposed project. Planning Area M will not be in view from this location as it is screened from view by the Southern Pacific Railroad embankment. In summary, implementation of the project would not result in a

significant adverse visual impact to viewers in this community due to existing buffering and buffering requirements contained in the Specific Plan.

Planning Areas M and N are also situated in the southern end of the project area. There are residences located south of the southern project area boundary. The processing plant in Planning Area N is not likely to be highly visible from this location since the railroad embankment represents fifteen feet of elevation separating the viewers from that particular project area, and because of buffering requirements of the Specific Plan Planning Area Regulations (pp. 149-151) and the Design Guideline (pp. 174-175).

4.8.2.4.5 North and West (proximate). The project would not be visible to users of the Glen Helen Regional Park and Devore Road, (see Figure 4.8-5). The park is entered from the north. Facing south upon entering the park, there is a knoll in the distance, marking the southernmost edge of the park. Mining in Planning Area P will not be visible from this location. Furthermore, Planning Area O which is visible to users of the park facing in an easterly direction is designated as Open Space in the Specific Plan (see Figure 4.8-5, Photographic View No. 8). Present views of Planning Area P are only available from non-public access points in the hills to the south of the park. The visibility of Planning Area O varies depending on the location of the users in the park and the intervening landscape and topography between the user and the project area. Since Planning Area O is planned as open space, the project will not cause any significant visual impact to park users. On the contrary, the open space will be conserved, thus prohibiting development from occurring within its boundaries. Visual impact would not occur because there will be no change in the existing open space character in this view from the park.

The view shown in Figure 4.8-5 (Photographic View No. 7) is from Devore Road. At the east end of Devore Road, there are approximately six residences, a small corner market and two unidentified industrial businesses along Devore Road. Planning Area O would be visible from these locations, which are at approximately the same elevation as the project. Since Planning Area O is designated as open space in the Specific Plan, the project will not have a visual impact to residents in this vicinity.

4.8.2.4.6 West (midrange). Users of the Glen Helen Off-Highway Vehicle Park and Don Brown Racing facility, as well as those accessing the Verdemont Boys Ranch via Verdemont Road, and travelers on Ranch Road comprise viewers exposed to views of Planning Areas O and P. There are no residences along Verdemont Road. A view from this location is shown in Figure 4.8-6 (Photographic Views No. 9). Since this viewshed is provided from an elevated area where the Cajon Wash is visible, the proposed project could represent a substantial change in the open space character of the Cajon Wash due to planned in-stream mining in Planning Area P, visible in this vicinity. However, Planning Area O is designated as open space in the Specific Plan and remains a buffer to the visual impacts of the mining operations. The open space represents 488 acres of undeveloped land, surrounding 257 acres of mined area (Planning Area P). Furthermore, the Long-Term development phase of the Specific Plan provides for reclamation of Planning Area P which shall result in 745 acres of open space.

4.8.2.4.7 North and West (midrange). The proposed project area is not in clear view from the I-215. As seen in Figure 4.8-6 (Photographic View No. 10), travelers along I-215 northbound currently have an open and slightly elevated view of the regional setting for the proposed site for an approximate 0.25 mile stretch of freeway. The Glen Helen Regional Park is discernable from the distance, as are the cars parked along Devore Road, however, the numerous other types of development surrounding the project area are obscured from this distance, i.e., railroad tracks, the I-215 South, industrial developments, and a variety of single family residential developments (see Figure 4.8-6, Photographic View No. 10). From the I-15, the proposed CalMat Cajon Creek project will be viewed at a distance of approximately one mile. The project area most clearly in view will be the open space Planning Area O. Planning Area P, which is approximately two miles away, is not in view from I-15. For this reason no significant visual impact will occur from these locations. Furthermore, I-15 and I-215 are not designated Scenic Highways at these locations.

4.8.3 Significance of Impacts

The CalMat Cajon Creek Specific Plan incorporates specific Design Guidelines within each Planning Area in order to mitigate potentially significant visual impacts with regard to: night lighting in mining areas on the project, and views from adjacent surrounding land uses onto

the Specific Plan Planning Areas. There will be no significant impacts as a result of landform modification. Furthermore, no significant impacts are anticipated as a result of conflicts with the City of San Bernardino General Plan, Land Use and Urban Design Element, as the Specific Plan, Planning Area Regulations and Design Guidelines incorporate the San Bernardino General Plan goals and policies.

4.8.4 Mitigation Measures

With implementation of the Specific Plan, potentially significant impacts relating to visual resources and/or lighting will be reduced to below a level of significance due to the various measures which have been incorporated into the Specific Plan, Planning Area Regulations and Design Guidelines. The Mining and Reclamation Plan also incorporates measures to reduce the potential significance of visual impacts to below a level of significance. The Specific Plan and the Mining and Reclamation Plan include the following mitigation measures:

- As phased mining activities progress, previously extracted areas shall be concurrently reclaimed, and revegetated with indigenous plant materials in conformance with the Reclamation Plan and Revegetation Plan.

- Processing equipment shall be low profile or visibly screened whenever practical in order to minimize views of this equipment.

- Aggregate plant site structures, such as crushers, conveyor systems, and processing facilities, shall be painted with one or more non-intrusive colors that blend into the surrounding landscape.

- All lighting shall be directed on-site and shall be downward-oriented to provide direct lighting in the immediate area so that potential glare effects upon surrounding land uses are reduced.

- Landscape screening shall be used along portions of the western boundary of the project area to visually buffer views from sensitive viewers along Cajon Boulevard.

- If the planned light industrial developments within Planning Areas E and K, proposed to buffer extractive operations in Planning Areas F and L, are not developed prior to commencement of extractive operations, earthen berms and/or landscape screen vegetation shall be used to accomplish visual buffering until the developments are constructed.

Each Planning Area development will need to be evaluated on an individual basis as part of the City's Development Review process to determine if the project is in conformance with the Design and Development Guidelines, and how it relates to the visual quality of the project area.

4.9 CULTURAL AND HISTORIC RESOURCES

A cultural resource survey of the CalMat Cajon Creek project site was conducted by ASM Affiliates, Inc. (October, 1990) in order to identify extant prehistoric, ethnohistoric, and historic archaeological resources within the property, and assess potential impacts in compliance with local, state, and federal regulations and guidelines. Cultural resources can include buildings, structures, objects, sites, and districts of archaeological, historical, or other cultural significance.

The study consisted of a search of site records and pertinent literature at the Archaeological Information Center for San Bernardino County, a review of historic archival documents, and an intensive survey of the entire property. Findings from the studies and survey are summarized below, and the detailed description of the survey methodology, results and analysis is included in ASM's Cultural Resource Survey included in Appendix H of this EIR.

4.9.1 Existing Conditions

The record search indicated that various cultural resources were located within and in close proximity to the project area. Three extant sites were identified nearby: two historic archaeological sites at Lytle Creek, and California Historic Landmark CHL-573 at Sycamore Grove. Other prehistoric and historic sites are suspected to have once occurred within the studied properties, but historic land uses have destroyed them.

The project area is believed to be of low sensitivity for prehistoric archaeological resources, moderate sensitivity for historic archaeological resources (older than 50 years in age), and high sensitivity for the potential for historic structures.

Four shards of purple glass were identified and recorded in the southeastern portion of the project area, at the boundary between Planning Areas J and M. No other cultural resources were found. The following provides a description of the existing conditions. They are described in correspondence with the proposed project's planning areas, referenced as Planning Areas A through P. Exact locations of these sites are not provided in this EIR, in

order to protect the integrity of resources which may be found even though they may or may not be considered by ASM to have data potential.

- **Planning Areas A, B, and C.** No prehistoric artifacts or sites were found in these areas. Aside from the modern debris and trash, no historic sites or artifacts were found. One modern day fire rock was seen, but not plotted.

- **Planning Areas D, E, and F.** No prehistoric artifacts or sites were found in these areas. Modern scatters of tin cans, glass, paper products and other debris were seen, along with abandoned vehicles and temporary shelters. Two modern rock rings were also observed, but not plotted.

- **Planning Area G.** No prehistoric or historic sites or artifacts were found in this section; however, there is a relatively modern flood control dike. The dike is a berm approximately 7-10 feet in height that runs almost the length of the section. A large block of concrete is located at one end, and on top of the berm, there are intermittent scatters of ceramic pipe.

- **Planning Areas H, K, and L.** No prehistoric or historic sites were found in these Planning Areas. These areas are highly disturbed with evidence of off-road use, abandoned cars, and modern trash dumps.

- **Planning Areas I, J, and M.** No prehistoric or historic sites or artifacts were observed in Planning Areas I and J. Four historic purple glass fragments were found between Areas J and M. Historic purple glass is important in that it is recognized as an historic time marker by archaeologists for artifacts and sites dating around the turn of the 20th century. The purple coloring of the glass is the result of using manganese within the glass. The manganese was imported from Germany, and, as such, the practice was discontinued in 1917 with the outbreak of hostilities during World War I. All of the four pieces are part of a large serving bowl or platter. Along with this glassware, there are piles of boards and bricks and scatters of other glassware

that cover an area approximately 5 x 15 meters. These other items appear to be more modern and therefore the area is not considered an historic site.

- **Planning Areas N and P.** No prehistoric or historic sites or artifacts were found in these areas.

4.9.2 Project Impacts

Cultural resources on the proposed site have apparently been lost, largely due to the deleterious effects of past flooding and extensive nature of the modern land uses and disturbances. For this reason, the property was not found to be conducive to the conservation of cultural resources. Besides the four historic glass fragments, no prehistoric or historic sites or artifacts were found within the proposed project area. Sites identified as not important need not be addressed regarding impacts or mitigation of impacts.

4.9.3 Significance of Impacts

In the absence of any significant cultural resources, ASM concluded that development of the proposed CalMat Cajon Creek Specific Plan will not result in any adverse impacts to cultural and historic resources.

4.9.4 Mitigation Measures

If, during grading, any prehistoric archaeological or historic archaeological or architectural remains over 50 years old are unearthed, construction activities in the immediate area should cease until a qualified archaeologist is brought in to assess and evaluate the significance of the resources. Recommendations as to alternative mitigation measures would then be made following consultation with the State Historic Preservation Office (SHPO). In order to mitigate adverse effects on cultural resources determined to be significant, measures would be developed and implemented, i.e., preservation in-place data recovery (including reports), reclamation, relocation, designation as environmentally sensitive areas, and other physical and administrative measures.

4.10 HAZARDOUS MATERIALS

The CalMat Cajon Creek Project comprises both industrial and extractive land uses which entail the use and/or storage of material which may be classified as hazardous by State law. The following analysis summarizes the hazardous materials aspect of implementation of the CalMat Cajon Creek Specific Plan.

4.10.1 Existing Conditions

The operation of an aggregate extraction and processing operation, and its integral batch plant facilities, requires the utilization of many commonly used substances such as fuels and lubricants, and the asphalt oil used in the production of asphaltic concrete. These substances are classified as hazardous by State law. The California Administrative Code contains strict regulations which must be complied with in order to assure that adverse impacts do not occur as a result of their storage and use.

Virtually all businesses in California that utilize hazardous substances are required by law to develop a "Business Plan". The purpose of such a Business Plan is to assure that emergency service personnel and employees are able to respond effectively to potential problems presented by an accident or emergency, should they rise at the facility. The Business Plan assigns responsibilities to key personnel for determining the course of action to be taken under given circumstances. The plan contains a detailed hazardous materials inventory, and information as to the location, type, quantity and health risks of hazardous materials stored and used.

Regulations under the California Administrative Code pertaining to underground liquid storage tanks must be followed if underground fuel tanks are located within the project area. The latest, up-to-date equipment, including double-walled tanks and piping, leak alarms, and overfill and spill protection are added assurances now required for safeguarding the environment from leaking underground tanks. A leak detector is placed in the annular space between the two tanks. Should a leak occur in the interior tank, the alarm would sound and remedial measures to correct the tank would promptly begin. In the mean time, the liquid would be contained within the secondary tank. Financial responsibility regulations require

owners of underground storage tanks to prove that they are financially capable of remediating any unauthorized releases from their underground tanks.

All regulations associated with underground storage tanks and hazardous materials are implemented and enforced by the Hazardous Materials Management Division of the County of San Bernardino Health Department. Operating permits required by such regulations must be obtained prior to the installation of any underground storage tank containing hazardous materials.

Aggregate processing plants, such as those proposed, have the potential to generate various types of emissions. Effluent from water used in the aggregate plant and related batch plant operations is under strict permitting control by the California Regional Water Quality Control Board. Protection of state waterways is through enforcement of regulations as set forth by the Regional Water Quality Control Board. Guidelines, as set forth by Waste Discharge Requirements which include monitoring and reporting requirements, are designed to manage any significant water quality impacts that may arise because of such an operation. Remediation of water quality problems must be carried out in a responsive manner.

Air quality emissions are regulated by the South Coast Air Quality Management District (SCAQMD). Prior to construction of an aggregate processing or batch plant facility, SCAQMD must perform a detailed engineering evaluation in order to assure that the most advanced pollution control technology will be used to control dust and other emissions. Once constructed, SCAQMD both issues annual operating permits and monitors their operation.

4.10.2 Project Impacts

The proposed project will require the on-site handling of fuels (gasoline and diesel), greases, lubricating oils, asphalt, waste oils, solvents and concrete additives. On-site fuel, waste oil, and liquid asphalt storage tanks will be used. All new underground tank installations are required to utilize double-walled tanks and piping, leak detection equipment, as well as overfill and spill protection. Valid operating permits must be obtained from the County Health Department. If contaminated soil or water were ever to occur, as determined by

certified lab test results, measures would have to be taken to remediate the problem by guidelines established by the County of San Bernardino Hazardous Materials Management Division and the California Regional Water Quality Control Board (RWQCB). Removal of contaminated material to a proper disposal point, or on-site bio-remediation, are possible remedial methods.

On-site above-ground waste oil tanks will be provided with secondary containment capability. The contents of waste oil tanks will be removed on a regular basis by a licensed oil recycler.

Fuel dispensing areas will contain spill catchment features. Greases and lubricating oils will be stored in drums on a concrete pad having spill containment. Solvents will only be used for parts cleaning and will be kept in a fully contained system that recycles spent solvent. Concrete additives will be purchased in bulk quantities in order to reduce the number of containers on-site at any given time; these materials will be stored separately from petroleum products, in an area having spill containment.

Above-ground asphalt storage tanks will be subject to similar monitoring procedures. In addition, they will be protected by a secondary containment berm capable of holding 150 percent of the combined capacity of the tanks. However, once the heated asphalt oil which is stored in these tanks is exposed to the atmosphere, it cools and hardens rapidly.

The EPA has recently issued financial responsibility regulations requiring owners and operators of underground liquid storage tanks to demonstrate financial responsibility for accidents and spills, clean-ups and damages to third parties. CalMat Co. will self insure its tanks, as required by this new regulation.

A "Business Plan" will be developed prior to start-up of operations, as required by State law, to assure that emergency service personnel and employees are able to respond effectively to potential problems presented by an accident or emergency, should such need arise at the CalMat Cajon Creek facility. The Business Plan will be provided to the County Health Department Hazardous Material Management Division and a copy maintained on-site.

The aggregate processing operation and on-site batch plants will require valid operating permits from the SCAQMD to assure compliance with air quality regulations. Prior to construction, SCAQMD must review all proposed air pollution control equipment to assure that Best Available Control Technology (BACT) is utilized. Then, an Authority to Construct must be issued by that agency. Once constructed, SCAQMD requires testing to assure that the air pollution control equipment is operating as designed before an annual Permit to Operate is issued. In addition, SCAQMD routinely makes unscheduled on-site inspections to make sure all air pollution control measures are working effectively.

Toxic air contaminant emissions studies from all major stationary sources, such as aggregate processing plants, and ready-mixed concrete and asphaltic concrete batch plants, are currently in progress under requirements set forth in AB 2588. Results of these studies will further guide the SCAQMD in permitting procedures and levels of control that will enable that agency to minimize any toxic air contaminant exposure risk to acceptable public health levels.

Components of the Reclamation Plan (revegetation, drainage control, setbacks and slope requirements, etc.) provide for control of erosion and sedimentation in order to avoid adversely affecting the Cajon Creek Wash. In addition, the RWQCB will require the issuance of formal waste discharge requirements by that agency which will describe in detail the nature of the CalMat Cajon Creek operation, its allowable water usage, waste treatment and disposal facilities. The RWQCB Waste Discharge Requirements Order will specify a formal water quality monitoring and reporting program which must be complied with. Technical reports concerning the quantity and quality of any waste water discharge must be submitted to that agency on a regular basis in order to manage any significant water quality impacts that may arise as a result of operations. Remediation of any water quality problem must be carried out in a responsive manner.

An analysis of water quality impacts of the proposed project, contained in Section 4.4 Surface Hydrology, has indicated that there will be no significant impact as a result of groundwater exposure.

4.10.3 Significance of Impacts

The California Administrative Code requires strict compliance with regulations concerning the use and storage of hazardous substances such as will be utilized at the project site. As required by law, a site-specific Business Plan will be developed to assure that any hazardous materials emergencies can be responded to effectively. A drainage control plan has been developed as part of the Reclamation Plan to prevent excessive erosion and sedimentation. Monitoring of water quality will be required by the RWQCB, while toxic air contaminants will be regulated by the SCAQMD, under the requirements of AB 2588.

4.10.4 Mitigation Measures

The Specific Plan proposes Design Guidelines to follow within each planning area to guard against potentially significant impacts relating to storage and handling of hazardous materials. The Conditional Use Permit also contains provisions to avoid significant impacts in this regard. The following mitigation measures will be required to further reduce the potential for significant impacts related to the storage and handling of hazardous materials.

- All underground fuel or oil storage tanks and piping will be double-walled and contain leak detection equipment, overfill and spill protection. No bulk storage of fuels or oils in the effective 100 year floodplain will be permitted. Valid operating permits will be obtained from the County Hazardous Materials Management Division (HMMD).

- Waste oil tanks will be emptied on a regular basis by an oil recycler.

- Above-ground asphalt oil storage tanks will be protected by a containment berm to provide protection in the event of a spill. The containment berm shall be capable of holding 150 percent of the combined capacities of the tanks.

- Fuel dispensing areas will contain spill catchment features.

- Greases and lubricating oils will be stored in drums on a concrete pad having spill containment.

- Solvents will only be used for parts cleaning and will be kept in a fully-contained system that recycles spent solvent.

- Liquid concrete additives, where possible, will be purchased in bulk quantities in order to reduce the number of containers on site at any given time; these materials will be stored separately from petroleum products, in an area having spill containment.

- Calmat will self-insure its financial responsibility for accidents and spills, clean-ups and damages to third parties, as required by the EPA.

- A Business Plan will be developed in compliance with Chapter 6.95 of the California Health and Safety Code to assure that emergency service personnel and employees are able to respond effectively to potential problems presented by an accident or emergency. The Business Plan will be submitted to the County of San Bernardino Health Services Risk Management Division, and to the City of San Bernardino Fire Department, at least 45 days prior to operation. A copy of the Business Plan will be maintained at the subject property.

- An Authority to Construct and Permit to Operate will be secured from SCAQMD as required, in order to assure that proper compliance with all applicable air quality regulations is achieved.

- A Waste Discharge permit will be secured from the Regional Water Quality Control Board to assure that all water quality requirements are met.

4.11 PUBLIC SERVICES AND UTILITIES

Public service and utility systems are evaluated within this subsection of the EIR. The evaluations below identify whether the existing systems for fire protection, water supply, gas and electric, telephone and sewer systems are adequate or can be expanded to meet the requirements of the proposed project without significant adverse impact. Also identified is the possible need to relocate a portion of the CalNev pipeline west of Planning Area P.

4.11.1 Existing Conditions

4.11.1.1 Fire Protection

The property is currently protected from wildland fire by crews, and equipment of California Department of Forestry and Fire Protection (CDF), and the San Bernardino County Fire Agency (Central Valley Fire Protection District). The site is located within Fire Range 2 (FR-2) of the Safety-Fire Overlay District of the San Bernardino Consolidated General Plan Overlay Map and must meet certain design and construction standards for that range.

The project site currently does not contain structures and other facilities that would be subject to fire hazards. Fire calls to the site in recent years have not been as a result of structural fire, but rather in response to minor grass fires (Maloney, 1991). Mutual aid agreements exist with the U.S. Forest Service and the City of San Bernardino to provide assistance for major incidents.

It is anticipated that the entire project site would be annexed into the City of San Bernardino and will be within the jurisdiction of the City of San Bernardino Fire Department. Fire Station No. 5 is located at 1640 Kendall Drive, and would respond to calls at the site. The station is staffed with a three person crew for each of three shifts and is facilitated with a water tanker and a triple-combination pumper (Allaire 1991). In the event of a major fire, assistance would be provided by Fire Station No. 4, located at 2641 North "E" Street; or Fire Station No. 7, located at 282 West 40th Street. There is no mutual aid agreement with the County or the CDF for fire service. Though no time study has been conducted to

estimate the response time to the project site, it is believed to be approximately 9 to 12 minutes (Allaire 1991).

4.11.1.2 Police Protection Service

Law enforcement for the project vicinity is provided by the City of San Bernardino Police Department. The City's main police station is located southeast of the project area at 466 West 4th Street. The Police Department currently has 251 sworn officers and 130 non-sworn personnel on staff. Response time for this department to the project area is variable depending on where the vehicles are located when they receive a response request and the priority of the call. The average response time for priority 1 calls city-wide is 7.38 minutes (Kauffman 1991).

4.11.1.3 Water Supply

The project area is located within the City of San Bernardino Municipal Water Department (SBMWD). According the SBMWD, approximately 95% of the 70 million gallons per day (MGD) used throughout the City comes from 36 wells that pump water from underground (1991). The remaining 5% of the water comes from a stream located in Devil Canyon behind California State University San Bernardino. The well water is pumped from underground basins filled by water draining down from snow-melt and rainfall in the mountains. The San Bernardino Municipal Water Department operates a number of storage reservoirs where the water is held before distribution.

4.11.1.4 Gas & Electric

Gas service to the CalMat Cajon Creek Specific Plan Planning Areas is provided by the Southern California Gas Company, and electric service is provided by Southern California Edison.

4.11.1.5 Telephone

General Telephone (GTE) currently provides telephone service to the area.

4.11.1.6 Sewage Disposal/Wastewater Management

The City of San Bernardino Municipal Water Department owns and operates the San Bernardino Water Reclamation Plant (SBWRP). The SBWRP is responsible for the treatment of residential and industrial wastewater that would be generated in the proposed Specific Plan Planning Areas. The City Public Works Department is responsible for the design and construction of wastewater collection facilities that would be required within the proposed Specific Plan Planning Areas. Operation and maintenance of wastewater collection facilities in the proposed Planning Areas would be the responsibility of the Public Services Department.

There is no existing sewer main fronting on the Specific Plan Areas. There is an existing 18-inch sewer main in Cajon Boulevard which terminates south of the Cable Creek Drainage Channel.

4.11.1.7 Solid Waste Disposal

Disposal of solid waste generated in the vicinity of the project is the responsibility of the County of San Bernardino's Public Services Department. Trash is collected and deposited into the Colton and Fontana Landfills owned and operated by the County of San Bernardino. The closing dates projected for the current landfills range from five to ten years. When the Colton and Fontana Landfills eventually close, solid waste generated in the City will be transported to the San Timoteo Landfill which is also owned and operated by the County of San Bernardino.

4.11.1.8 Utility Structures and Easements

Easement rights, as they exist now, are associated with: two underground aqueducts which cross the project site in an east-west direction; the MWD line which crosses Cajon Creek approximately 400 feet south of Institution Road, the SGVMWD line which parallels the MWD line about 100 feet further south; the Southern California Edison Company whose power lines pass through the eastern portion of the 100-year floodplain from the southern tip of the project site, pass over the western edge of the inactive County landfill, and continue

northeastward, until it crosses Cajon Boulevard approximately 0.6 mile south of the Cajon Boulevard and Kendall Drive intersection; and, the CalNev petroleum pipeline located to the west of Planning Area L, along the east side of the Southern Pacific Railroad embankment, and to the west of Planning Area P.

4.11.2 Project Impacts

4.11.2.1 Fire Protection

The CalMat Cajon Creek Specific Plan projects a total of 298 acres of industrial uses, 349 acres of mining-related uses, and 745 acres of open space (ultimately, following reclamation of Planning Area P). Build-out of the project would therefore require upgrading of fire flow capabilities.

Any development of structures in the project area would place additional demand on the City of San Bernardino Fire Department to provide protection. In anticipation of this occurrence, the long-term fire coverage needs within the project area will be served in conformance with the policies for emergency response fire service, as contained in the City of San Bernardino General Plan.

To ensure that the policies contained in the General Plan are implemented, the CalMat Cajon Creek Specific Plan provides for compliance with the design and construction standards related to fire safety which are set forth in the General Plan. For example, the proposed project will be adequately served by water served by water supplies for fire protection; and, the delivery system (water distribution lines) will be adequately sized to meet Uniform Fire Code (UFC) fire flow requirements.

4.11.2.2 Police Protection Service

The potential buildout of the CalMat Cajon Creek Specific Plan is not anticipated to adversely impact the provision of police services. It is not anticipated that buildout would require additional police personnel or facilities (Kauffman 1991).

4.11.2.3 Water Supply

The projected demand for water services at buildout of the CalMat Cajon Creek Specific Plan is summarized in Table 4.11-1. The total projected water demand on the City of San Bernardino Municipal Water District would be 1.35 million gallons per day (MGD). Water service to the various Planning Areas is proposed as follows:

Planning Areas A and B. There is an existing 16-inch water main in Cajon Boulevard, which fronts on Planning Areas A and B. The existing system is adequate to serve these areas. When the development occurs, an 8-inch water main will be constructed in the interior streets to distribute water to the individual lots.

Planning Areas C, D, E and F. There is an existing 12-inch water main in Cajon Boulevard, which fronts on these Planning Areas. These areas will be served directly from Cajon Boulevard, as the existing system is adequate to serve them.

Planning Area D will initially be the site for an aggregate processing plant. The water demand for this site will initially be approximately 380,000 gal/day.

Planning Area F is a mining area. It is anticipated that a portion of this mining area will be reclaimed for development. The type of development should be similar to Planning Area E.

Planning Areas G, H, I, J, K and L. There is no water line fronting on these planning areas. There is an existing 12-inch water main in Cajon Boulevard approximately 1,300 feet south of the Specific Plan project boundary. There is also an existing 12-inch water main in Cajon Boulevard which terminates approximately 1,200 feet south of Little League Drive. Either of these lines has the capacity to serve the project when extended.

TABLE 4.11-1

WATER/SEWER SPECIFIC PLAN SUMMARY

	Plan Area	Acres	Net Design Acres[1]	Water Gallons/Day	Sewer Gallons/Day
A	(Light Ind.)	77.0	61.6	246,400	215,600
B	(Heavy Ind.)	47.0	37.6	225,600	188,000
C	(Heavy Ind.)	6.0	4.8	28,800	24,000
D	(Heavy Ind.)[2]	18.5	14.8	88,800	74,000
E	(Light Ind.)	14.0	11.2	44,800	39,200
F	(Extraction)	51.0	N/A	---	---
G	(Light Ind.)	26.0	20.8	83,200	72,800
H	(Light Ind.)	23.0	18.4	73,600	64,400
I	(Heavy Ind.)[3]	36.5	29.2	175,200	146,000
J	(Heavy Ind.)	14.0	11.2	67,200	56,000
K	(Light Ind.)	36.0	28.8	115,200	100,800
L	(Extraction)	130.5	N/A	---	---
M	(Extraction)	97.5	N/A	___	___
N	(Plant Site)[4]	70.0	N/A	200,000	---
O	(Open Space)	488.0	N/A	---	---
P	(Extraction)	257.0	N/A	---	---
	TOTALS	1,392.0	238.4	1,348,800	980,800

[1] This is 0.8 x Acres.

[2] Initially a plant site with a demand of 328,000 gal/day of make-up water. Sewer needs would be taken care of with chemical toilets or septic tanks.

[3] Initially a portable plant site with lower water needs (78,400 gal/day). Sewer needs would be taken care of with chemical toilets or septic tanks.

[4] This plant site will require about 371,300 gal/day of make-up water. As an alternative to City supplied water, it is proposed this water be purchased and supplied by means of a metered on-site well. Sewer needs would be taken care of with chemical toilets or septic tanks.

Planning Areas G, H, I and J will require a new 8-inch water main to be extended down Institution Road as these areas are developed. Lots fronting on Cajon Boulevard (Planning Areas G, H and K) and Institution Road (Planning Areas G, H, I and J) will be provided service from these water mains in both streets. Additional 8-inch branches of the water main will be built in each of the cul-de-sac streets to distribute water to the interior lots.

Planning Area L is a mining area and will not require water service. However, a portion of Planning Area L will be reclaimed for development. The type of development will be similar to Area K. Future water service will be supplied through a branch of the water main via Planning Area K or H.

Planning Areas M and N. Planning Area M is a mining area and will not require water service. Planning Area N is the site of an aggregate processing plant. Approximately 371,300 gal/day will be required.

Planning Areas O and P. Planning Area P is an in-stream mining area and will not require water service. Planning Area O is designated open space which will not require water service.

Implementation of the CalMat Cajon Creek Specific Plan would increase water demand in the region. Although the availability of water in Southern California could become a constraint to development in future years, the policy position of the SBMWD is that it is capable of providing potable water in the quantities required by its users. Therefore, an adequate water supply to serve the Specific Plan Planning Areas would be available from the SBMWD, and the project would not result in significant impacts to regional or local water supplies. Continued development in the San Bernardino Region, however, could ultimately cause significant impacts to water supply (see Section 6.4 Cumulative Impacts). The proposed project would incrementally contribute to this region-wide cumulative impact.

4.11.2.4 Gas & Electric

While the exact requirements for natural gas and electricity consumption cannot be established at this time, no additional generation or supply facilities are anticipated to serve the project. Southern California Gas Company and Southern California Edison will continue to service the vicinity based on local demand (Winegar 1991 and Marinelli 1991).

The availability of natural gas and electric service is based upon conditions of supply and regulatory policies. The Southern California Gas Company is a public utility and therefore under the jurisdiction of the California Public Utilities Commission. Southern California Edison can also be affected by actions of federal regulatory agencies. Should these agencies take any action which affects gas or electric supply or the condition under which service is available, service will be provided in accordance with revised conditions.

4.11.2.5 Telephone

Based on communication with General Telephone Company's Engineering Department, additional infrastructure facilities will have to be constructed to serve the projected needs of the CalMat Cajon Creek Specific Plan Planning Areas (Pryor, 1991).

4.11.2.6 Sewage Disposal/Wastewater Management

Requirements for sewer service are summarized in Table 4.11-1. There is an existing 18-inch sewer main in Cajon Boulevard which terminates south of the Cable Creek Drainage Channel. The City of San Bernardino Public Works Department maintains the existing 18-inch main located in Cajon Boulevard (terminating south of Cable Creek Drainage Channel) which has adequate capacity to serve the proposed Specific Plan Planning Areas, but will have to be extended north in Cajon Boulevard before development can take place (Grubbs, 1991).

> **Planning Areas A and B.** When the development occurs, an 8-inch sewer main will be constructed in the interior streets to serve the lots.

Planning Areas E and K. These areas will be served directly from Cajon Boulevard.

Planning Areas G, H, I and J. As Planning Areas G,H,I, and J develop, a new 8-inch sewer main will be extended down Institution Road will be served from the sewer mains in these streets. Additional 8-inch branches of the sewer main will be built in each of the cul-de-sac streets to serve the interior lots.

Planning Areas D, I and N. Planning Areas D, I and N are sites for aggregate processing plants. Limited sewer needs will be met by chemical toilets or septic systems.

Based on sewer demand rates used by the SBMWD, implementation of the CalMat Cajon Creek Specific Plan is projected to increase sewer demand in the area by approximately 980,800 gallons/day. The proposed distribution of onsite line sewer facilities would follow road right-of-ways, and eventually connect to the existing 18-inch sewer line in Cajon Boulevard. The City of San Bernardino Public Services Department has plans to extend the existing sewer infrastructure. The City anticipates sufficient sewage and treatment capacity will be available to serve the CalMat Cajon Creek project (Grubbs, 1991). No significant impacts with regard to provision of sewer service were identified in conjunction with the project.

4.11.2.7 Solid Waste Disposal

Implementation of the CalMat Cajon Creek Project will result in the generation of solid waste during construction, and subsequently from the buildout of the industrial developments, mining and plant operations. According to the City's Public Services Department, the amount of municipal solid waste generated by industrial establishments and mining operations in any given geographic area is a function of the number of workers, the type of industrial establishments, the level of activity of construction, and the number of recycling activities and recovery programs (Barnes, 1991).

Construction would generate approximately 1.6 tons/cubic yard of excess material during each phase of development (Barnes, 1991). The waste generation rate from construction, which will primarily consist of vegetation and other "spoil", is based on a formula which averages one inch of soil over the development area. Therefore, the volumes of construction generated waste were estimated for each phase of development as follows: 39,240 cubic yards during the Near-Term Development, 16,195 cubic yards during the Intermediate-Term Development, and 59,136 cubic yards during the Long-Term Development. Options for disposal include disposal of the material at development sites within the project area, and disposal of the material outside the project area. The material which is disposed of outside the project area would become the responsibility of the contractor.

Once the Planning Areas are developed, trash generated from those areas will be from the operation of industrial developments, the mining and plant operations. Based on a solid waste generation rate of 2.0 lbs/100 square feet/day, the demand for solid waste disposal at buildout of the CalMat Cajon Creek Specific Plan will be approximately 19.3 tons/day.

The City of San Bernardino Public Services Department anticipates sufficient landfill capacity will be available to accommodate solid waste disposal services for the CalMat Cajon Creek Specific Plan Planning Areas. Implementation of the project would however, increase solid waste disposal demands in the region and would incrementally contribute to a cumulative impact (see Section 6.4 Cumulative Impacts).

4.11.2.8 Utility Structures and Easements

The location of the CalNev petroleum pipeline, west of Planning Area P, is not precisely known. However, prior to mining in Planning Area P the pipeline will be located, and, either the west side of excavation will be set back 100 feet from the pipeline, in accordance with the Specific Plan, Development Guidelines; or, the pipeline would have to be relocated. If it is necessary to relocate the pipeline, this would represent a potentially significant impact without mitigation.

Easement rights, as they now exist, or as they may be subsequently relocated, shall be maintained. No significant impacts are anticipated with regard to utility easements.

4.11.3 Significance of Impacts

4.11.3.1 Fire Protection

Although effective fire prevention measures are incorporated into the project design, emergency fire protection services have been identified by the City as requiring "...periodic evaluations of population growth, level of service (response time) and fire hazards in the City." (General Plan, 1989). If response times to the project area are found to be inadequate, it would cumulatively contribute to the requirement for an additional station, and may be considered a potentially significant cumulative impact.

4.11.3.2 Police Protection Service

No significant impacts related to the provision of police service would result from implementation of the CalMat Cajon Creek Specific Plan.

4.11.3.3 Water Supply

It is anticipated that no significant, adverse impacts related to the provision of water services would result from the implementation of the CalMat Cajon Creek Specific Plan provided adequate facilities are installed. The project developer would be responsible for the installation of all onsite facilities.

4.11.3.4 Gas & Electric

No significant impacts to gas and electric services are expected with the CalMat Cajon Creek Specific Plan development, as long as onsite facilities are completed and the developer pays a connection fee for a proportionate share of the offsite facilities.

4.11.3.5 Telephone

No significant impacts to telephone services are expected with the CalMat Cajon Creek Specific Plan development, as long as onsite facilities are completed and the developer pays a connection fee for a proportionate share of the offsite facilities.

4.11.3.6 Sewage Disposal/Wastewater Management

No significant impacts to sewer services are expected with the implementation of the CalMat Cajon Creek Specific Plan as long as onsite distribution of facilities are completed.

4.11.3.7 Solid Waste Disposal

Service required at the CalMat Cajon Creek project would be provided by the City of San Bernardino Public Services Department. The short-term and long-term burden on the County Landfill facilities will not constitute a significant impact since the County Landfills will be capable of accommodating solid waste generated by the project developments (Barnes, 1991).

4.11.3.8 Utility Structures and Easements

Possible relocation of the CalNev petroleum pipeline represents a potentially significant impact; however, implementation of the mitigation measures and compliance with CalNev utility relocation policies and procedures will reduce the impacts to below a level of significance.

4.11.4 Mitigation Measures

4.11.4.1 Fire Protection

The CalMat Cajon Creek Specific Plan will be implemented in compliance with Uniform Building Code requirements as well as the City of San Bernardino General Plan policies, and the City's fire regulations for building construction. Such compliance includes the following

measures, which are proposed to mitigate potentially significant impacts related to the fire protection services:

- Delivery of an adequate volume of water to the site shall be accomplished to meet fire flow requirements.

- CalMat shall comply with the City of San Bernardino policies for fire service as they relate to new development projects, which may include a pro rate fee to pay for additional fire service protection to the project.

4.11.4.2 Police Protection Service

No mitigation measures are necessary.

4.11.4.3 Water Supply

The following measures will be required to provide adequate water services to the project site, thus reducing any potential impacts to the water services.

- A commitment to provide water services shall be obtained from the SBMWD as part of project approval.

- Prior to final map approval, a detailed design of the water distribution network shall be completed to the satisfaction of the Water District. The size of interior facilities shall be based on industrial requirements and fire demands established by the Fire Department.

- The developer shall be responsible for the construction of onsite extension facilities and payment of connection fees for a proportionate share of offsite facilities. Facility financing shall be negotiated with the Water District.

- To reduce incremental region-wide impacts to water supply to San Bernardino County, conservation measures shall be implemented; i.e., the Specific Plan

Design Guidelines identifies the use of xerophytic (drought-tolerant) plants for landscaping.

- Reclaimed water shall be used in aggregate processing operations where feasible. The use of reclaimed water is provided for in the Conservation Element of the City of San Bernardino General Plan and is incorporated into the project as a provision of the Specific Plan. Aggregate processing wastewater shall be clarified onsite and recycled.

4.11.4.4 Gas & Electric

No mitigation measures are necessary.

4.11.4.5 Telephone

No mitigation measures are necessary.

4.11.4.6 Sewage Disposal/Wastewater Management

The CalMat Cajon Creek Specific Plan will be gradually implemented over a period of approximately twenty-five years allowing for the significant sewage wastewater/disposal increase to be phased over its buildout period, thus reducing, somewhat, the short-term burden on the existing facilities. New development should be conditioned to conform to the City's Sewer Master Plan.

4.11.4.7 Solid Waste Disposal

The CalMat Cajon Creek Specific Plan will be gradually implemented, thus solid waste impacts will be phased over the project's buildout period and mitigation is not required. Long-term recycling should be encouraged through the appropriate building design such as allocation of space for recycling bins alongside trash bins to facilitate recycling programs. Furthermore, the CalMat Cajon Creek Specific Plan provides for Recycling Collection Centers as an allowable industrial land use within portions of the Specific Plan area.

4.11.4.8 Utility Structures and Easements

Prior to mining within Planning Area P, the CalNev pipeline shall be precisely located and measures taken to preclude the necessity for its relocation. In this case, it shall be protected in accordance with the Specific Plan Planning Area Regulations and Design Guidelines which include the following mitigation measures:

- Prior to mining in Planning Area P, the CalNev petroleum pipeline will be located, and either the west side of excavation will be set back 100 feet from the pipeline; or, the pipeline will be relocated. If it is necessary to relocate the pipeline, the following mitigation measures are provided to reduce potentially significant impacts to below a level of significance:

  - Protection of the petroleum pipeline shall be in accordance with CalNev policies for the protection of the pipeline during relocation.

5.0
ALTERNATIVES TO THE PROPOSED PROJECT

5.1 INTRODUCTION

CEQA requires that an EIR must contain a discussion of possible alternatives to the proposed project which could conceivably result in the avoidance or reduction in the degree of adverse environmental impacts. The alternatives should be considered on the basis of the degree to which environmental impact is mitigated, while giving due consideration to the attainment of the project objectives. As stated previously in this EIR, a key element of the CalMat Cajon Creek Specific Plan involves striking a balance between the different land uses proposed, in order to optimize the utilization of the unique opportunities offered by the project site. Therefore, the following analysis of alternatives describes the decision process by which the environmental impacts were considered in developing the balance, which is the proposed project.

The alternatives addressed in this EIR include: the "No Project" scenario and three development scenarios consisting of varying the relative amount of each type of proposed land use (maximum extraction, exclusive industrial development, and a reduced-scale extraction scenario). Table 5.1-1 summarizes an environmental impacts analysis of the proposed project in relation to the other considered alternatives. Alternatives which were considered, but rejected, included alternative sites and alternatives to the proposed location of the processing facilities.

5.2 NO PROJECT

Under this alternative neither mineral extraction, industrial development, nor open-space conservation would occur. The Specific Plan site would continue to be designated by the City of San Bernardino General Plan for industrial-extractive uses only. The unique characteristics of the Specific Plan area would not be utilized. It is likely that habitat degradation due to illegal dumping, trespassing, unauthorized vehicle usage and squatters would continue. Offsite improvements would not be constructed.

TABLE 5.1-1

SUMMARY OF IMPACT ANALYSIS
PROPOSED PROJECT VS. CONSIDERED ALTERNATIVES

	Alternatives to the Project			
Impact Area	**No Project**	**Exclusive Mineral Extraction**	**Exclusive Industrial Development**	**Reduced Mining**
Biological	—	+	—	—
Air Quality	=	+	=	=
Seismic	=	—	+	=
Groundwater Quality	=	=	=	=
Groundwater Quantity	+	=	+	+
Surface Hydrology	—	+	—	—
Noise	—	+	—	—
Land Use	+	—	+	+
Traffic	—	—	+	=
Visual	—	+	=	—
Cultural	=	=	=	=
Hazardous Materials	+	=	+	=
Public Services	—	=	+	=
Utilities	—	—	+	=
Growth Inducement	—	—	+	=
Cumulative Impacts	=	=	+	—

Legend:

+ Greater impacts than project
= Impacts similar to project
— Lesser impacts than project

This alternative would avoid the following environmental impacts: changes to the existing site character, disruption of vegetative communities and wildlife habitat, air and noise emissions, increased traffic, and increased demand on public services. However, given the location and the presence of the on-site regionally-significant mineral resource designated by the State, these impacts would be postponed or displaced rather than be eliminated. If the mineral resources are not extracted from the project site as proposed, a significant loss of regionally-significant resource needed to meet the needs of the San Bernardino region, which has one of the highest construction-quality aggregate consumption rates in the State (8.75 tons per capita per year), could occur. Furthermore, it would then be necessary for other existing operations in the region to make up for the demand. The expansion of other operations would likely result in cumulative adverse environmental impacts of a similar nature and degree as those anticipated for the proposed project; additionally, any vertical expansion (deepening) of existing operations could potentially result in adverse impacts to the quality and/or quantity of groundwater resources. Also, the potential increase in groundwater quantity due to the enhancement of recharge capacity in the open pits would not be realized. The disruption of existing vegetative communities and wildlife habitat would be postponed rather than eliminated, as uncontrolled unauthorized uses (i.e., dumping, off-road vehicle, etc.) are likely to expand and continue to degrade the existing habitat. Continued illegal dumping raises concerns over the uncontrolled disposal of household and other types of hazardous waste.

The "No Project" alternative would preclude the attainment of the project goals and objectives set forth by the City of San Bernardino General Plan relating to creation of new jobs through industrial development and diversification of the City's industrial base. Furthermore, the well-planned, balanced development of the site would not take place; sensitive biological areas would not be protected through open-space designation; and, the opportunity offered by unique transportation, mineral resource and location characteristics of the site would not be realized. Given the projected rate of growth in the region, development of the project site could be considered inevitable. However, without the balance of land uses, and planning and design control provided for in the Specific Plan, this development would likely occur in a fragmented, and less environmentally-sensitive fashion.

5.3 EXCLUSIVE MINERAL EXTRACTION

In developing the project plan, consideration was given to the concept of extracting minerals from all areas designated as Regional Significant Resource Areas by CDMG and designated as industrial extractive in the City of San Bernardino General Plan. Planning Areas which would be changed from proposed industrial development to mineral extraction under this scenario are: A, B, D, E, H, I, K, N, and O.

This alternative would eliminate the conflict associated with not mining the areas designated as significant resource areas and would also be consistent with the General Plan, thereby precluding the need for a General Plan Amendment and zoning change. The potential impacts associated with geologic hazards would be reduced, as no habitable structures would be proposed under this scenario. Traffic impacts, in terms of number of trips, would be reduced. Growth inducement impacts would be reduced as fewer jobs would be created.

The exclusive Mineral Extraction Alternative would result in impacts similar to the proposed project in the following areas: groundwater, cultural resources, hazardous materials, and public services.

There are several disadvantages inherent to this scenario. As a practical matter, the mining of several of the long, narrow Planning Areas (e.g., A, B, J) would be difficult and inefficient. The open-space element of the project would not occur and biological mitigations would not be achieved. Visual impacts of the mining activities would not be mitigated by industrial development buffer zones.

It should be noted that although almost all of the project area is designated as a significant mineral resource zone and is zoned for industrial-extractive uses in the San Bernardino General Plan, the General Plan also expresses the City's objection to mining in certain of these areas. The General Plan has incorporated policies for the management of these resources, specifically the encouragement of compatible buffer-zone uses adjacent to mineral resource zones, and low-density interim uses. Although the exclusive extraction scenario would maximize the use of aggregate in the significant mineral resource zone, it would preclude some of these other goals and policies from being achieved.

5.4 EXCLUSIVE INDUSTRIAL DEVELOPMENT

Under this alternative no mineral extraction would occur and the entire site would be developed for industrial uses and rail-access oriented businesses. The areas would be subdivided and tentative maps would be prepared. There would be no need for a mining and reclamation plan.

This alternative would avoid some of the adverse impacts associated with mining activities, including noise, dust, and erosion potential. The City's objection to mining in certain of the designated mineral resource sectors would be upheld. Impacts to sensitive biological resources and surface hydrology would be reduced, as industrial development is not likely to be permitted in the floodplain areas.

On the other hand, there are several adverse effects associated with this alternative. Uses other than mining or interim uses would not be consistent with the CDMG significant mineral resource designation or the objectives and policies of the City of San Bernardino General Plan. Traffic volumes would likely increase. Demands on public services would likely increase over the requirements under the proposed project, as higher uses such as light-industrial land uses are typically less self-sufficient than mining activities and more reliant on publicly-provided services. Industrial activities would use greater quantities of hazardous substances than mining activities, therefore the potential for impacts from mishandling these materials would be greater under the Exclusive Industrial Development alternative. Also, the potential increase in groundwater quantity due to the enhancement of recharge capacity in the open pits would not be realized.

5.5 REDUCED-SCALE MINING

This alternative would involve the elimination of Planning Area P as a mineral extraction area. This area is proposed to be a shallow, in-stream mining operation. This alternative would avoid the temporary disruption of biological resources in the area and also would reduce the potential for upstream or downstream flood damage to existing structures. Visual and noise impacts would be reduced.

A characteristic of the Riversidian alluvial fan sage scrub community is that it has developed in areas which are subject to periodic flooding and redeposition of alluvial material. Since the shallow mining operation proposed for Planning Area P is designed so that the periodic flooding will replenish the sand and gravel resource, the disruption of the biological community is temporary and not inconsistent with the natural ecological balance. The mining operations in Planning Area P will also be designed with careful consideration given to streambed hydrology and eliminating the potential for upstream headcutting or downstream scour.

Air quality impacts would be similar whether or not Planning Area P is mined; because of the sparse natural vegetative cover in the in-stream area, the potential for dust emissions during high wind events are comparable under either natural conditions or mining conditions. Other impact areas (i.e., air quality, seismic, groundwater quality, noise, traffic, cultural, hazardous materials, public services, utilities, and growth inducement) would experience similar effects under this alternative.

Land use impacts would be increased, as the regionally significant mineral resources underlying Planning Area P would not be mined. Also, the potential increase in groundwater quantity due to the enhancement of recharge capacity in the open pits would not be realized.

5.6 ALTERNATIVES CONSIDERED BUT REJECTED

This Section discusses two alternatives which were considered but rejected for various reasons. The first alternative considered, but rejected, involved alternative sites; however, this alternative was rejected because: (1) this alternative would not meet the project objective of providing a balanced utilization of the unique transportation, location, mineral resource and ecological characteristics of the project site; (2) other possible sites have been ruled out through the General Plan process review; and (3) environmental impacts would be displaced rather than be avoided or reduced by moving the individual project components to alternative sites. The second alternative that was considered but rejected involved the siting of the mineral processing facilities within other Planning Areas of the project site. This alternative was rejected because overall project environmental effects would not be reduced

or avoided; however, relocating the facilities could potentially result in the non-recovery of significant mineral resources.

5.6.1 Alternative Locations

As reiterated in recent California Supreme Court rulings, with regard to alternative site analysis being a requirement of CEQA, a "rule of reason" needs to be applied in determining when alternative sites should be reviewed. This applies to the discussion of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project.

The basic objective of the proposed CalMat Cajon Creek project is to achieve a balance of compatible land uses which takes full advantage of the unique characteristics of the project site.

These unique characteristics are: location, transportation, mineral resources and ecological resources. The very essence of the proposed project is the balance between the land uses; while it may be possible to find alternative locations for each of the land use components of the proposed project, it is not considered feasible to find another site with the same unique set of site characteristics. In view of the site-specific nature of this project and its conformance (with regard to the Industrial-Extractive land use designation, along with the requirement of land use buffer zones around extraction operations) with the City of San Bernardino General Plan which received full environmental review, alternate locations outside of the designated mineral resource area were determined not to be reasonable.

The following analysis is the basis for the conclusion that impacts would not be avoided or reduced by locating project components (industrial and extractive) on alternate sites. The relocation of equivalent industrial facilities would likely entail: an equal number of employee vehicle miles and associated air quality impacts, an equivalent area disturbed and similar biological and cultural resource disturbances, similar demands on public services and utilities, noise and visual impacts would also be similar, hazardous materials usage and the potential for impacts from mishandling of these substances would be the same regardless of the location of the facilities. The range of alternatives for the mining operations are limited

to those sites where mineral resources are present; either new sites or expanded production from reserves at existing operations. In the case of new sites, all impacts would be of a similar nature and degree as the proposed project. Expansion of production at existing operations would likely entail increased surface disturbance or deepen the existing pits below the groundwater table; also increasing the production rate at existing facilities would shorten the lives of their mineral reserves.

5.6.2 Plant Site Relocation

Alternative locations for the Processing Plant facilities were considered but rejected on the basis that no alternative location could be identified which could reasonably be expected to reduce or avoid the overall environmental effects of the proposed project. The processing facilities have been sited on the basis of two primary criteria: to be close to the extractive areas, and to be in an area that is not suitable for mineral extraction due to its configuration. Relocation of the processing facilities would merely displace any impacts or increase the distance between the plant and the mined areas, which would likely increase the degree of environmental impacts (vehicle emissions, dust, and noise) due longer haulage distances, thus the net overall environmental effects of the project would not be reduced. Also, relocating the processing facilities to another area that overlies minable mineral resources would result in the non-recovery of these regionally significant resources.

6.1 IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

CEQA mandates that the EIR contain an analysis of irreversible environmental changes and/or uses of nonrenewable resources which may result from implementation of the proposed project. Irreversible environmental changes associated with the CalMat Cajon Creek Project may potentially include: loss of biological habitat, changes in surface water hydrology, long-term modification of surface topography, and changes in the visual setting of the project area. Irretrievable resources which will be committed may include: the materials, labor and energy used to build, operate and maintain the project components; the land uses directly taken to make way for the project; environmental conditions degraded by the project (e.g., reduced flora and fauna populations, increased noise); and public services capacities used up by the project.

As discussed previously in the Environmental Setting section of this EIR, the entire project site consists of disturbed, but undeveloped property. The land disturbance has been caused by flooding, trash dumping, off-road vehicle usage and limited livestock grazing. The mineral extraction operations and the industrial development will result in a partial loss of existing biological communities; however, conservation of the open-space corridors should ameliorate this loss by enhancing the overall biological habitat in the vicinity of the project. The reclamation plan for the mining activity includes a provision for revegetating mined areas with native plant species. A long-term modification of surface topography will result from mining in Planning Areas F, M, and L; upon cessation of mining operations the pit floors will be suitable for industrial usage. The proposed project will result in the consumption of water resources and fossil fuels throughout the life of the project. The irreversible commitment of sand and gravel resources is justified to meet the needs of projected growth in the San Bernardino Production Consumption Region. The City of San Bernardino has addressed these needs in the General Plan, to ensure that mineral, water, biological, open-space and transportation resources are used appropriately from a regional standpoint.

6.2 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Implementation of the proposed project would alter the nature of the site from essentially undeveloped land to land used for industrial development, mining of sand, gravel and rock, and open space conservation.

In accordance with Section 15126(e) of the State CEQA Guidelines, an analysis of the cumulative and long-term effects of the proposed project on identified issue areas is provided below. A more detailed impact analysis for each issue is included in Section 4.0 of this document.

Growth pressure in East Valley San Bernardino has been such that protection of the environment has been accorded a lower priority than community growth and economic and social development. This development and environmental mitigation pattern persists in the San Bernardino region as a whole. Accommodation of the growing population and maintenance of the environment requires a balance of these factors. The relationship between local, short-term uses of man's environment and the maintenance and enhancement of long-term productivity is dependent on achievement of this balance.

The proposed project represents a long-term activity in that industrial development will be phased over a 25 year period; and, mining and processing facilities, may exist on the site for approximately 25 years, although mining operations may continue beyond this 25 year period, depending on market conditions. Furthermore, the proposed reclamation plan is intended to restore vegetation on the site following mining in designated Planning Areas.

Overall, the proposed project will enhance long-term economic productivity in the East Valley area for three key reasons. First, it involves the utilization of aggregate resources within a designated area of regionally-significant construction aggregate resources that does not pose significant conflicts with urban uses. Secondly, the proposed project will provide a readily available supply of construction aggregate for one of the nation's fastest growing regions. The importation of a comparable amount of aggregate from outside of the region

would result in substantially higher construction costs that would ultimately be borne by homebuyers and renters. Thirdly, the CalMat Cajon Creek Industrial developments will have a net positive impact upon the City of San Bernardino Economic Development Agency which is responsible for redevelopment.

With respect to biological productivity, the planned reclamation and re-vegetation of the site, combined with the long-term re-establishment of indigenous vegetation, will allow for portions of the site to return to a natural state. This is unlike urban development activities that would preclude reclamation of the site.

The retention of the project site in its present state is not provided for in the City of San Bernardino General Plan (See Section 5.0 Alternatives to the Proposed Project). The proposed CalMat Cajon Creek project provides for a balance of development. While accommodating needed employment in proximity to the growing East Valley population, and providing for the mining of significant-aggregate resource; the proposed conservation of approximately 745 acres of open space, as provision of the Specific Plan, retains such values as visual concerns, floodplain management and wildlife habitat.

6.3 GROWTH INDUCEMENT

Growth-inducing impacts are generally related to the availability of services, the potential for increased development densities, and increased development pressures on adjacent properties. The extension of public facilities through an area lacking those facilities could encourage development between the newly serviced area and the community providing the service.

Growth in East San Bernardino Valley, including the proposed growth associated with the implementation of the proposed CalMat Cajon Creek Specific Plan, can be considered as a continuing element in the area, in furtherance of the City of San Bernardino General Plan, and not an inducement to further growth, such as that caused by some highway or public utility projects. Essentially, the proposed project is a development which is surrounded by existing residential, commercial and industrial development.

In reacting to recent concerns associated primarily with transportation and related air quality impacts, current public policy strongly encourages balanced development -- that is, development of employment centers near the job demands (residential developments). (South Coast Air Basin Air Quality Management Plan, 1989; City of San Bernardino General Plan, 1989). The CalMat Cajon Creek Specific Plan is consistent with this policy. The project is a logical extension of growth and development that has occurred over the past several years in adjacent jurisdictions, in the County of San Bernardino.

The CalMat Cajon Creek Specific Plan proposes development in an area characterized by undeveloped land. Adjacent land uses are described in Section 4.6. Though the Specific Plan will require a General Plan Amendment to change land use designations, the majority of the project is within the sphere of influence of the City of San Bernardino and is designated for the types of uses proposed by the Specific Plan (see Section 4.6, Land Use).

Growth-inducing impacts will not result from adding capacity to utilities or roadway, as the development of the CalMat Cajon Creek Specific Plan would be sufficiently supplied with existing public utilities; and, the project site would mostly access the existing roadway infrastructure, and only several minor roadway improvements are proposed. Therefore, no

significant growth-inducing impacts associated with extension of utilities or road improvements across undeveloped property would occur.

In summary, the proposed CalMat Cajon Creek Specific Plan project would accommodate the need for jobs, but would not significantly affect the timing and intensity of development in surrounding undeveloped areas. Furthermore, the General Plan Amendment/zone change and Annexation approvals, ensure consistency with the General Plan and do not induce unplanned or unanticipated development. Therefore, no significant growth-inducing impacts were identified in conjunction with project implementation.

6.4 CUMULATIVE IMPACTS

This subsection identifies anticipated development activities in the project vicinity and addresses potential cumulative impacts associated with the proposed project relative to specific environmental issues. Cumulative environmental impacts involve two or more individual effects which increase in scope or intensity when considered together. Such impacts may involve a number of specific projects and can result from individually minor or incremental effects which collectively increase in magnitude over time (CEQA Guidelines Section 15335).

Cumulative impacts related to the proposed project will encompass environmental changes resulting from the combined effects of the implementation of the CalMat Cajon Creek Specific Plan and other existing or planned local developments. Cumulative impacts, therefore, focus on those impacts anticipated as a result of project development and other development in the vicinity of the project, including planned and approved projects. Most development in the project vicinity is relatively low density residential and industrial lots and recreational open space. Additional description of the existing project site and vicinity is located in Section 4.6 Land Use.

CEQA analysis requires identification and analysis of cumulative impacts associated with reasonably foreseeable future projects. As discussed in Section 2.2 Regional Context, the eastern San Bernardino Valley area is experiencing a very rapid rate of urbanization. New residential development has recently occurred south of the project site within the city limits. Furthermore, based on growth projections developed by Southern California Association of Governments (SCAG) (see Section 2.2), it is expected that future urban development will occur to some degree in the vicinity of the project pending the ultimate adoption and buildout of the City of San Bernardino General Plan. The projects referenced in this section, as well as those included in the technical studies, prepared for this EIR, represent mining operations and industrial developments which the City has approved, or those which are considered by the City as committed projects. A list of approved and committed industrial developments within the City are presented in Table 6.4-1. However, in a growing city, it is not possible to fully anticipate all projects or project amendments which may be under consideration by

TABLE 6.4-1
APPROVED AND COMMITTED INDUSTRIAL PROJECTS, CITY OF SAN BERNARDINO

	Development: Location	Acreage	Square Ft.
CUP No. 90-16	Modular office building for storage of heavy equipment parts: 5518 Industrial Pkwy.	10.78	--
CUP No. 88-35	Limited Light Industrial, 15 mini-storage buildings: within State College Industrial Park, east side of Hallmark Pkwy and Lexington Way intersection.	3.8	68,750
CUP No. 88-35A	Mini-storage facility: east side of Hallmark Pkwy. and Lexington intersection, bordered by Devils Creek Channel and I-215.	3.83	75,000
CUP No. 90-17	Concrete tilt-up industrial bldg: north-east side of Hallmark Parkway, southeast of Saratoga Way.	4.9	68,510
Plans No. 87-95	Concrete safe manufacturing plant: southeast corner of Palm Ave. and Industrial Pkwy.	--	3,500
Plans No. 88-2	Building addition to San Bernardino Steel: 5454 S. Industrial Pkwy., south of Palm Ave.	48.2	112,000
Plans No. 88-85	Metal manufacturing building: east side of Industrial Pkwy., south of Palm Ave.	5.0	21,000
Plans No. 87-75	Manufacturing facility: southwest side of Georgia Blvd. in State College Industrial Park.	--	35,110

TABLE 6.4-1 (Continued)
APPROVED AND COMMITTED INDUSTRIAL PROJECTS, CITY OF SAN BERNARDINO

	Development: Location	Acreage	Square Ft.
Plans No. 91-20	Expansion of existing polystyrene manufacturing plant to manufacture and store interior cores for automobile bumpers: west side of Georgia Blvd.	5.09	35,110
Plans No. 85-95	Manufacturing Plant: south side of Georgia Blvd. in State College Industrial Park.	--	164,500
Plans No. 82-3	Industrial building: east side of Hallmark Pkwy., north of State College Pkwy.	--	35,000
Plans No. 81-40 & MV 491	Manufacturing building: northwest corner of Shanadoah Way and Hallmark Pkwy within the State College Business Park.	7.3	93,750
Plans No. 82-27	Office Structure: south side of Hallmark Pkwy, west of State College Pkwy.	1.37	8,808
Plans No. 80-70	Manufacturing building: 5055 North Hallmark Pkwy.	--	23,010
Plans No. 82-50	Industrial building: east side of terminus of Lexington Way.	8.0	63,000
Plans No. 82-44	Manufacturing and warehousing building: east side of Hallmark Pkwy., north of Campus Dr.	--	39,856
Plans No. 82-46	Industrial building: southwest corner of Lexington Way and Hallmark Pkwy.	14.7	384.000
Plans No. 87-9	Industrial buildings: between the I-215 and Hallmark Pkwy, north of intersection of Hallmark Pkwy and Shanadoah Way.	7.26	117,429
Plans No. 88A-41 (Revised)	10 concrete tilt-up light industrial buildings: northeast corner of Hallmark Pkwy and Saratoga Way.	18.0	352,100

TABLE 6.4-1 (Concluded)
APPROVED AND COMMITTED INDUSTRIAL PROJECTS,
CITY OF SAN BERNARDINO

	Development: Location	Acreage	Square Ft.
Plans No. 88-70	3 concrete tilt-up light industrial buildings: east side of Hallmark Pkwy., north of Shanadoah Way.	7.26	118,364
Plans No. 90-29	Building for storage and distribution of electronic parts: southeast corner of Hallmark Pkwy. and Saratoga Way.	.96	20,288
Plans No. 90-45	2 single story concrete tilt-up buildings: south side of Hallmark Pkwy., east of Saratoga Way.	2.66	29,742 14,798
Plans No. 90-47	Industrial building: south side of Hallmark Pkwy., east of Saratoga Way.	1.65	27,455
Plans No. 88-3	Office building: 5454 South Industrial Pkwy.	--	4,980
Plans No. 85-84	Dry dairy product manufacturing plant: north side of Lexington Way in the State College Industrial Park.	--	21,296
Plans No 89-11	Tilt wall warehouse/distribution facility: west side of Hallmark Pkwy., southeast of Shanadoah Way.	5.89	104,000

-- not provided
Source: City of San Bernardino Planning Department, 1991.

various landowners. As such, this EIR contains a cumulative assessment of all reasonably foreseeable future projects.

The mining operations considered in this cumulative impact discussion include the C.L. Pharris operation, south of the proposed project located in the County of San Bernardino, within the City of Redlands' sphere of influence; and, the Old Webster Quarry located in the Santa Ana Wash, southeast of the City of San Bernardino's southern limits, in the City of Redlands, County of San Bernardino.

Implementation of the proposed project may contribute to cumulative impacts of these mining operations and the developments described in Table 6.4-1 for a number of resource values including: biological resources, air quality, geologic/geotechnical, surface hydrology, noise, land use, traffic and circulation, visual resources, cultural resources, hazardous materials, and public services and utilities. Brief descriptions of potential cumulative effects are provided below, with additional description of issue-specific impacts located in Section 4.0 of this EIR.

6.4.1 Biological Resources

Loss of individual plants, animals and associated habitats would occur as a result of proposed onsite development. Since a large portion of the project is within the boundaries of the Biological Resources Management Area (BRM) Overlay, identified in the City of San Bernardino General Plan, there is the potential for long-term and cumulative impacts to biological resources from a regional perspective. The biological study, together with this EIR, indicate that the level of these effects would be reduced through several design and mitigation measures, including retention of substantial natural open space; habitat replacement and enhancement, and use of native species for reclamation. These measures would reduce potential long-term and cumulative impacts to biological resources to below a level of significance, thus also satisfying the BRM requirements.

6.4.2 Air Quality

The projected growth in the East Valley area will lead to increased traffic volumes and increased energy consumption. As a result, additional mobile and stationary source air pollution will further degrade local and regional air quality. As discussed in Section 4.2, localized dust emissions could pose a nuisance to area residents during unusual wind conditions and could exacerbate the existing violation of particulate standards in the San Bernardino area. The cumulative effect of the proposed project and other sand and gravel operations may result in significant fugitive dust emissions depending upon the extent and location of those operations which take place concurrently.

Cumulatively, vehicular emissions from all vehicles accessing the CalMat Cajon Creek site will mix with that from millions of other vehicles in the basin. Combustion emissions from this project will thus incrementally impede the ultimate attainment of clean air standards. Mitigation measures have been incorporated into the proposed project as a condition for discretionary approvals of the Specific Plan. Such measures include operations to reduce the number of trips and their length of travel, including, providing rail access to the project site (i.e., distribution of aggregate by train instead of truck); and, requiring site tenants to incorporate the transportation demand management (TDM) program which will be developed by CalMat. Nonetheless, the project will still incrementally contribute to the emissions in the region.

A Specific Plan for Lytle Creek, similar to the proposed CalMat Cajon Creek mining operation, has been under consideration in the past, where two major aggregate resource operations might co-exist within reasonable proximity. While the individual particulate impact from either one or the other large-scale aggregate resource operation may be maintained within an acceptable level, their combined impacts when air meets after flowing down both creek drainage could be cumulatively significant for PM-10 levels. Due to intervening topography, however, airflow within Lytle Creek and Cajon Creek Canyons significantly reduces interaction. This is partly because the maximum "dust signature" from an aggregate plant extends about one mile, and within this impact radius, operations in Cajon or Lytle Creeks will not have a cumulatively significant impact. Such a relatively finite impact zone for particulate matter is also why there will not be any cumulative interaction

resulting, that is, from the following: interaction between the existing CalMat Highland Avenue plant and the CalMat Cajon Creek mining and processing facilities; or between on-site emissions from essentially a stationary source and off-site emissions from project-related vehicular sources (i.e., vehicles hauling rock, concrete or asphalt) and from vehicles associated with Specific Plan area industrial development sites.

6.4.3 Geologic/Geotechnical

No significant long-term or cumulative impacts related to geotechnical issues would result from the proposed project, provided that all mitigation measures identified in the EIR are properly implemented.

6.4.4 Surface Hydrology

The proposed project would not result in long-term and cumulative impacts to hydrologic resources due to the alteration of onsite drainage patterns, runoff generation, or erosion potential. These effects would be reduced through a number of design and mitigation measures, and are not considered significant from a regional long-term and cumulative perspective.

6.4.5 Noise

Increased traffic associated with the East Valley's projected growth will incrementally increase noise levels along affected roadways. Further, the future development of noise-sensitive land uses (e.g., residential neighborhoods) along these roadways could increase the number of individuals exposed to annoying or excessive noise levels. The proposed project would contribute to localized increases in noise as described in Section 4.5. However, the impacts and mitigation discussed in Section 4.5 are for cumulative impacts.

6.4.6 Land Use

The regional land use character is changing rapidly from undeveloped to higher-density suburban. This is a result of the number of development proposals approved by the City of

San Bernardino and other jurisdictions in the vicinity that result in an increase in intensity of land use from that existing in the area. The City of San Bernardino General Plan, together with the County of San Bernardino General Plan for the region, indicate increases in land use densities will continue to occur for much of the area. The cumulative impacts from the ongoing development of the region are significant.

The CalMat Cajon Creek Specific Plan exists in an area which currently is characterized by vacant, yet disturbed, undeveloped terrain, with few neighboring residences, and a number of industrial uses in the project vicinity. In the past 10 years, the surrounding land has been developed with residential uses to the northeast and east, and to the south and southeast. The project-specific land use impacts however, have not been found to be significant, as discussed in Section 4.6 Land Use.

The 1,392 acre CalMat Cajon Creek Specific Plan area would increase the amount of land used for development. The use of this land, would result in an increase in the intensity of use, and would therefore contribute incrementally to the cumulative impacts associated with development in the region. However, short term development of the Specific Plan Planning Areas would include 488 acres of designated open space for conservation purposes. The Specific Plan would be implemented over a twenty-five year period, which could be considered long-term when evaluating regional development trends. After completion of mining in Planning Area P, the Reclamation Plan requires converting it to open space. Because the amount of increased acreage ultimately includes 745 acres of land designated for open space conservation, (over 53% of the project area), leaving only 647 acres of developed area, the project's contribution to cumulative land use impacts is not significant.

6.4.7 Traffic and Circulation

The Traffic Study, contained in Appendix F and summarized in Section 4.7, accounts for both onsite and local traffic volumes which would be increased as a result of build-out in the project vicinity and includes non-project related traffic volumes projected over the course of the Specific Plan implementation. This growth has been anticipated by the City's General Plan, and is not considered a significant impact. No significant cumulative impacts were identified.

6.4.8 Visual Resources

Potentially significant visual impacts would be expected to result from the cumulative change of the area's overall visual appearance from undeveloped land, which has been considerably degraded, to industrial development and mining and processing operations. Mitigation of these impacts will require conformance to grading standards, incorporation of appropriate landscaping, and coordination between projects, as provided for in the Specific Plan to facilitate a consistent, visually pleasing development. With appropriate mitigation measures, these impacts would not be considered significant because the City of San Bernardino General Plan has designated this area for development.

6.4.9 Cultural Resources

No significant long-term or cumulative impacts related to cultural resources issues would result from the proposed project, provided that all mitigation measures identified in the EIR are properly implemented.

6.4.10 Hazardous Materials

The proposed project, in conjunction with future development projects in the region, would potentially be impacted by hazardous materials. However, the proposed project, as well as future development projects in the area, would have to comply with federal, state and local regulations which govern the use, storage and transportation of such materials. Adherence to these requirements would ensure that the proposed project, in concert with other future development projects, would not contribute to cumulative hazardous waste impacts.

6.4.11 Public Services and Utilities

Although the project would lead to an incremental increase in demand for public services and utilities, the increase is included in the service parameters of the affected agencies. Thus, implementation of the Specific Plan would not result in a significant cumulative impact.

7.0
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8.0
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