



PUBLIC DRAFT
ENVIRONMENTAL IMPACT REPORT

FOR THE

MOODY FLATS QUARRY PROJECT

SCH# 2012012013

OCTOBER 2014

Prepared for:

Shasta County
Department of Resource Management
1855 Placer Street, Suite 103
Redding, CA 96001

Prepared by:

De Novo Planning Group
1020 Suncoast Lane, Suite 106
El Dorado Hills, CA 95762
www.denovoplanning.com

D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm



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DRAFT EIR

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INTRODUCTION

Shasta County (County) has determined that a project-level environmental impact report (EIR) is required for the proposed Moody Flats Quarry Project (proposed Project or Project) pursuant to the requirements of the California Environmental Quality Act (CEQA) (Pub. Resources Code §§ 21000, et seq.).

This EIR is a Project EIR as defined in Section 15161 of the State CEQA Guidelines (14 Cal. Code Regs. § 15000 et seq.). A Project EIR is an EIR which examines the environmental impacts of a specific development project. This type of EIR focuses primarily on the changes in the environment that would result from the development project. A Project EIR examines all phases of the project including planning, construction, operation, and reclamation. The Project EIR approach is appropriate for the Moody Flats Quarry Project because it allows comprehensive consideration of the reasonably anticipated scope of the Project, as described in greater detail in Section 2.0.

PROJECT DESCRIPTION

Moody Flats Quarry LLC, a whole owned subsidiary of 3M (the Applicant) proposes to develop a hard rock quarry, aggregate processing facility, ancillary aggregate product facilities (e.g., ready-mix concrete plant, asphalt concrete batch plant, and recycled construction materials plant), and aggregate truck and railcar load-out facility within the approximately 1,850-acre Applicant-owned property. Products would include ready-mix concrete grade aggregate products as well as other construction aggregate products such as riprap, ballast, aggregate base, asphalt concrete, and ready-mix concrete.

Production and distribution goals include transporting approximately 1.5 million tons of aggregate annually via rail to regional markets and distributing 0.5 million tons of aggregate and finished products (e.g., ready-mix concrete, asphalt) annually to local markets via trucks. The maximum annual sales proposed for aggregate from the Project would be two million tons per year. The Project is planned to operate for 100 years and would generate approximately 175 million tons of aggregate material over the operational life of the quarry.

Following the completion of mining activities at the Project site, reclamation, including revegetation would be implemented. As mining activities within areas of the site are completed, concurrent reclamation activities may occur as other areas of the site continue to be mined. The Reclamation plan, including the revegetation plan, is a component of the proposed Project, and is described in greater detail below. The Reclamation Plan, including the revegetation plan, is attached as **Appendix C**. A detailed description of the proposed Project and a description of Project operations are contained in Section 2.0 of this Draft EIR.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Project that are known to Shasta County, were raised during the Notice of Preparation (NOP) process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gases and climate change, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, and transportation/circulation. The County received a total of 53 comment letters in response to the NOP for the Moody Flats Quarry Project Draft EIR. Nine comment letters were received from public agencies, and 44 comment letters were received from individuals or private organizations.

A copy of each NOP comment letter is provided in **Appendix B** of this Draft EIR. The County also held a public scoping meeting on January 26, 2012. The summary notes from this meeting are provided in **Appendix B**.

The following is summary of key issues to address in the EIR, as identified in the Initial Study, as raised in the comment letters received on the NOP and at the public scoping meeting. The following summary is not a comprehensive list of all NOP comments received (See **Appendix B**), but rather, provides a summary of the most frequently raised environmental issues. The issues raised have been organized by EIR topic.

Issues to be Addressed

AESTHETICS AND VISUAL RESOURCES

- Visual impacts from surrounding viewsheds, including adjacent land uses, recreational areas and area roadways.
- Changes to the appearance of the site during operations, including tree and other vegetation removal, and exposure of rock benches, hill profile, etc.
- Affects on the scenic qualities of the Interstate 5 corridor, especially the approach to the Shasta Unit of the Shasta-Trinity National Recreation Area.
- Address changes to site topography, and visual characteristics of the site following revegetation.
- Potential increases of light and glare from the project.
- The preparation of visual simulations was requested.

AGRICULTURAL AND FOREST RESOURCES

- Loss of prime farmland and farmland of statewide importance in areas used for mining, processing and loading facilities.

AIR QUALITY

- Generation and off-site movement of dust and particulate matter emissions.
- Emissions from stationary equipment when using power from internal combustion engines.
- Consistency with adopted air quality emissions thresholds and mitigation strategies.
- The potential for the project to generate objectionable odors.
- Emissions from mobile sources (truck trips).
- Identification of sensitive receptors in the project vicinity and potential impacts on those receptors.

BIOLOGICAL RESOURCES

- Potential impacts to special-status species and wildlife on-site and in the vicinity, especially on the adjacent Forest Service open space areas.
- Potential impacts to surface water quality in the onsite creeks and streams, as well as impacts to aquatic habitat and fisheries.
- Conversion of oak woodlands and loss of riparian habitat and wetlands.
- The effects of dust on on-site and off-site vegetation.
- Control of invasive species.
- Feasibility of site revegetation.

CULTURAL RESOURCES

- Review of cultural resources study for the site.

GEOLOGY AND SOILS

- Potential for liquefaction and/or landslides from both cut slopes and fill slopes onsite.
- Seismic impacts.
- Potential increase in erosion and off-site sediment transport.
- Earthquakes, earthquake faults, and dam safety

GREENHOUSE GASES AND CLIMATE CHANGE

- The use of internal combustion engines for on-site mobile equipment, power generation for on-site stationary equipment, and for off-site transportation including trucking and rail transportation may generate greenhouse gas emissions that may have a significant effect on the environment.

HAZARDS AND HAZARDOUS MATERIALS

- The effects of blasting and the transport and storage of materials used for blasting.
- Wildland fires and emergency vehicle access.
- Availability of water for fire protection.
- Storage and use of hazardous materials.

HYDROLOGY AND WATER QUALITY

- Impacts to the local watershed, surface waters, and area creeks and streams, including runoff water turbidity and sediment transport. In addition, hazardous materials used on site could result in pollution to surface and/or ground water.
- Groundwater supply and quality, including cumulative impacts to area aquifers and effects on water supply for surrounding residence wells and community water systems
- Drainage patterns and effect on existing drainage systems, including flooding impacts, potential for mudflows, and surface water quality during significant rain events.
- Impacts to area wells in terms of well reliability and water quality.
- Potential for acid –mine drainage, leaching of minerals, and /or other mining related water quality impacts.
- Post mining maintenance of reclaimed/revegetated areas.

LAND USE AND PLANNING

- Project consistency with applicable General Plan and Zoning regulations.
- Compatibility with adjacent land uses and nearby suburban and small town development.
- Use of “green” zones and/ or buffer zones.

NOISE

- Noise generated by all aspects of Project operations should be addressed to determine impacts to adjacent land uses and sensitive receptors.

- Blasting impacts, including noise, frequency, and seismic effects and ground borne vibration, including structural damage and damage to wells from cumulative blasting impacts.

RECREATION

- Project impacts to area recreational uses, including Shasta Lake and the National Recreation/Wildlife areas in the vicinity.

TRANSPORTATION AND TRAFFIC

- Intersection and roadway level-of-service (LOS) impacts to area roadways, including roadways within the City of Shasta Lake, the City of Redding, and the roadway and interchanges of Interstate 5.
- Interaction with local school-related traffic and traffic safety.
- Phasing of roadway and highway improvements with the development of the Project.
- Primary access road encroachment design and safety.
- Adequate emergency vehicle access and secondary site access roads.
- Hazards on area roadways associated with increased truck trips and materials transport.
- Transport of hazardous materials on area roadways.
- Cumulative traffic conditions analysis, including existing and pending projects in the vicinity.
- Potential deterioration of roads due to use by heavy trucks.
- Rail safety, including hazards at rail crossings, increased train trips for materials transport, and effects on emergency response.
- Pedestrian and bicycle facilities.

UTILITIES AND SERVICES

- Water supply sources and water availability.
- Source and reliability of electricity for project operations.
- Potential need for new electrical power transmission lines.
- Disposal locations and methods for Portland cement concrete and asphalt concrete waste.
- Potential need for new storm drainage facilities.

ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126.6 of the CEQA Guidelines requires an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- No Project Alternative
- South Pit Only Alternative
- North Pit Only Alternative

These alternatives are described in detail in Section 5, Alternatives to the Proposed Project. Additional alternatives were considered, but rejected for detailed analysis. An alternative location for the proposed Project was considered, but rejected as being infeasible and overly speculative. The proposed Project is an aggregate mine and processing facility. A project of this nature and type is only viable within a specific area that is known to contain viable aggregate materials. The proposed Project site is known to contain such materials, while it is unknown whether alternative locations would contain the type and volume of aggregate materials to develop the project at an alternative location. Additionally, the proposed Project site is located in close proximity to two primary transportation facilities, the Union Pacific rail line and Interstate 5. Access to these two regional transportation facilities is a key component of the Project's viability. The proposed Project site is also sufficiently large to accommodate the onsite processing and load-out facilities. Given the highly-specialized nature of the proposed Project, including the need to locate the Project on a site with known aggregate resources in close proximity to regional transportation facilities, and on a site with adequate size and space to accommodate the onsite processing and load-out facilities, it is not feasible to select and analyze an alternative location within this EIR. The selection of an alternative site location would fail to meet nearly all of the project objectives, would not represent a viable aggregate mining and processing project, and would not provide the public with a meaningful assessment of a viable project alternative. For these reasons, an alternative location was considered, but rejected.

Table ES-1 summarizes the comparative environmental effects of implementing each alternative.

ES-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	NO PROJECT ALTERNATIVE	SOUTH PIT ONLY ALTERNATIVE	NORTH PIT ONLY ALTERNATIVE
RELATIVE CHANGE IN IMPACT			
Aesthetics	Less	Less	Equal
Agricultural Resources	Equal	Equal	Equal
Air Quality	Less	Less	Less
Biological Resources	Less	Less	Less
Cultural Resources	Less	Less	Less
Geology and Soils	Less	Less	Less
Greenhouse Gases	Less	Less	Less
Hazards and Hazardous Materials	Less	Less	Less
Hydrology and Water Quality	Less	Less	Less
Land Use and Planning	Less	Less	Less
Noise	Less	Less	Less
Transportation and Circulation	Less	Less	Less
Utilities	Less	Less	Less

As shown in the table above, the No Project Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the South Pit Only Alternative is the next environmentally superior alternative to the proposed Project, as described in greater detail in Section 5.0.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

The environmental impacts of the proposed Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2. CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not

reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed Project are discussed in Chapters 3.1 through 3.12 (project-level) and Chapter 4.0 (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.1-2: Project implementation would substantially degrade the existing visual character or quality of the site and its surroundings
- Impact 3.3-2: Project operations may result in emissions of Criteria Air Pollutants in excess of SCAQMD thresholds of significance
- Impact 3.3-3: Project operations would contribute to an exceedance of an established ambient air quality standard
- Impact 3.11-1: Noise associated with on-site Project operations would exceed applicable General Plan or CEQA ambient noise standards at nearby sensitive receptors under near-term and cumulative conditions
- Impact 3.12-8: Under cumulative conditions, Project implementation would worsen levels of service at study intersections
- Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region
- Impact 4.3: Cumulative Impact on the Region's Air Quality
- Impact 4.11: Cumulative Exposure of Existing and Future Noise- Sensitive Land Uses to Increased Noise Resulting from Cumulative Development
- Impact 4.12: Cumulative Impact on the Transportation Network

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
AESTHETICS			
Impact 3.1-1: Project implementation has the potential to result in substantial adverse effects on scenic vistas or substantially damage scenic resources within a designated State Scenic Highway	LS	None required.	LS
Impact 3.1-2: Potential to substantially degrade the existing visual character or quality of the site and its surroundings	S	Mitigation Measure 3.1-2: The Project Applicant shall fully implement the Reclamation Plan and Revegetation Plan, which are components of the applicant's approval package that must be approved by Shasta County prior to the commencement of any mining activities on the Project site. The Reclamation and Revegetation Plans shall be implemented concurrent with mining activities. Once mining in an area of the site has been completed, the applicant shall begin to reclaim and revegetate that portion of the site, consistent with the requirements outlined in the approved Reclamation and Revegetation Plans.	SU
Impact 3.1-3: Project implementation may result in light and glare impacts	PS	Mitigation Measure 3.1-3: In order to reduce potential for nighttime lighting impacts, the Project Applicant shall prepare and submit a lighting standards plan for review and approval by the Shasta County Department of Resource Management. The lighting plan shall include standards to reduce direct and reflected light pollution, and shall comply with the measures set forth in Section 17.84.050, Lighting, of the County Zoning Ordinance. All exterior lighting shall be equipped with shields that concentrate the illumination downward to limit the light that is cast off of the site. The direct source of light (bulbs, lens, filament, tube, etc.) shall be installed as low as possible on poles and/or structures in order to minimize reflected light and light spillage. The candle power of the illumination at ground level shall not exceed what is required by any safety or security regulations or any government agency with regulatory oversight of the mining operations.	LS

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

NI – No Impact

PS – potentially significant

S – significant

SU – significant and unavoidable

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
AGRICULTURAL AND FOREST RESOURCES			
Impact 3.2-1: Project implementation may result in the conversion of Farmlands, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural uses	NI	None required.	NI
Impact 3.2-2: Project implementation may lead to the indirect conversion of County agricultural lands to non-agricultural uses	LS	None required.	LS
AIR QUALITY			
Impact 3.3-1: Project operations may conflict with, or obstruct implementation of, any applicable air quality plan	LS	None required.	LS
Impact 3.3-2: Project operations may result emissions of Criteria Air Pollutants in excess of Shasta County Air Quality Management District Thresholds of Significance	PS	Mitigation Measure 3.3-2: Prior to the commencement of surface disturbing activities, the Project Operator shall prepare a ROG and NO _x emissions reduction plan (ERP) that meets the requirements of the SCAQMD. The ERP shall include quantifiable and verifiable metrics that demonstrate the effectiveness of the measures at reducing emissions of ROG and NO _x , including, but not limited to, a list of all off road vehicles proposed for use at the Project site to demonstrate Tier 4 compliance. The emissions reduction plan shall be submitted to the SCAQMD for review and approval prior to commencement of surface disturbing activities. The emissions reduction plan shall include all feasible Reasonably Available Control Measures (RACMs) and Best Available Control Technologies (BACT) for a stationary source recommended in SCAQMD guidance documents applicable to large surface disturbing activities.	SU

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
<p>Impact 3.3-3: Project operations may contribute to an exceedance of an established ambient air quality standard</p>	<p>S</p>	<p>Mitigation Measure 3.3-3(a):</p> <ol style="list-style-type: none"> 1. The Applicant shall implement all adequate dust control measures during all phases of Project development and construction in accordance with SCAQMD standards. 2. All material excavated, stockpiled, or graded shall be sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering shall occur at least three times daily with complete site coverage, particularly in the mid-morning and after work is completed each day. Watering need not occur during periods of rain or high humidity, or when exposed materials are sufficiently saturated or wet so as to preclude the transport of airborne dust. 3. All areas (including unpaved roads) with vehicle traffic shall be watered periodically or have dust palliatives applied for stabilization of dust emissions. These dust suppression measures shall be carried out by the applicant or the applicant's contractor(s) as frequently as needed in order to reduce visible dust emissions from all unpaved roads. Dust palliatives shall be approved by SCAQMD and the RWQCB. 4. All onsite vehicles shall be limited to a speed of 15 miles per hour on unpaved roads. 5. The project applicant shall install, maintain, and monitor an anemometer on the project site in a location deemed suitable by the SCAQMD. All land clearing, grading, earth moving, and excavation activities shall be suspended when winds exceed 35 miles per hour, as measured onsite. 6. All inactive portions of the site shall be seeded and watered until suitable grass cover is established. This shall apply to portions of the site that will be inactive 	<p>SU</p>

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p><i>for a year or more.</i></p> <p>7. All trucks hauling dirt, sand, soil, or other loose material shall be covered or shall maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.</p> <p>8. All material transported offsite shall be either sufficiently watered or securely covered to prevent the spillage of such material.</p> <p>9. Paved streets adjacent to the site shall be swept at the end of each day, as needed, to remove excessive accumulations of silt and/or mud that may have accumulated as a result of activities on the site.</p> <p>10. Adjacent paved streets shall be swept (recommend water sweeper with reclaimed water) at the end of each day if visible soil materials have been carried onto adjacent public paved roads from the project site.</p> <p>11. All diesel engines shall be shut off after 5 minutes of non-use to reduce emissions from idling.</p> <p>Mitigation Measure 3.3-3(b): The Applicant shall chip seal the onsite access road concurrent with completion of construction of the access road in order to reduce fugitive dust emissions and PM₁₀ emissions. The chip seal shall cover the entire length and width of the access road on the Project Site, as shown on Figure 2-10 (Site Plan).</p>	
Impact 3.3-4: Project implementation may create objectionable odors affecting a substantial number of people	PS	Mitigation Measure 3.3-4: The Shasta County Air Quality Management District shall monitor, record, and track odor complaints received from residences in the vicinity of the Project site. If more than one confirmed complaint per year averaged over a three-year period, or three unconfirmed complaints per year averaged over a three-year period are received, the SCAQMD shall require the applicant to evaluate changes in operating conditions and parameters at the asphalt plant to the satisfaction of the SCAQMD staff.	LS

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<i>Such changes might include increasing exhaust release heights and/or additional fugitive emission capture systems.</i>	
Impact 3.3-5: Implementation of the proposed project may expose sensitive receptors to toxic air contaminants	LS	None Required.	LS
BIOLOGICAL RESOURCES			
Impact 3.4-1: The proposed project has the potential to impact special-status invertebrate species	PS	<p>Mitigation Measure 3.4-1(a): <i>The Project applicant shall maintain a 250-foot buffer around all mapped intermittent pool and swale features within the Project's limits of surface disturbance. If a 250-foot buffer can be maintained and fill of these features can be avoided throughout the life of the project, then no further mitigation is required. If surface disturbance within 250 feet of the intermittent swale and pool features cannot be avoided, the Project applicant shall hire a qualified biologist to conduct presence/absence surveys in potential habitat according to the most current protocol published by the USFWS prior to any surface disturbing activities. If required surveys are negative no further mitigation for these species is required. If vernal pool tadpole or vernal pool fairy shrimp are identified during surveys the Project applicant shall obtain authorization for the incidental take of the vernal pool crustaceans (Section 7 consultation) from the USFWS in coordination with the USACE 404 permit. At a minimum, the Project applicant shall provide compensatory mitigation at a ratio of no less than 1:1, or as determined by the USFWS. Compensatory mitigation may include on-site mitigation, off-site mitigation, and/or purchase of mitigation credits from an approved mitigation bank. Compensatory mitigation is subject to the review and approval of the USFWS. If the USFWS issues an authorization of the take of vernal pool crustaceans, the Project applicant shall be subject to all the term and conditions, and conservation measures imposed by the USFWS in association with the permit.</i></p> <p>Mitigation Measure 3.4-1(b): <i>If VELB is listed under the federal Endangered Species Act at the time vegetation removal and ground disturbance to occupied habitat, the following mitigation measures shall be implemented. A maximum of 30 days before</i></p>	LS

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p>removing on-site trees and vegetation related to Valley foothill riparian and other potential habitat, the Project applicant shall retain a qualified biologist to perform preconstruction surveys. A copy of each final preconstruction survey shall be submitted to the County by the Project applicant. If blue elderberry shrubs are found with exit holes indicating occupation by VELB, Project ground-disturbing activities shall be set back a minimum of 100 feet from all occupied elderberry shrubs. If the Project requires removal of potentially occupied blue elderberry (<i>Sambucus mexicana</i>) shrubs, the Project applicant shall retain a qualified biologist to perform determinate elderberry surveys in accordance with the Conservation Guidelines for the Valley elderberry longhorn beetle (USFWS 1999). A copy of each final determinate survey shall be submitted to the County by the Project applicant. The surveys shall document each shrub including the shrub height, number of stems by diameter class, maximum diameter at ground level, presence of exit holes, and presence of riparian habitat. Any blue elderberry (<i>Sambucus mexicana</i>) shrubs to be removed must be transplanted in accordance with the Conservation Guidelines for the Valley elderberry longhorn beetle (USFWS 1999). In addition to these transplanting requirements, the Project applicant shall plant seedlings and cuttings in accordance with the Conservation Guidelines for the Valley elderberry longhorn beetle (USFWS 1999) as presented in Table 3.4-6 below. The planting requirements serve as compensatory mitigation and may be provided on-site, off-site, and/or provided by the purchase of mitigation credits through an authorized mitigation bank. If take of VELB cannot be avoided, the Project applicant shall obtain authorization for the incidental take of VELB (Section 7 Consultation) from the USFWS in coordination with the USACE 404 permit before any take of Valley elderberry longhorn beetle occurs. The Project applicant shall submit a copy of any incidental take permit to the County.</p>	
<p>Impact 3.4-2: The proposed project has the potential to impact special-status reptile and amphibian species</p>	<p>PS</p>	<p>Mitigation Measure 3.4-2(a): No earlier than two days prior to the commencement of vegetation removal and ground disturbance within 500 feet of Moody, Rancheria, Churn, and Salt Creeks, the Project applicant shall retain a qualified biologist(s) to conduct pre-construction surveys in potential habitat for northwestern pond turtle, including nesting areas. The survey area will include 500 feet upstream and downstream in all potential habitat proposed for disturbance. If individual northwestern pond turtles</p>	<p>LS</p>

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p>are located during the survey, the qualified biologist shall capture and relocate the individuals to the nearest suitable habitat upstream or downstream of the areas proposed for disturbance. If the capture and relocation efforts extend beyond two days, vegetation removal and ground disturbance shall be delayed until all capture and relocation efforts are completed. If northwestern pond turtle nest areas are located during the survey, the Project applicant shall avoid direct disturbance to the nests. The Project applicant shall be responsible for the installation of barrier fencing along each side of the work area to prevent individual turtles from entering the work area. The Project applicant shall retain a qualified biologist to inspect the barrier fencing prior to commencing vegetation removal and ground disturbance to ensure that the barrier fencing is appropriately installed, in good repair, and functions as a barrier to northwestern pond turtle. The qualified biologist shall monitor the initial vegetation removal and ground disturbance activities that take place within 165 feet (50 m) of areas where a northwestern pond turtle has been found, and/or within 330 feet (100 m) of a confirmed breeding nest. Additionally, the qualified biologist shall inspect the barrier fencing on a monthly basis throughout the construction and/or ground-disturbing phase to ensure that it is appropriately installed, in good repair, and is still functioning as a barrier to northwestern pond turtle. All inspections and monitoring shall be documented by the qualified biologist and provided to Shasta County.</p> <p>Mitigation Measure 3.4-2(b): During vegetation removal and ground disturbance within 500 feet of Moody, Rancheria, Churn, and Salt Creeks, the Project applicant shall implement measures to avoid entrapment of northwestern pond turtle as a secondary backup measure in the event that barrier fencing does not prevent entry into the disturbance area. Such measures shall include covering all open trenches at the end of each workday, installing barrier fencing around open trenches, and/or equipping open trenches with earthen escape ramps. All construction personnel shall be educated to identify northwestern pond turtles if encountered and to be aware of possible turtle presence on construction sites, including entrapments in trenches. Trenches shall be inspected twice daily (before and after daily construction activities) by construction personnel to ensure that no animals are trapped and that fences or ramps are intact and working properly. If individual northwestern pond turtles are trapped during</p>	

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p>construction activities, a qualified biologist shall capture and relocate the individuals to the nearest suitable habitat upstream or downstream of the areas proposed for disturbance. If the capture and relocation efforts extend beyond two days, vegetation removal and ground disturbance shall be delayed until all capture and relocation efforts are completed.</p> <p>Mitigation Measure 3.4-2(c): Prior to vegetation removal and ground disturbance of potential Shasta Salamander habitat, the Project applicant shall obtain authorization for the incidental take of the Shasta salamander (Section 2081) from the CDFW. At a minimum, the Project applicant shall provide compensatory mitigation at a ratio of no less than 1:1 (approximately 97 acres). All compensatory mitigation shall require conservation easements or similar permanent protection mechanism to be placed over the compensatory habitat land to ensure the protection in perpetuity. The compensatory mitigation must be approved by the CDFW prior to its establishment. The compensatory mitigation must be appropriate Shasta salamander habitat, and be prioritized as follows: (1) on-site, (2) within Shasta County, and (3) within the known range of the Shasta salamander. Compensatory mitigation shall be of similar quality as identified on-site. Actual sites shall be coordinated with, and approved by, the CDFW prior to vegetation removal and ground disturbance of Shasta salamander habitat. The establishment of compensatory habitat may be phased based on occurrence of disturbance to identified onsite habitat.</p>	
<p>Impact 3.4-3: The proposed Project has the potential to impact special-status fish species or interfere substantially with the movement of any native resident</p>	<p>PS</p>	<p>Mitigation Measure 3.4-3(a): The Project applicant shall limit the season for instream construction activities in Upper Moody Creek to a period with low or no flows (generally July 1 through October 15). This shall specifically apply to instream activities that would connect the diversion channel at the upstream diversion receiving point and downstream discharge point.</p> <p>Mitigation Measure 3.4-3(b): If the Project applicant cannot avoid disturbance of instream construction activities in Upper Moody Creek consistent with Mitigation Measure 3.4-3(a), the Project applicant shall obtain authorization for the incidental take of the anadromous fish resources, including steelhead and Chinook salmon (Section 2081</p>	<p>LS</p>

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p>from the CDFW and Section 7 consultation from the USFWS in coordination with the USACE 404 permit) prior to any instream construction activities in Upper Moody Creek. If access to downstream reaches of the creek become accessible and it can be verified that fish barriers exist, preventing upstream movement of anadromous fish into the Project site, then authorizations for the incidental take of anadromous fish will not be warranted. Any such evidence of downstream fish barriers shall be made available for inspection by the USFWS and/or CDFW and County personnel for verification.</p> <p>Mitigation Measure 3.4-3(c): Avoidance: The Project Applicant shall consider avoidance of stream habitat as a priority in the final project design. The current proposal includes the direct disturbance of 5.5753 acres of intermittent stream habitat, including direct disturbance of Upper and Lower Moody Creek. The applicant shall redesign the Moody Creek diversion plan to minimize disturbance to Lower Moody Creek. The minimization design concept shall limit disturbance only to three locations along Lower Moody Creek: 1) at the new confluence with Upper Moody Creek, 2) at the area proposed for an access ramp to the South Pit, and 3) at the area proposed for the railroad loadout area that would need to cross the Lower Moody Creek. All other proposed disturbances to Lower Moody Creek shall be avoided from direct disturbance. In addition to the redesign, a 50-foot no disturbance setback shall be placed along Lower Moody Creek extending 50 feet from the centerline to either side of these creeks. The diversion activities must be limited to times of low or no flow.</p> <p>Compensation: The Project applicant shall provide compensatory mitigation at a ratio of no less than 1:1, or as determined appropriate by the USFWS and CDFW for all direct impacts to intermittent streams. The current Project plans estimate approximately 5.5753 acres of direct disturbance; however, the acreage of direct disturbance is anticipated to be reduced by avoiding impacts to Lower Moody Creek as recommended above. For the impact area that cannot be avoided, compensatory mitigation shall include on-site mitigation in the form of the creation of high quality habitat for anadromous fish that is equal to or greater than the existing habitat quality of Moody Creek. The newly created habitat shall be in the form of a realigned diversion stream that provides for cool water refuge and holding areas, stable spawning gravels with</p>	

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p><i>limited fine sediments, and cover and holding areas close to spawning areas. These habitat functions are necessary and can be achieved through a combination of plane beds, pool riffles, step pools, forced pool riffles, and pool riffles of appropriate channel depth, width, gradient, substrate, and cover. The intent is to incorporate design factors that will create appropriate stream and pool depth, water velocity, substrate, and temperatures for fish resources. The appropriateness of these design factors shall be coordinated with the USFWS and CDFW personnel to ensure that these stream design characteristics are appropriate for fish resources in the region. The habitat design shall be embodied in a habitat restoration and management plan (or another form acceptable to the regulatory agencies) that is subject to the review and approval of the County, CDFW, and the USFWS. Additional off-site mitigation, and/or purchase of mitigation credits from an approved mitigation bank may be required by the regulatory agency as determined through the permitting process. Compensatory mitigation is subject to the review and approval of the USFWS and CDFW. If the USFWS and CDFW issue an authorization of the take of anadromous fish resources, the Project applicant shall be subject to all the term and conditions, and conservation measures imposed by the USFWS and CDFW in association with the permit. If access to downstream reaches of the creek become accessible and it can be verified that fish barriers exist, preventing upstream movement of anadromous fish into the Project site, then authorizations for the incidental take of anadromous fish would not be warranted. Any such evidence of downstream fish barriers shall be made available for inspection by the USFWS and/or CDFW personnel for verification. Regardless of the need for incidental take authorizations, the Project applicant shall provide compensatory mitigation on-site for impacts to Moody Creek in the form of the creation of high quality stream habitat that is equal to or greater than the existing habitat quality of Moody Creek.</i></p>	
<p>Impact 3.4-4: The proposed project has the potential to impact special-status bird species</p>	<p>PS</p>	<p>Mitigation Measure 3.4-4(a): Prior to each new phase of vegetation removal and horizontal ground disturbance, the Project applicant shall retain a qualified biologist to perform preconstruction protocol surveys of potential habitat for northern spotted owl to determine whether active nest sites are located within 0.25 mile of Project construction and operational activities. If active nest sites are determined to exist within 0.25 mile of Project activities, the Project applicant shall coordinate with the USFWS to</p>	<p>LS</p>

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p>establish a Protected Activity Center (PAC) and limited operating periods (LOPs) for construction and operational activities to avoid disturbances to breeding activities and habitat of northern spotted owl. A PAC established the area where Project activities are prohibited within the LOP. The LOP establishes a period during which Project activities are prohibited within the PAC.</p> <p>Mitigation Measure 3.4-4(b): If northern spotted owl is documented in the ponderosa pine and montane hardwood-conifer habitats in the Project site on an ongoing basis (i.e., throughout each phase of the Project unless this species is delisted), surveys for northern spotted owl shall be performed on a monthly basis from March through August by a qualified biologist. The Project applicant shall provide a monthly monitoring report to the County and USFWS. Ongoing surveys are not warranted if northern spotted owl is not found in the Project site after conducting surveys for a requisite construction phase. However, prior to any new horizontal phase of construction, should a preconstruction survey identify the northern spotted owl, the qualified biologist shall recommence the monthly surveys referenced in this mitigation measure.</p> <p>Mitigation Measure 3.4-4(c): Prior to each new phase of vegetation removal and horizontal ground disturbance occurring between May 1 and August 31 of each year, the Project applicant shall retain a qualified biologist to perform preconstruction surveys within potential habitat for willow flycatcher in accordance with A Willow Flycatcher Survey Protocol for California (2003). If active nest sites are determined to exist on the Project site, the Project applicant shall consult with the CDFW on an appropriate buffer and timeframe for construction and operational activities to avoid disturbances to breeding activities and habitat of willow flycatcher.</p> <p>Mitigation Measure 3.4-4(d): If willow flycatcher is documented in the riparian habitats in the Project site on an ongoing basis (i.e., throughout each phase of the Project unless this species is delisted), surveys in accordance with A Willow Flycatcher Survey Protocol for California (2003) shall be performed on a monthly basis from June through August by a qualified biologist. The Project applicant shall provide a monthly monitoring report to the County and CDFW. Ongoing surveys are not warranted if</p>	

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p><i>willow flycatcher is not documented in the Project site after conducting surveys for a requisite construction phase. However, prior to any new horizontal phase of construction, should a preconstruction survey identify the willow flycatcher, a qualified biologist shall recommence monthly surveys referenced in this mitigation measure.</i></p> <p>Mitigation Measure 3.4-4(e): <i>If any vegetation removal and ground disturbance are to occur during the nesting season for migratory birds or raptors (approximately March 1-August 31), the Project applicant shall retain a qualified biologist to perform preconstruction surveys of potential habitat. Surveys shall be conducted of proposed disturbance areas and within 250 feet of these areas. At least two surveys shall be conducted as follows. The first survey shall be conducted at least four weeks, but no more than eight weeks, prior to surface disturbance of any phase of horizontal construction. The second survey shall be conducted no more than one week prior to the initiation of vegetation removal and ground disturbance of any new phase of horizontal construction. In the event that nesting raptors or migratory birds are found within a disturbance area, the Project applicant shall:</i></p> <ol style="list-style-type: none"> <li data-bbox="905 857 1745 911"><i>a. Locate and map the location of the nest site. Within five working days of the surveys prepare a report and submit to the County and CDFW;</i> <li data-bbox="905 943 1745 1029"><i>b. Establish a no-disturbance buffer of 250 feet, or as required by the CDFW. The buffer shall visibly flagged or fenced to ensure that the buffer is recognizable to construction personnel;</i> <li data-bbox="905 1062 1745 1211"><i>c. Conduct on-going weekly surveys to ensure that the no disturbance buffer (fencing or flagging) is maintained in good repair to ensure that the buffer is recognizable to construction personnel. Vegetation removal and ground disturbance can resume within the 250 foot no-disturbance buffer when a qualified biologist has confirmed that the birds have fledged.</i> <p><i>In the event of destruction of a nest with eggs, or if a juvenile or adult raptor or migratory bird should become stranded from the nest, injured or killed, the qualified</i></p>	

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<p><i>biologist shall immediately notify the CDFW and/or the USFWS. The qualified biologist shall coordinate with the CDFW and/or USFWS to have the injured raptor or migratory bird either transferred to an appropriate recovery center or, in the case of mortality, transfer it to the CDFW within 48 hours of notification. If directed/authorized by the CDFW during the notification, the qualified biologist may transfer the injured raptors or migratory bird to an appropriate recovery center.</i></p>	
<p>Impact 3.4-5: The proposed project has the potential to impact special-status mammal species</p>	<p>PS</p>	<p>Mitigation Measure 3.4-5(a): <i>Up to 30 days prior to the commencement of any new phase of vegetation removal or horizontal ground disturbance, the Project applicant shall retain a qualified biologist to conduct preconstruction bat survey(s) of potential habitat involving the removal of potential diurnal roosting trees (e.g., trees 24 inches DBH and greater, snags, hollow trees). During the survey(s) the qualified biologist shall inspect all potential diurnal roosting trees within the area(s) where potential diurnal roosting trees will be removed and within a 100 foot buffer area around the entire area(s) where diurnal roosting trees will be removed using the appropriate and most effective methodology (e.g., camera inspection, exit survey with night optics, acoustic survey) in determining presence or absence of bat species. If roosting (but not breeding) bats are observed, the qualified biologist shall place one-way covers on the bat roost to allow bats to leave the roost, but not return, after receiving all necessary CDFW permits and/or approvals. No bat maternity roosts shall be disturbed until all young are weaned. The biologist shall establish a suitably sized buffer, absent CDFG guidance documents, stating a specific buffer zone around any bat maternity roosts. The biologist shall establish a 100 foot buffer zone around any bat maternity roosts, unless CDFW provides alternative guidance documented in peer-reviewed, published literature stating a specific buffer zone for such maternity roosts. The buffer area shall be delineated with brightly colored construction fencing. No surface disturbing activities, including vegetation removal, earth movement, nighttime lighting, nighttime loadout operations mobile equipment movement, mining, blasting, operation of stationary equipment, or construction, shall occur within this buffer area until a qualified biologist has determined the young have weaned.</i></p>	<p>LS</p>

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		<p>Mitigation Measure 3.4-5(b): If vegetation removal and ground disturbance to riparian habitat and stream corridors can be conducted outside the breeding season (February 1 through May 1), then no further mitigation is required. If vegetation removal and ground disturbance to riparian habitat or stream corridors shall occur during the breeding season (February 1 through May 1), a qualified biologist shall conduct a preconstruction survey of potential habitat for potential natal or maternity den trees no more than two weeks before construction activities begin. If an active den is found, a qualified biologist, in consultation with CDFW and USFWS, will determine an appropriate construction-free buffer zone, no less than 50 feet, to be established around the den until the mother and young have vacated the den. Mitigation and further consultation is unnecessary if an active den is not identified during surveys. However, prior to any new phase of vegetation removal or horizontal construction, should a preconstruction survey identify the Pacific fisher or ring-tailed cat, the mitigation and consultation outlined above shall be employed.</p>	
Impact 3.4-6: The proposed project has the potential to impact special-status plant species	LS	None Required.	LS
Impact 3.4-7: The proposed Project has the potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community, including oak woodlands, identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	PS	<p>Mitigation Measure 3.4-7(a): Prior to the commencement of vegetation removal and horizontal ground disturbance of blue oak woodland, blue oak-gray pine, montane hardwood, montane hardwood-conifer, and valley oak woodland habitats, the Project applicant shall compensate for the loss of oak woodland to be disturbed at a 1:1 ratio, in accordance with Public Resources Code Section 21083.4. The pace of the compensatory mitigation may vary to generally keep pace with the pace of vegetation removal, but at no point in time shall the Applicant remove more oak woodlands than what has been mitigated for at a 1:1 ratio. The compensation shall include one or more of the following oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands:</p> <ol style="list-style-type: none"> Offsite Conservation Easements: The Project applicant shall fulfill the 	LS

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		<p>requirement to compensate for the loss of oak woodland habitat at a 1:1 ratio through participation in one or more programs listed below, in order to provide a 1:1 compensation ratio for 50 percent or more of the impacted oak woodland habitat:</p> <ul style="list-style-type: none"> a. Purchase offsite conservation easements established through a certified oak woodlands conservation bank, or other comparable entity approved by Shasta County. The offsite conservation easement(s) shall provide for comparable biological diversity and habitat quality as the oak woodland habitat impacted by the Project, as determined by a qualified biologist and verified by Shasta County. The conservation easement(s) shall be established in perpetuity. The purchase of offsite conservation easements totaling at least 330 acres shall be completed prior to the commencement of vegetation removal and horizontal ground disturbance of blue oak woodland, blue oak-gray pine, montane hardwood, montane hardwood-conifer, and valley oak woodland habitats. b. The Project applicant may either purchase conservation easements directly, or may contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements, as specified under paragraph (1) of subdivision (d) of that section and the guidelines and criteria of the Wildlife Conservation Board. If the Applicant contributes funds to the Oak Woodlands Conservation Fund, the Applicant shall verify to the satisfaction of the County that the funds contributed are sufficient to provide a 1:1 compensation ratio for the habitat impacted by the Project. <p>2. The Project applicant may create up to 329 acres of oak woodland habitat on</p>	

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		<p><i>the Project site, or up to 50 percent of the requisite oak woodland mitigation habitat, that counts toward the requirement to provide a 1:1 ratio of compensatory oak woodland habitat. The oak woodland habitat created on the Project site may be created in phases over the life of the Project, and shall be completed within five years of cessation of mining activities on the site. The Project applicant shall implement the revegetation monitoring and maintenance requirements established in the Moody Flats Quarry Project Reclamation Plan (see Appendix C). The onsite oak woodland habitat created by the Project applicant shall be of comparable biological diversity and habitat quality as the oak woodland habitat impacted by the Project. The quality and comparability of the created onsite habitat shall be determined by a qualified biologist, and verified by the County.</i></p> <p>3. <i>In the event that the Applicant cannot mitigate for 50 percent of the impacted oak woodland habitat through the creation of comparable onsite habitat at a 1:1 ratio, the Applicant shall mitigate for the balance of the required habitat through the purchase of offsite conservation easements as described in paragraphs 1(a) and 1(b) above. Within five years of cessation of mining activities at the Project site, the applicant shall demonstrate to the satisfaction of the County that all of the oak woodlands impacted by the Project have been mitigated at a 1:1 acreage ratio of potential comparable biological habitat quality. The Applicant shall further verify that 50 percent or more of the compensatory mitigation occurred as offsite conservation easements.</i></p>	
<p>Impact 3.4-8: The proposed Project has the potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling,</p>	<p>PS</p>	<p>Mitigation Measure 3.4-8(a). <i>Prior to any activities that would result in fill or discharge to a water of the United States, the Project applicant shall obtain a Section 404 permit from USACE and a Section 401 Water Quality Certification from the RWQCB. The Project applicant shall comply with all terms and conditions of the permits/certifications issued by these regulatory agencies, including compensatory mitigation for loss of wetlands and waters of the United States and waters of the state as required by law. Compensatory mitigation may include on-site mitigation, off-site</i></p>	<p>LS</p>

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ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
hydrological interruption, or other means		<p><i>mitigation, and/or purchase of mitigation credits from an approved mitigation bank. Compensatory mitigation is subject to the review and approval of the USACE. The Project applicant shall provide Shasta County with evidence of any compensatory mitigation required by the USACE, which shall be at a minimum of 1:1.</i></p> <p>Mitigation Measure 3.4-8(b). <i>Prior to any activities that would result in a substantial diversion or obstruct the natural flow of, or fill or discharge to a lake or streambed over which CDFW has jurisdiction, the Project applicant shall submit a notification of streambed alteration to CDFW and secure a streambed alteration agreement. The Project applicant shall provide Shasta County with evidence of any compensatory mitigation required by CDFW. Compensatory mitigation may include on-site mitigation, off-site mitigation, and/or purchase of mitigation credits from an approved mitigation bank. Compensatory mitigation is subject to the review and approval of the CDFW.</i></p> <p>Mitigation Measure 3.4-8(c). <i>The Project applicant shall conduct construction activities that will affect watercourses and other waters of the United States/waters of the State shall be conducted during the dry season (typically May to November) to minimize erosion unless a wet-weather erosion and sediment control plan is reviewed and approved by the County.</i></p>	
Impact 3.4-9: The proposed Project has the potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites	LS	None required.	LS
Impact 3.4-10: The proposed project has the potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or	LS	None required.	LS

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ordinance			
Impact 3.4-11: The proposed project has the potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	LS	None required.	LS
CULTURAL RESOURCES			
Impact 3.5-1: Project implementation may cause a substantial adverse change to a significant historical or archaeological resource, or directly or indirectly destroy or disturb a unique paleontological resource or human remains	PS	<p>Mitigation Measure 3.5-1(a): For the prehistoric period sites that would be directly affected by the Project (CA-SHA-210, 3M-2, 3M-3, and 3M-4), all reasonable measures to engage in consultation with the local Native American community shall be conducted to help formulate the data recovery program. All site testing and data recovery activities shall be conducted by a qualified professional archaeologist retained by the Project applicant who meets the Secretary of Interior Standards, and shall be completed prior to any ground disturbance within 100 feet of the site. A volumetric sample of the site shall be excavated to preserve the data that may be contained within the site.</p> <p>An initial test excavation shall provide more information on the sites' extent and degree of intact deposit, combined with a boundary definition testing. All reasonable measures to engage and consult with relevant Native American groups shall be taken during site testing activities. Based on the results of the test excavations, a complete plan shall be developed for data recovery excavations at each site. The data recovery shall require similar reasonable coordination with the local Native American community. The data recovery plan shall include details on the amount and nature of excavation units, the research questions to be addressed, the protocol for monitoring, the nature of the final report, and the location for permanent curatorial care for the collections derived from the excavations.</p> <p>For any sites subject to test excavations and potentially to data recovery excavations, the applicant shall provide adequate assurances for the proper care and treatment,</p>	LS

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		<p>including lab work, preparation of reports on the results of these studies, and arrangements for curatorial care be in place.</p> <p>Mitigation Measure 3.5-1(b): Prior to disturbance within 250-feet of sites that would or could be directly affected by Project-related surface disturbance (CA-SHA-208, 3M-2, and 3M-4), the following collection and evaluation tasks shall be completed by a qualified professional archeologist:</p> <ul style="list-style-type: none"> a) Excavation utilizing 1-meter-square exposures and in arbitrarily-defined 10 cm levels, with all recovered material screened through ¼ inch mesh, unless very small objects (e.g., beads, small historic artifacts) are observed, in which case screening would shift to 1/8 inch mesh. A minimum of four test units shall be placed within the midden areas and house pit features (where present) at any tested site. b) Evaluation of recovered cultural material in relation to local and regional typologies for various types of formed artifacts that might be exposed. c) Preparation of a formal report, to proceed in conformity with standard professional practices, detailing the information and research values of recovered cultural material, if any. The report shall include appropriate recommendations for any additional data recovery, if any, justified on the basis of the specific findings of formal testing. The report shall be submitted to the Shasta County, Department of Resource Management (Planning Division) for written concurrence prior to disturbance within 250-feet of these sites. <p>For all sites subject to test excavations and potentially to data recovery excavations, the Applicant shall provide adequate financial assurances for the proper care and treatment, including lab work, preparation of reports on the results of these studies, and arrangements for curatorial care to be in place.</p>	

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		<p>Mitigation Measure 3.5-1(c): For sites within the Project's proposed limits of surface disturbance, but not within an area identified for construction and/or development (i.e., 3M-1 and 3M-3), boundary definition testing should be conducted by a qualified professional archeologist prior to surface disturbance within 250-feet of their approximate locations to determine the maximum extent of the resources. Surface disturbance shall not occur within 100 feet of the boundaries established. Security personnel or an operations manager should be notified of site locations. The archeologist shall prepare a boundary definition testing report and shall provide a copy of the report to the Shasta County, Department of Resource Management (Planning Division) prior to any surface disturbance. Prior to disturbance within boundaries established, if necessary for Project operations, the Applicant shall follow the protocol outlined in Mitigation Measure 3.5-1(b).</p> <p>Mitigation Measure 3.5-1(d): The following measures shall be included on all Project plans and shall be adhered to throughout Project site work during ground disturbing activities throughout the life of the Project.</p> <p>a) If any cultural resources (i.e., human bone or burnt animal bone, midden soils, projectile points, humanly-modified lithics, historic artifacts, etc.) are encountered during any phase of Project construction or operations, all earth-disturbing work shall stop within 100 feet of the find. The Shasta County Planning Division shall be notified and a qualified archaeologist shall make an assessment of the discovery and recommend/implement mitigation measures as necessary. Shasta County shall consider mitigation recommendations presented by a qualified archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology for any unanticipated discoveries. The County and the Project Applicant shall consult and agree upon implementation of a measure or measures that the County and Project applicant deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, and/or other appropriate measures. The Project Applicant shall be required to implement any mitigation</p>	

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		<p>necessary for the protection of cultural resources.</p> <p>b) If human remains are discovered, all work shall be halted immediately within 50 meters (165 feet) of the discovery and the Shasta County Planning Division and the County Coroner shall be notified, according to Section 5097.98 of the Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.</p> <p>c) Prior to the commencement of Project excavations, vegetation removal or site disturbance, all Project personnel shall read and sign an agreement which outlines each of the mitigation measures MMs 3.5-1(a) – (c), which would protect prehistoric and historic sites, Native American remains and any/all potential, subsurface cultural resources.</p> <p>d) In the event that Project plans change to include areas not surveyed, additional reconnaissance by a qualified archeologist shall be required prior to any earth-disturbing activities to identify any potential cultural or paleontological resources or human remains. If any cultural resources are identified, Shasta County shall consider mitigation recommendations presented by a qualified archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology for any unanticipated discoveries. The County and the Project Applicant shall consult and agree upon implementation of a measure or measures that the County and Project Applicant deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The Project Applicant shall be required to implement any mitigation necessary for the protection of cultural resources.</p>	

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Impact 3.5-2: Potential to Disturb Any Human Remains, Including Those Interred Outside of Formal Cemeteries	PS	<p>Mitigation Measure 3.5-2: If human remains are discovered during the course of construction, work shall be halted at the site and any nearby area reasonably suspected to overlie adjacent human remains until the Shasta County Coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are of Native American origin, either of the following steps shall be taken:</p> <p>a) The coroner shall contact the Native American Heritage Commission in order to ascertain the proper descendants from the deceased individual. The coroner shall make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, which may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains; OR</p> <p>b) The landowner shall retain a Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance when any of the following conditions occurs:</p> <ol style="list-style-type: none"> 1. The Native American Heritage Commission is unable to identify a descendant. 2. The descendant identified fails to make a recommendation. 3. Shasta County or its authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. 	LS
GEOLOGY AND SOILS			
Impact 3.6-1: The proposed Project may expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving expansive		<p>Mitigation Measure 3.6-1: In accordance with the California Building Code (Title 24, Part 2) Section 1803, the Project Applicant shall complete a geotechnical engineering investigation and submit it to the Shasta County Building Division of the Department of Resource Management for review and approval prior to the issuance of building permits</p>	

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soils, unstable soils, or liquefaction	PS	<p><i>for any of the proposed onsite facilities or structures.</i></p> <p><i>The final engineering plans for all proposed structures, foundations, utility trenches, roadways, and railroad facilities shall be prepared by a qualified engineer, and shall implement the recommendations and measures included in the geotechnical investigation.</i></p> <p><i>The County's Building Division of the Department of Resource Management shall ensure that all the pertinent sections of the California Building Code are adhered to in the construction of buildings and structures on site, and that all appropriate measures are implemented in order to reduce the risk of expansive soils to acceptable levels prior to the issuance of a Building Permit.</i></p>	LS
Impact 3.6-2: Mining activities could lead to landslides, slope instability, debris flows, and increased risk of erosion due to slope failure	PS	<p>Mitigation Measure 3.6-2(a): <i>The following requirements and recommendations shall be implemented during mining activities within the North and South Pits:</i></p> <ol style="list-style-type: none"> <i>1. During mining operations, the Operator shall hire a California-registered Certified Engineering Geologist to inspect each quarry slope prior to the final trim blast. The geologist shall provide direction as to the final slope face configuration in view of the geologic structures.</i> <i>2. If significant seepage areas are encountered during mining operations, Operator shall install hydraugers (drilled horizontal drains) to provide local dewatering.</i> <i>3. Operator shall direct drainage from the North Pit away from the South Pit upon construction of the stormwater detention system described in Section 3.9 of this Draft EIR.</i> <i>4. Operator shall strictly prohibit public access to the mining areas at all times throughout the operational life of the quarry, and prior to full implementation of the Reclamation Plan. Only trained and qualified personnel shall be</i> 	LS

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		<p><i>granted access to the quarry slopes and mining areas.</i></p> <p>Mitigation Measure 3.6-2(b): <i>The following requirements and recommendations shall be implemented during all material stockpiling activities within the Overburden Fill Area:</i></p> <ol style="list-style-type: none"> <i>1. The Operator shall remove all topsoil prior to the placement of stockpile material on the Overburden Fill Area. Topsoil shall be placed on an area with slopes less than 1.5:1 (h:v), and shall be stored until reclamation activities commence.</i> <i>2. The Operator shall uniformly compact the outer 20 feet of the fill slopes to 90 percent or more relative compaction with reference to ASTM D1557, extending to the slope face. The compaction requirement may be waived by a California-registered Certified Engineering Geologist where the individual slopes are constructed no steeper than 2.5:1 (h:v), and it can be demonstrated that slope stability will be maintained.</i> <i>3. The Operator shall strictly prohibit public access to the overburden fill area at all times throughout the operational life of the quarry, and prior to full implementation of the Reclamation Plan. Only trained and qualified personnel shall be granted access to the overburden fill area.</i> 	
<p>Impact 3.6-3: Project implementation may result in erosion and the loss of topsoil</p>	<p>PS</p>	<p>Mitigation Measure 3.6-3: <i>Vegetation removal and the disturbance of topsoil shall not occur on the Project site until it is necessary for site development and/or mining of a given area of the Project site. No clearance of any area shall be permitted more than one year in advance of development and/or mining of that area. Site clearing and vegetation removal activities should not occur during the wet season (approximately November through March), unless the Project Applicant can demonstrate the necessity of site clearing activities during these months to the satisfaction of the Shasta County Department of Resource Management; and further, that erosion will be prevented with</i></p>	<p>LS</p>

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		<p>standard erosion BMPs.</p> <p>Implement Mitigation Measures 3.9-1(a) through 3.9-1(d) in addition to Mitigation Measure 3.6-3.</p>	
<p>Impact 3.6-4: Project implementation may result in the installation and use of septic tanks and/or an onsite wastewater disposal system</p>	<p>PS</p>	<p>Mitigation Measure 3.6-4: Prior to the construction, installation and operation of any onsite sewage disposal system, the Project Applicant shall comply with the site testing requirements required by Section 8.40 of the Shasta County Code, and the Shasta County Environmental Health Division’s Sewage Disposal Standards. Soil tests, percolation tests, and other tests deemed necessary by the County Environmental Health Division shall be completed by, or under the supervision of, a qualified registered civil engineer, registered geologist, registered environmental health specialist, certified engineering geologist, or soil scientist certified by the American Registry of Certified Professionals in Agronomy, Crops and Soils, or by a qualified testing laboratory approved by the Office of the State Architect. The design, construction, and installation of the onsite sewage disposal system shall meet or exceed the requirements of the County’s Septic Tank and Leach Line Design, Construction and Installation Guidelines. All required permits for the installation and operation of the onsite sewage disposal system shall be received from the County prior to the construction or installation of the onsite sewage disposal system.</p>	<p>LS</p>
<p>GREENHOUSE GASES AND CLIMATE CHANGE</p>			
<p>Impact 3.7-1: Project implementation may directly and/or indirectly generate over 25,000 metric tons of GHG emissions per year, which would result in a significant impact on the environment</p>	<p>PS</p>	<p>Mitigation Measure 3.7-1: The Project Applicant shall either:</p> <ol style="list-style-type: none"> 1. Limit forest vegetation removal to a maximum of 90 acres in any one year; or 2. If forest vegetation removal exceeds 90 acres in any one year, the Application shall procure a contract with a biomass cogeneration facility located in Shasta County that arranges for the disposal of trees and woody vegetation removed from the Project site that is suitable for combustion in a biomass-fired boiler. The requirement to dispose of biomass material at a cogeneration facility shall apply to material removed on all acres that exceed the 90-acre annual 	<p>LS/LCC</p>

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		<p><i>allocation. For example, if 100 acres of the site are cleared in a given year, at least 10 acres worth of biomass material shall be sent to a cogeneration facility for disposal. The cogeneration facility used for the disposal of the trees and vegetation removed from the Project site shall be certified under California's Renewable Portfolio Standard (RPS). The agreement for disposal of the onsite woody biomass vegetation shall be executed prior to the commencement of tree removal activities onsite that exceed 90 acres in one year. Any such agreement shall be verified by the Shasta County Department of Resource Management through the life of the Project. Biomass material removed from the Project site that is not suitable for combustion in a biomass-fired boiler (such as shrubs, bushes, and smaller biomass materials) shall be mulched, covered, and stored on the Project site for use as a soil amendment during the site reclamation and revegetation process.</i></p>	
<p>Impact 3.7-2: Project implementation may conflict with plans, policies and programs adopted to reduce the generation of GHGs</p>	<p>LS</p>	<p>None Required.</p>	<p>LS</p>
<p>HAZARDS AND HAZARDOUS MATERIALS</p>			
<p>Impact 3.8-1: Project implementation may create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the accidental release of hazardous materials.</p>	<p>PS</p>	<p>Mitigation Measure 3.8-1(a): Prior to the transport, use, or storage of hazardous materials or explosives at the Project site, the Applicant shall prepare a Hazardous Materials Business Plan (HMBP). The County shall review and approve the HMBP prior to use or storage of hazardous materials on-site. The HMBP shall include the components listed below.</p> <ul style="list-style-type: none"> a. A completed Business Owner/Operator Identification form and Business Activities form. b. Completed Hazardous Materials (HazMat) Inventory/Chemical Description form(s) for each hazardous material, or mixture containing a hazardous material, stored or handled in reportable 	<p>LS</p>

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		<p>quantities.</p> <p>c. <i>Emergency Response Plans and Procedures in the event of a reportable release or threatened release of a hazardous material. The plans and procedures shall include:</i></p> <ul style="list-style-type: none"> i. <i>Immediate notification in the event of a release or threatened release of a hazardous material. A release, or threatened release, which poses a significant present or potential hazard to public health and safety or to the environment shall be reported to the Shasta County Environmental Health Division</i> ii. <i>Procedures for mitigation of a release or a threatened release to minimize any potential harm or damage to persons, property, or the environment.</i> iii. <i>Evacuation plans and procedures, including immediate notice, for the Project site. Maps showing evacuation routes and descriptions of evacuation drills shall be included.</i> <p>d. <i>A description of training for all new employees and annual refresher training for all employees in safety procedures in the event of a release or threatened release of a hazardous material, including, but not limited to, familiarity with the Emergency Response Plans and Procedures. These training programs may take into consideration the position of each employee (i.e., the manager or owner may require more or different training than a cashier). Applicant shall maintain written training records for each employee that handles hazardous waste on site.</i></p> <p>e. <i>A detailed facility map, including evacuation routes, location of</i></p>	

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		<p style="text-align: center;"><i>hazardous materials stored on site, and location of spill prevention and site cleanup resources located on site.</i></p> <p>Mitigation Measure 3.8-1(b): Prior to the transport, use, or storage of hazardous materials at the Project site, the Applicant shall prepare a Spill Prevention Control and Countermeasures (SPCC) Plan to avoid spills and minimize impacts in the event of a spill. The County shall review and approve the SPCC prior to the use or storage of hazardous materials on-site. The SPCC shall include the components listed below.</p> <p><i>a. The SPCC must include a discussion of hazardous materials management, including delineation of hazardous material and hazardous waste storage areas, prevention and response procedures, access and egress routes, and notification procedures.</i></p> <p><i>b. The SPCC shall be provided to all contractors working on the proposed project, and one copy shall be available on site at all times.</i></p> <p><i>c. The Applicant shall store all fuels, lubricants, paint, solvents, and any other hazardous materials in the manner specified by the manufacturer and in accordance with federal regulations and nationally and internationally recognized codes and standards. Small spray cans of carburetor fluid and other hazardous materials shall be stored in an enclosed area in an appropriate fuel storage building. A material safety data sheet shall be stored with each material.</i></p> <p><i>d. All employees shall be properly trained in the use and handling of these materials.</i></p> <p><i>e. Should a spill of hazardous material occur, EHD, DTSC, and RWQCB, which have spill response and cleanup ordinances to govern emergency spill response, shall be notified immediately by the Project operator. A written description of reportable releases shall be submitted to the Central Valley</i></p>	

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		<p><i>Water Board by the Project operator within two days of the spill. This submittal shall include a description of the release, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases shall be documented on a spill report form. If a reportable spill has occurred and it is determined that project activities have adversely affected surface or groundwater quality in excess of water quality standards, a detailed analysis shall be performed by a Registered Environmental Assessor to identify the likely cause of contamination. This analysis shall conform to ASTM standards and shall include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, the Project Applicant shall select and implement measures to control contamination, with a performance standard that water quality shall be returned to baseline conditions. These measures shall be subject to approval by EHD, DTSC, and the RWQCB.</i></p> <p>Mitigation Measure 3.8-1(c): <i>The following preventative measures shall be implemented by the Project operator during construction and/or operation of the Project to minimize impacts associated with (a) fueling and maintenance of vehicles; (b) maintenance of equipment; and/or (c) transport, storage, use, and dispose of hazardous materials.</i></p> <p><i>a. Normal refueling and maintenance operations shall occur in specified areas.</i></p> <p><i>b. Procedures shall be outlined by the Project operator to minimize the chance of a fuel spill during servicing and refueling throughout all stages of Project operations.</i></p> <p><i>c. Gasoline, diesel, and/or propane above ground storage tanks shall be provided with pylons or other restricting access devices to minimize the risk of a vehicle hitting the tanks. Pylons or other restricting access devices shall be installed concurrent with the installation of any onsite storage tanks, and prior</i></p>	

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		<p><i>to the filling of such tanks with fuels on the Project site.</i></p> <p><i>d. Hazardous material shall be transported in DOT-approved containers and allowed only on approved access roads. Additionally, vehicles and/or storage containers shall be properly marked.</i></p> <p><i>e. Only authorized personnel shall conduct equipment servicing and maintenance.</i></p> <p><i>f. All equipment used for storage or dispensing of gasoline or diesel shall be used in accordance with the National Fire Protection Administration (NFPA) requirements. This equipment shall include, but not be limited to, ASTs, pumps, hoses, and nozzles.</i></p> <p><i>g. Vehicles carrying hazardous materials shall be equipped with appropriate materials to contain a small spill should one occur during transport. Additionally, all service vehicles shall be equipped with Class B fire extinguishers and shall have adequate supplies of spill containment equipment (e.g., granular absorbents, absorbent pigs, and/or catch-basins).</i></p> <p><i>h. Equipment engines shall be turned off during refueling operations to minimize fire risk.</i></p> <p><i>i. Smoking, open flames, or welding shall not be allowed in or near the refueling areas or areas containing or used for storage of flammable materials.</i></p> <p><i>j. All refueling and maintenance operations shall be performed away from drains, culverts, and stormwater runoff collection areas to prevent contamination of local water bodies in the event of an accidental release of hazardous materials.</i></p> <p><i>k. Hazardous wastes, including used oil, used oil filters, used gasoline containers, spent batteries, and other items, shall be collected regularly and</i></p>	

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		<p><i>stored at the facility's permitted 90-day temporary hazardous material storage area. Additionally, contaminated soil and other materials shall be placed in appropriate containers and transported to the 90-day temporary hazardous material storage area. All hazardous waste shall be disposed of at a regulated treatment, disposal, and storage facility.</i></p> <p><i>l. Hazardous materials shall be stored in proper containers and in designated areas. Cleanup and emergency response materials shall be stored near these areas.</i></p> <p><i>m. Detailed information about the use, storage, and disposal of hazardous materials shall be provided in the construction and operational Hazardous Communication (HAZCOM) Plans. These HAZCOM Plans shall define specific procedures for vehicle refueling and servicing, transportation and storage of hazardous materials, and the disposal of hazardous wastes.</i></p> <p><i>n. All fuel containers shall be inspected periodically for signs of leaking or failure by the Shasta County EHD.</i></p> <p><i>o. All personnel involved in handling hazardous materials shall be trained in accordance with OSHA HAZWOPER regulations.</i></p>	
<p>Impact 3.8-2: Project implementation may expose the public to hazards associated with the transport, use, or storage of explosives</p>	<p>PS</p>	<p>Mitigation Measure 3.8-2: <i>Prior to conducting the first blast on the Project site, the Applicant shall prepare and submit a detailed blasting plan to the Shasta County Department of Resource Management and the Shasta County Sheriff's Department. The blasting plan shall contain a complete description of clearing and guarding procedures; descriptions of how explosives will be safely transported and used at the site; evacuation, security and fire prevention procedures; blasting equipment list, and procedures for notification of nearby receptors. The blasting plan shall conform to the requirements of 27 CFR Part 55.</i></p>	<p>LS</p>

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<p>Impact 3.8-3: Project implementation may expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands</p>	<p>PS</p>	<p>Mitigation Measure 3.8-3: Prior to use or storage of hazardous materials on-site, the Applicant shall prepare and submit a detailed Fire Prevention and Response Plan to the Shasta County Fire Department for review and approval. The Fire Prevention and Response Plan shall meet all applicable State and local fire prevention and safety requirements, including the requirements of PRC 4291. In addition to all applicable state and local requirements, the Plan shall include the following requirements:</p> <ol style="list-style-type: none"> 1. All buildings on the Project site shall be developed according to the applicable provisions of the California Building Code, Chapter 7A, and other code provisions for construction within "Very High Fire Hazard Severity Zones." 2. All major roads within the Project site shall be designed and constructed to support 40,000 pound load capacities, and all driveways and roadways shall meet the requirements of the Shasta County Fire Safe Standards for width, horizontal and vertical curves, turnouts, turnarounds, vertical clearance, and all other requirements as set forth by code. An approved turnaround shall be constructed at the end of major roadways as appropriate. 3. All final site plans shall include details showing any proposed breakaway gates on Project access roads and emergency access roads. 4. All final site plans shall show the locations of fire hydrants or other fire flow provisions within 150 feet of all commercial buildings or structures capable of flowing a minimum of 1,500 gallons per minute. 5. A Class "A" or higher rated roofing system shall be installed on any structures within the Project site. This rating shall be per the currently adopted Building Code requirements for roofing materials and systems. 6. The main electrical disconnect shall be provided on the exterior of the buildings. 7. All gates on the Project site shall be set back a minimum of 30 feet from the 	<p>LS</p>

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		<p><i>edge of the roadway serving the property.</i></p> <p>8. <i>Prior to the issuance of the building permit, all vegetation within 100 feet of any proposed buildings on the property shall be cut, thinned, or otherwise fully in compliance with County Vegetation Maintenance standards.</i></p> <p>9. <i>The Project applicant shall participate in the establishment of a shaded fuel break along the western, southern, and eastern property boundaries to reduce wildfire hazard spread to and from the Project property from the City of Shasta Lake and other developed areas.</i></p>	
HYDROLOGY AND WATER QUALITY			
<p>Impact 3.9-1: Project implementation would alter the existing drainage pattern, which may result in substantial erosion or siltation, increased off-site runoff, or exceed the capacity of existing or planned stormwater drainage systems resulting in flooding or polluted runoff</p>	PS	<p>Mitigation Measure 3.9-1(a): <i>Prior to any ground disturbing activities, the Project Applicant shall submit engineered design plans to Shasta County for the final Stormwater, Erosion Control, and Drainage Plan that comply with the County's grading and drainage requirements. Issuance of a use permit from the County will verify compliance with this requirement.</i></p> <p>Mitigation Measure 3.9-1(b): <i>Prior to commencing operations, the Applicant shall submit a Report of Waste Discharge (RoWD) to the Regional Water Quality Control Board to determine whether Waste Discharge Requirements (WDRs) will be required for the Project. The Project Applicant shall implement all required WDRs identified by the RWQCB throughout the life of the Project.</i></p> <p>Mitigation Measure 3.9-1(c): <i>Prior to any ground disturbing activities, the Project Applicant shall prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) that includes specific types and sources of stormwater pollutants, determines the location and nature of potential impacts, and specifies appropriate control measures to eliminate any potentially significant impacts on receiving water quality from</i></p>	LS

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		<p>stormwater runoff. The SWPPP shall require treatment Best Management Practices (BMPs) that incorporate, at a minimum, the required hydraulic sizing design criteria for volume and flow to treat projected stormwater runoff. The SWPPP shall comply with the most current standards established by the Central Valley RWQCB. BMPs shall be selected from a menu according to site requirements and shall be subject to approval by the Central Valley RWQCB. A copy of the SWPPP shall be provided to the Central Valley RWQCB (Redding Office) and the County for review and approval prior to any ground disturbing activities.</p> <p>The Project Applicant shall implement appropriate Best Management Practices (BMPs) as identified in the SWPPP throughout the life of the Project.</p> <p>Mitigation Measure 3.9-1(d): The Project Applicant shall submit annual inspection reports as required under the SWPPP to both RWQCB and the County. These reports will verify the Applicant's compliance with the conditions in the SWPPP and the effectiveness of any BMPs that are installed.</p>	
Impact 3.9-2: Project implementation may violate a water quality standard or waste discharge requirement	PS	Implement Mitigation Measures 3.9-1(a) through 3.9-1(d)	LS
Impact 3.9-3: Project implementation may substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)	LS	None Required	LS

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Impact 3.9-4: Project implementation may expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam	LS	None Required	LS
Impact 3.9-5: The project may be subject to inundation by seiche, tsunami, or mudflow	LS	None Required	LS
LAND USE AND PLANNING			
Impact 3.10-1: Implementation of the proposed project may conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect	LS	None Required	LS
NOISE			
Impact 3.11-1: Noise associated with on-site Project operations may exceed applicable General Plan or CEQA ambient noise standards at nearby sensitive receptors under near-term and cumulative conditions	PS	<p>Mitigation Measure 3.11-1(a):</p> <p>a) <i>If existing topography and/or natural vegetation, not removed as part of proposed site disturbance, does not provide line-of-sight interception between the equipment within the main processing and load-out facility, additional line-of-sight noise reduction measures shall be implemented. Line-of-sight noise reduction measures are considered any measure that impedes the view of noise-producing elements of stationary equipment within the secondary and ancillary processing and load-out area from</i></p>	SU

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		<p>Receivers R-5 and R-6. Line-of-sight noise reduction measures may include, but are not limited to, the following measures:</p> <ul style="list-style-type: none"> • Aggregate stockpiles; • Earthen Berm; and/or • Barriers (e.g. straw hay bales, fencing, suspended acoustic curtains). <p>b) Back-up warning devices on mobile equipment (i.e. front-loaders, dozers, etc.), operating within the secondary and ancillary processing and load out area shall utilize radar or strobe-based warning mechanisms during nighttime hours provided such equipment complies with all regulatory requirements and can be safely utilized at this facility.</p> <p>Mitigation Measure 3.11-1(b):</p> <p>a) If existing topography and/or natural vegetation, not removed as part of proposed site disturbance, does not provide line-of-sight interception between the equipment within the pre-processing area, additional line-of-sight noise reduction measures shall be implemented. Line-of-sight noise reduction measures are considered any measure that impedes the view of noise-producing elements of stationary equipment within the secondary and ancillary processing and load-out area from Receivers R-7 and R-8. Line-of-sight noise reduction measures may include, but are not limited to, the following measures:</p> <ul style="list-style-type: none"> • Aggregate stockpiles; • Earthen Berm; and/or 	

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		<ul style="list-style-type: none"> • Barriers (e.g. straw hay bales, fencing, suspended acoustic curtains). b) Back-up warning devices on mobile equipment (i.e. front-loaders, dozers, etc.), operating within the pre-processing (jaw crushing) area shall utilize radar or strobe-based warning mechanisms during nighttime hours provided such equipment complies with all regulatory requirements and can be safely utilized at this facility. c) If line-of-sight noise reduction measures do not reduce noise generated by pre-processing equipment below all applicable thresholds of significance, rubber padding or other sound deadening technology shall be required to be installed on the crushing and screening equipment to mitigate excessive noise. <p>Mitigation Measure 3.11-1(c):</p> <ul style="list-style-type: none"> a) The Operator shall limit South Pit land clearing, grading, and excavation operations to daytime hours as defined by the Shasta County General Plan Noise Element. South Pit operations shall be limited to daytime hours until supplemental noise monitoring demonstrates noise levels caused by South Pit operations are below the ambient nighttime noise threshold of 40dBA. The noise monitoring shall be conducted by a qualified acoustical consultant, approved by the Shasta County Department of Resource Management. b) The Applicant shall commence excavation activities that would have direct line of sight to Receptors 10 and 11 on the portion of the pit furthest from the those receptors to maintain the maximum degree of shielding by existing topography for as long as possible. 	

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		<p>Mitigation Measure 3.11-1(d): The following mitigation measures shall be included in the project's Conditional Use Permit:</p> <p>a) If existing topography and/or natural vegetation, not removed as part of proposed site disturbance, does not provide line-of-sight interception between haul truck traffic and Receivers R-2 and R-3, additional line-of-sight noise reduction measures shall be implemented. Line-of-sight noise reduction measures are considered any measure that impedes the view of noise-producing elements (e.g. haul trucks) from Receivers R-2 and R-3. Line-of-sight noise reduction measures may include, but are not limited to, the following measures:</p> <ul style="list-style-type: none"> • Earthen Berm; and/or • Barriers (e.g. straw hay bales, fencing, suspended acoustic curtains) <p>Mitigation Measure 3.11-1(e):</p> <p>a) The Operator shall perform supplemental noise monitoring as follows:</p> <ol style="list-style-type: none"> 1. Supplemental noise monitoring shall occur once per year for the first five years of Project operations, when the north and south pits are opened, and if and when noise complaints are received, and shall be conducted at all receptor locations identified in Table 3.11-13 as having potential noise threshold exceedances. 2. The noise monitoring shall occur during times of maximum site disturbance and materials processing, so as to reflect the maximum noise levels generated by the Project at a given stage of Project operations. 	

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		<p>3. The noise monitoring shall be conducted by a qualified acoustical consultant, approved by the Shasta County Department of Resource Management. The cost of the noise monitoring and reporting shall be borne by the Project applicant.</p> <p>4. The results of the noise monitoring shall be submitted to the Shasta County Department of Resource Management within three weeks of the data collection. If exceedances of any applicable noise thresholds are encountered, additional noise mitigation measures shall be developed and implemented, to the extent feasible, in order to reduce noise levels at nearby sensitive receptors (residences) to a level below the thresholds of significance identified in this EIR.</p> <p>i. Additional noise mitigation measures may include, but are not limited to: construction of additional berms or screening provisions to interrupt direct lines of site between project activities and nearby sensitive receptors.</p>	
Impact 3.11-2: Blasting activities associated with quarry excavation may result in significant noise levels at nearby sensitive receptors	LS	None required.	LS
Impact 3.11-3: Blasting activities conducted at the project site may expose people or structure to excessive or damaging ground-borne vibration levels	PS	<p>Mitigation Measure 3.11-3:</p> <p>1. Blasting shall take place only between the hours of 9:00 a.m. to 4:00 p.m., Monday through Friday day, up to a total of 150 times per year.</p> <p>2. Blasting shall be conducted to meet the following requirements. If there is a discrepancy between standards, the most restrictive standard shall apply:</p>	LS

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		<p>a. The peak particle velocity ("ground vibration") generated from any blast shall not exceed 0.1 inches per second for vibration frequencies below 40 hertz, and 2.0 inches per second for vibration frequencies of 40 hertz or more, measured directly between the nearest residence and the blast site (Source: U.S. Bureau of Mines Report of Investigations 8507 (1980) "Structure Response and Damage Produced by Ground Vibrations from Surface Mine Blasting").</p> <p>b. The maximum air over-pressure ("air blast") generated from this blast shall not exceed 0.014 pounds per square inch (psi), measured directly between the nearest residence and the blast site (Source: U.S. Bureau of Mines Report of Investigations 8485 (1980) "Structure Response and Damage Produced by Airblast from Surface Mining)."</p> <p>3. Prior to the first blast, the operator shall establish blast criteria based on the maximum permitted ground vibration and air blast. The blast criteria shall include: the minimum distance between the nearest shot hole and the site of damage concern (i.e. residential structures), the maximum total amount of explosive used in a detonation sequence, the minimum and maximum depth of the blasting holes, the minimum depth and type of stemming of the holes, the spacing of the hole grid, the maximum number of pounds of explosive per hole, the maximum number of pounds of explosive per (time) delay, and the number of milliseconds per delay in each direction on the grid. The operator shall submit a report to the Planning Division containing the above information prior to the first blast.</p> <p>4. The operator shall notify the Planning Division at least two weeks prior to the first blast.</p> <p>5. A qualified independent consultant shall record the effect of the first blast with a minimum of three seismometers and three air pressure blast recording</p>	

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		<p><i>instruments set up at various locations between the blast site and nearby residential structures. The consultant shall submit a report to the Shasta County Planning Division within two weeks of the first blast. The report shall include copies of the recording instrument tapes of the blast, and an analysis of the recording data to determine whether the blast met the criteria of this resolution. First blast recordings and monitoring shall occur for blasting activities in both the North Pit and South Pit, given the differences in geologic formations in these two areas.</i></p> <p>6. <i>Based on the blast monitoring data and analysis of the first blast, the blasting criteria shall be revised, if necessary, to ensure that the maximum levels of ground vibration and air blast are not exceeded. The operator shall report to the Planning Division whether and how the blasting criteria have been revised. All subsequent blasts occurring within the first year of blasting activities shall be monitored by the Applicant, and all future blasts shall comply with the blast criteria.</i></p> <p>7. <i>If complaints are received from the nearby residences, the County may require annual or more frequent blast monitoring by a qualified independent consultant.</i></p> <p>8. <i>The operator shall obtain, and maintain current, a blasting permit from the Shasta County Sheriff's Office prior to any blasting activities, and shall comply with all terms and conditions of the permit. The blasting permit shall be updated annually, as required by the Shasta County Sheriff's Office.</i></p> <p>9. <i>The operator shall notify the Fire Dispatch Center by telephone at 225-2411 prior to blasting.</i></p> <p>10. <i>Operator may store explosives on-site, provided that the storage complies with</i></p>	

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<i>all applicable federal, state and local regulations.</i>			
Impact 3.11-4: Noise associated with off-site project traffic increases may exceed applicable noise standards	LS	None required.	LS
Impact 3.11-5: The project may result in off-site traffic noise impacts associated with nighttime operations	LS	None required.	LS
TRANSPORTATION AND CIRCULATION			
Impact 3.12-1: The project would cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system.	PS	Mitigation Measure 3.12-1: <i>The Project Applicant shall pay an annual road maintenance fee to Shasta County for increased wear on county roads. This fee will be \$0.03 per ton of construction material hauled from the project location by truck. The fee will be used to cover the costs of increased maintenance and construction on Old Oregon Trail and Wonderland Boulevard between the I-5 north bound ramp and the project access road. Beginning the second year, the \$0.03 per ton fee shall be annually adjusted automatically by the percentage equal to percentage change in the Engineering News Record's ENR.com Construction Cost Index rounded up to the nearest tenth of a cent.</i>	LS
Impact 3.12-2: The project would exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.	LS	None required.	LS
Impact 3.12-3: The project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	LS	None required.	LS
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Impact 3.12-4: The project would substantially increase hazards due to a design feature or incompatible uses.	PS	Mitigation Measure 3.12-4: Prior to hauling aggregate products from the site by truck, the Project Applicant shall provide funding to Shasta County in order for the County to add pavement striping and markings to Pine Grove Avenue near the southbound I-5 off-ramp. The pavement markings and striping shall be placed in the westbound travel lanes of Pine Grove Avenue, east of the I-5 southbound on-ramp. The exact location and orientation of the pavement markings and striping shall be determined by the Shasta County Department of Public Works.	
Impact 3.12-5: The project would result in inadequate emergency access.	LS	None required.	LS
Impact 3.12- 6: The project would result in inadequate parking capacity.	LS	None required.	LS
Impact 3.12- 7: The project would conflict with adopted policies, plans, or programs supporting alternative transportation.	LS	None required.	LS
Impact 3.12-8: Under cumulative conditions, project implementation would worsen levels of service at study intersections.	S/CC	<p>Mitigation Measure 3.12-8(a): The following improvements to the intersection of I-5 NB Ramps/Old Oregon Trail would improve intersection operations to acceptable levels under Cumulative Plus Project conditions:</p> <ul style="list-style-type: none"> • Install full-actuated traffic signal <p>The Project Applicant shall contribute fair share funding to cover its proportionate cost of the installation of a fully-actuated traffic signal. Shasta County, in consultation with the County RTPA shall determine the applicant's fair share fee based on the traffic generated by the proposed project. The Project would contribute 11.1 percent of the increase in traffic from existing conditions.</p> <p>Mitigation Measure 3.12-8(b): The following improvements to the intersection of Wonderland Boulevard/Old Oregon Trail would improve intersection operations to acceptable levels under Cumulative Plus Project conditions:</p> <ul style="list-style-type: none"> • Construct a channelized, yield-controlled westbound right turn with at least 	SU/CC

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		<p><i>100 feet of storage.</i></p> <p><i>The Project Applicant shall contribute fair share funding to cover its proportionate cost of the construction of a channelized, yield-controlled westbound right turn with at least 100 feet of storage. Shasta County, in consultation with the County RTPA shall determine the applicant's fair share fee based on the traffic generated by the proposed project. The Project would contribute 14.5 percent of the increase in traffic from existing conditions.</i></p>	
Impact 3.12-9: Under cumulative conditions, project implementation would worsen already unacceptable levels of service at study intersections.	LS/LCC	None required.	LS/LCC
Impact 3.12-10: Under cumulative conditions, project implementation would impact roadway segments.	LS/LCC	None required.	LS/LCC
Impact 3.12-11: Under cumulative conditions, project implementation would impact freeway segments.	LS/LCC	None required.	LS/LCC
Impact 3.12-12: Cumulative conditions may substantially increase hazards due to a design feature or incompatible uses.	LS/LCC	None required.	LS/LCC
UTILITIES			
Impact 3.13-1: Implementation of the proposed Project may require new or expanded water or wastewater treatment facilities, the construction of which could cause significant environmental effects	LS	None required.	LS

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

NI – No Impact

PS – potentially significant

S – significant

SU – significant and unavoidable

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 3.13-2: Implementation of the proposed Project would require new or expanded stormwater drainage facilities, the construction of which may cause significant environmental effects	PS	Mitigation Measure 3.13-2: Prior to the commencement of grading or any other ground-disturbing activities, the Project proponent shall submit, and obtain approval of, an NOI and SWPPP to the Central Valley RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall utilize BMPs and technology to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation. The SWPPP shall be kept on site and implemented during construction activities and shall be made available upon request to representatives of Shasta County and/or RWQCB.	LS
Impact 3.13-3: Implementation of the proposed Project would increase the demand for water and may require new or expanded water entitlements	LS	None required.	LS
Impact 3.13-4: Project implementation may result in the inefficient or wasteful use of energy resources	LS	None required.	LS
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Degradation of the Existing Visual Character of the Region	CC	Implement MMs 3.1-2 and 3.1-3.	CC and SU
Impact 4.2: Cumulative Loss of Agricultural Resources	LCC	None required.	LCC
Impact 4.3: Cumulative Impact on the Region's Air Quality	CC	Implement MMs 3.3-2, 3.3-3(a), and 3.3-3(b).	CC and SU
Impact 4.4: Cumulative Loss of Biological	CC	Implement MMs 3.4-1(a)-(b), 3.4-2(a)-(c), 3.4-3(a)-(c), 3.4-4(a)-(e), 3.4-5(a)-(b), 3.4-	LCC

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

NI – No Impact

PS – potentially significant

S – significant

SU – significant and unavoidable

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
Resources Including Habitats and Special Status Species		7(a), and 3.4-8(a)-(c).	
Impact 4.5: Cumulative Impacts on Known and Undiscovered Cultural Resources	CC	Implement MMs 3.5-1(a) through 3.5-1(d) and MM 3.5-2	LCC
Impact 4.6: Cumulative Impact on Geologic and Soils Characteristics	LCC	None required.	LCC
Impact 4.7: Cumulative Impact Related to Greenhouse Gases and Climate Change	CC	Implement MM 3.7-2	LCC
Impact 4.8: Cumulative Impact Related to Hazards and Hazardous Materials	LCC	None required.	LCC
Impact 4.9: Cumulative Impacts to Groundwater Levels, Groundwater Recharge, Off Site Flooding and Water Quality	CC	Implement MMs 3.9-1(a) through 3.9-1(d)	LCC
Impact 4.10: Cumulative Impact on Communities and Local Land Uses	LCC	None required.	LCC
Impact 4.11: Cumulative Exposure of Existing and Future Noise- Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	CC	Implement MMs 3.11-1(a) through 3.11-1(e) and 3.11-3.	CC and SU
Impact 4.12: Cumulative Impact on the Transportation Network	CC	Implement MMs 3.12-8(a) and 3.12-8(b).	CC and SU
Impact 4.13: Cumulative Impacts to Utilities Systems	LCC	None required.	LCC

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

NI – No Impact

PS – potentially significant

S – significant

SU – significant and unavoidable

This section summarizes the purpose of the Environmental Impact Report (EIR) for the Moody Flats Quarry Project (Project). The following discussion addresses the environmental procedures that are to be followed according to State law, the intended uses of the EIR, the Project's relationship to the County's General Plan, the EIR scope and organization, and a summary of the agency and public comments received during the public review period for the Initial Study/Notice of Preparation (IS/NOP).

1.1 PURPOSE AND INTENDED USES OF THE EIR

The County of Shasta, as the lead agency, determined that the proposed Moody Flats Quarry Project is a "project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an EIR prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed Project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize the environmental impacts of proposed development, and to balance a variety of public objectives, including economic, environmental, and social factors.

The County of Shasta, as the lead agency, has prepared this Draft EIR to provide the public, County decision makers, and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from approval and operation of the Moody Flats Quarry Project. The environmental review process enables interested parties to evaluate the proposed Project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the Project. While CEQA requires that consideration be given to avoiding adverse environmental effects, the lead agency must balance adverse environmental effects against other public objectives, including the economic and social benefits of a project, in determining whether a project should be approved.

This EIR will be used by the County to determine whether to approve, modify, or deny the Moody Flats Quarry Project and for associated approvals by other governmental agencies in light of the Project's environmental effects.

1.2 TYPE OF EIR

The CEQA Guidelines identify several types of EIRs, each applicable to different Project circumstances. This EIR is a Project EIR as defined in CEQA Guidelines Section 15161. This type of analysis focuses primarily on the changes in the environment that would occur as a result of implementing the proposed Project and examines all phases of the Project (i.e., mining, processing, and transport, etc.). The Project Applicant is requesting approval of General Plan Map Amendment, a General Plan Text Amendment (GPA 09-002), Zoning Map Amendment and Zoning Text Amendment (ZA 09-013), Use Permit 09-018, and Reclamation Plan 09-001 from the County (see Section 2.0, Project Description for a full description of the Project and requested actions). The project-level analysis in this report addresses impacts associated with the development and operation of the Moody Flats Quarry Project, including provision of infrastructure and services for the Project.

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term “Responsible Agency” includes all public agencies other than the Lead Agency that have discretionary approval power over the Project or an aspect of the Project (CEQA Guidelines Section 15381). For the purpose of CEQA, a “Trustee” agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

The discretionary actions listed below are required prior to implementation of the proposed Moody Flats Quarry Project. The Lead Agency, Responsible Agencies, and Trustee Agencies will use the EIR in their consideration of the Project proponent’s applications for the following various permits and approvals:

- **Shasta County Planning Commission and Board of Supervisors**
 - Approval of a General Plan Map Amendment for land use designations for portions of the Project site;
 - Approval of a General Plan Text Amendment to Policy MR-n;
 - Approval of a Zoning Map Amendment for Zone Districts for portions of the Project site;
 - Approval of a Zoning Text Amendment to Section 17.88 of the Shasta County Zoning Code;
 - Approval of a Use Permit, as required by the Surface Mining and Reclamation Act (SMARA) and the Shasta County Code;
 - Approval of a Reclamation Plan as required by the Surface Mining and Reclamation Act (SMARA) and the Shasta County Code;

- **Shasta County Building Division**
 - Issuance of building permits.
- **Shasta County Department of Public Works**
 - Issuance of a roadway encroachment permit.
- **Shasta County Air Quality Management District**
 - Issuance of an Authority to Construct Permit; and
 - Issuance of a Permit to Operate.
- **Shasta County Environmental Health Division**
 - Approval of a Spill Prevention Control and Countermeasures Plan;
 - Approval of an on-site sewage disposal system permit;
 - Approval of a Well Permit; and
 - Approval of a Hazardous Materials Business Plan.
- **Shasta County Sheriff's Department**
 - Approval of a Blasting Permit.
- **Regional Water Quality Control Board, Central Valley Region**
 - Approval of a Waste Discharge Permit; and
 - Approval of a Final Stormwater, Erosion Control, and Drainage Plan.
- **State Water Resources Control Board**
 - Coverage under the General Construction Activity Stormwater Permit;
 - Coverage under the General Industrial Activity Stormwater Permit;
 - Issuance of a permit for stream runoff impoundment; and
 - Issuance of a Water Rights Permit.
- **California Department of Fish and Wildlife**
 - Approval of a Streambed Alteration Agreement (Fish and Game Code Section 1602); and
 - Issuance of an Incidental Take Permit (Section 2081 of the California Endangered Species Act).

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- **U.S. Army Corps of Engineers**
 - Issuance of an Individual/Nationwide Section 404 Discharge Permit.
- **U.S. Fish and Wildlife Service**
 - Issuance of a Federal Endangered Species Action Section 7 Biological Opinion.
- **U.S. Mine Safety and Health Administration**
 - Issuance of Notice of Commencement of Operations;
 - Approval of Emergency Fire, Evacuation, and Rescue Plan;
 - Issuance of Legal Identity Report;
 - Approval of Miner Training Program; and
 - Issuance of Mine Safety and Health Administration Identification Number.
- **California Division of Occupational Safety and Health (Cal/OSHA)**
 - Issuance of various workplace and mine safety permits.

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR involves the following general procedural steps:

NOTICE OF PREPARATION AND INITIAL STUDY

The County circulated a Notice of Preparation (NOP) of an EIR for the proposed Project and an Initial Study (IS) on January 6, 2012 to trustee and responsible agencies, the State Clearinghouse, and the public. A public scoping meeting was held on January 26, 2012. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and IS are presented in **Appendix A**. Responses to the NOP by interested parties are presented in **Appendix B**.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the County filed a Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period.

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC, the County will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is 60 days. County Planning Division staff will be available to answer questions from the public regarding the Draft EIR. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Bill Walker, AICP, Senior Planner
Shasta County Department of Resource Management, Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001
(530) 225-5532
bwalker@co.shasta.ca.us

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The County will review and consider the Final EIR. If the County finds that the Final EIR is "adequate and complete", the Board of Supervisors may certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

- 1) The EIR shows a good faith effort at full disclosure of environmental information; and
- 2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed Project in contemplation of environmental considerations.

Following review and consideration of the Final EIR, the County may take action to approve, modify, or reject the Project. If significant and unavoidable impacts are identified, and the County chooses to approve the Project, the County may choose to adopt a Statement of Overriding Considerations. A Mitigation Monitoring and Reporting Program would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the Project to reduce or avoid significant effects on the environment. This Mitigation Monitoring and Reporting Program will be designed to ensure that these measures are carried out during Project implementation, in a manner that is consistent with the EIR.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. A Draft EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the Project, environmental and planning documentation prepared for recent projects located within Shasta County, and responses to the NOP.

This Draft EIR is organized in the following manner.

EXECUTIVE SUMMARY

This Executive Summary summarizes the characteristics of the proposed Project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the Project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed Project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, subsequent projects and activities, and a list of related agency action requirements.

CHAPTER 3.0 - ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the Project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of Project-related impacts associated with the

environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics
- Agricultural and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Transportation and Traffic
- Utilities

The Initial Study determined that there would be no impact or a less-than-significant impact to the following environmental issue areas: mineral resources, population and housing, recreation, and public services. These issues are not discussed in Chapter 3; the basis for the no impact or less than significant determination for each of these topics is described in the Initial Study (**Appendix A**).

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

CHAPTER 5.0 - ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the Project, which could feasibly attain the basic objectives of the Project and avoid and/or lessen any significant environmental effects of the Project. Chapter 5.0 provides a comparative analysis between the merits of the Project and the selected alternatives.

CHAPTER 6 - REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

CHAPTER 7- GLOSSARY AND ACRONYMS

This section identifies terms specific to the mining industry and the processing of aggregate materials, as well as acronyms used in the EIR.

APPENDICES

The Appendices (**Appendix A** through **Appendix V**) include all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to conduct the analysis. Appendices are provided in electronic format and are available in the CD in the back sleeve of this EIR, at the Shasta County Planning Division offices, or online at:

http://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/moodyflatshome.aspx

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION AND ISSUES TO ADDRESS

NOP Comment Letters

The County received a total of 53 comment letters in response to the NOP for the Moody Flats Quarry Project Draft EIR. Nine comment letters were received from public agencies, and 44 comment letters were received from individuals or private organizations.

A copy of each NOP comment letter is provided in **Appendix B** of this Draft EIR. The County also held a public scoping meeting on January 26, 2012. The summary notes from this meeting are provided in **Appendix B**.

The following provides a summary of key issues to address in the EIR, as identified in the Initial Study, as raised in the comment letters received on the NOP and at the public scoping meeting. The following summary is not a comprehensive list of all NOP comments received (See **Appendix B**), but rather, provides a summary of the most frequently raised environmental issues. The issues raised have been organized by EIR topic.

Issues to be Addressed

AESTHETICS AND VISUAL RESOURCES

- Visual impacts from surrounding viewsheds, including adjacent land uses, recreational areas and area roadways.
- Changes to the appearance of the site during operations, including tree and other vegetation removal, and exposure of rock benches, hill profile, etc.
- Affects on the scenic qualities of the Interstate 5 corridor, especially the approach to the Shasta Unit of the Shasta-Trinity National Recreation Area.
- Address changes to site topography, and visual characteristics of the site following revegetation.
- Potential increases of light and glare from the project.

- The preparation of visual simulations was requested.

AGRICULTURAL AND FOREST RESOURCES

- Loss of prime farmland and farmland of statewide importance in areas used for mining, processing and loading facilities.

AIR QUALITY

- Generation and off-site movement of dust and particulate matter emissions.
- Emissions from stationary equipment when using power from internal combustion engines.
- Consistency with adopted air quality emissions thresholds and mitigation strategies.
- The potential for the project to generate objectionable odors.
- Emissions from mobile sources (truck trips).
- Identification of sensitive receptors in the project vicinity and potential impacts on those receptors.

BIOLOGICAL RESOURCES

- Potential impacts to special-status species and wildlife on-site and in the vicinity, especially on the adjacent Forest Service open space areas.
- Potential impacts to surface water quality in the onsite creeks and streams, as well as impacts to aquatic habitat and fisheries.
- Conversion of oak woodlands and loss of riparian habitat and wetlands.
- The effects of dust on on-site and off-site vegetation.
- Control of invasive species.
- Feasibility of site revegetation.

CULTURAL RESOURCES

- Review of cultural resources study for the site.

GEOLOGY AND SOILS

- Potential for liquefaction and/or landslides from both cut slopes and fill slopes onsite.
- Seismic impacts.
- Potential increase in erosion and off-site sediment transport.

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- Earthquakes, earthquake faults, and dam safety

GREENHOUSE GASES AND CLIMATE CHANGE

- The use of internal combustion engines for on-site mobile equipment, power generation for on-site stationary equipment, and for off-site transportation including trucking and rail transportation may generate greenhouse gas emissions that may have a significant effect on the environment.

HAZARDS AND HAZARDOUS MATERIALS

- The effects of blasting and the transport and storage of materials used for blasting.
- Wildland fires and emergency vehicle access.
- Availability of water for fire protection.
- Storage and use of hazardous materials.

HYDROLOGY AND WATER QUALITY

- Impacts to the local watershed, surface waters, and area creeks and streams, including runoff water turbidity and sediment transport. In addition, hazardous materials used on site could result in pollution to surface and/or ground water.
- Groundwater supply and quality, including cumulative impacts to area aquifers and effects on water supply for surrounding residence wells and community water systems
- Drainage patterns and effect on existing drainage systems, including flooding impacts, potential for mudflows, and surface water quality during significant rain events.
- Impacts to area wells in terms of well reliability and water quality.
- Potential for acid –mine drainage, leaching of minerals, and /or other mining related water quality impacts.
- Post mining maintenance of reclaimed/revegetated areas.

LAND USE AND PLANNING

- Project consistency with applicable General Plan and Zoning regulations.
- Compatibility with adjacent land uses and nearby suburban and small town development.
- Use of “green” zones and/ or buffer zones.

NOISE

- Noise generated by all aspects of Project operations should be addressed to determine impacts to adjacent land uses and sensitive receptors.
- Blasting impacts, including noise, frequency, and seismic effects and ground borne vibration, including structural damage and damage to wells from cumulative blasting impacts.

RECREATION

- Project impacts to area recreational uses, including Shasta Lake and the National Recreation/Wildlife areas in the vicinity.

TRANSPORTATION AND TRAFFIC

- Intersection and roadway level-of-service (LOS) impacts to area roadways, including roadways within the City of Shasta Lake, the City of Redding, and the roadway and interchanges of Interstate 5.
- Interaction with local school-related traffic and traffic safety.
- Phasing of roadway and highway improvements with the development of the Project.
- Primary access road encroachment design and safety.
- Adequate emergency vehicle access and secondary site access roads.
- Hazards on area roadways associated with increased truck trips and materials transport.
- Transport of hazardous materials on area roadways.
- Cumulative traffic conditions analysis, including existing and pending projects in the vicinity.
- Potential deterioration of roads due to use by heavy trucks.
- Rail safety, including hazards at rail crossings, increased train trips for materials transport, and effects on emergency response.
- Pedestrian and bicycle facilities.

UTILITIES AND SERVICES

- Water supply sources and water availability.
- Source and reliability of electricity for project operations.
- Potential need for new electrical power transmission lines.
- Disposal locations and methods for Portland cement concrete and asphalt concrete waste.
- Potential need for new storm drainage facilities.

Moody Flats Quarry LLC, a wholly owned subsidiary of 3M (the Applicant) proposes to develop a hard rock quarry, aggregate processing facility, ancillary aggregate product facilities (e.g., ready-mix concrete plant, asphalt concrete batch plant, and recycled construction materials plant), and aggregate truck and railcar load-out facility within the approximately 1,850-acre Applicant-owned property. Products would include ready-mix concrete grade aggregate products as well as other construction aggregate products such as riprap, ballast, aggregate base, asphalt concrete, and ready-mix concrete. The Project also includes a reclamation plan and a site revegetation plan.

This section describes the characteristics of the proposed Project, including operational characteristics and revegetation/reclamation characteristics. This section also includes the following information: (1) the location and boundaries of the proposed Project on a regional and detail map; (2) a statement of the Project's objectives; (3) a general description of the Project's technical and environmental characteristics; and (4) a description of the intended uses of the EIR. Figures referenced throughout this section are located at the end of the section.

Under CEQA, the Project Description is required to provide general information but not an engineering level of detail. The CEQA Guidelines provide: "*The description of the project shall contain the following information but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact.*"

A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities." (14 C.C.R. § 15124(c).)

The information provided in this EIR section meets the requirements of Section 15124 of the CEQA Guidelines, and provides a level of detail adequate for public and agency review and consideration of the proposed Project and the potential environmental impacts associated with Project implementation.

2.1 PROJECT LOCATION AND ENVIRONMENTAL SETTING

PROJECT LOCATION

The Project site is located in western Shasta County, California, about one mile west of Interstate 5, immediately north of the City of Shasta Lake, and about nine miles north of the City of Redding (see Figure 2-1 and Figure 2-2 for a map of the Project's regional location and site vicinity.)

The site lies in Sections 13, 24, and 25 of Township 33 North, Range 5 West, and Sections 18, 19, 20, and 30 of Township 33 North, Range 4 West, of the Mount Diablo Baseline and Meridian. The Project would be located entirely within the boundaries of the Applicant-owned Assessor's Parcels Numbers 006-770-002 through -005, 065-500-002 and -004; 307-200-002, -006, -007, -010, -018, and -019; and 307-230- 004, -005, -006, -014, -016, and -017 (see Figure 2-3, "Assessor's Parcel Map")

PROJECT SITE

The Project site is located on land that is currently undeveloped , as shown in Figures 2-4A and 2-4B, “Existing Conditions Aerial Photograph.” The elevation of the site ranges from approximately 800 feet to 2,000 feet above mean sea level (amsl). The Project site encompasses approximately 1,850 acres dominated by montane hardwood-conifer and montane hardwood vegetative habitats. Moody Creek, Rancheria Creek, and Salt Creek transverse the center and eastern portions of the Project site. A Union Pacific Railroad line runs through the eastern portion of the property and Digger Bay Road traverses the western portion of the property. The northwest corner of the property is within the mapped boundaries of the Shasta-Trinity National Forest but is private land and not subject to regulation by the Forest Service. The Project site is not within the boundaries of the Shasta Unit of the Shasta-Trinity National Recreation Area.

Photographs of existing conditions where project components would be developed are shown in Figures 2-5a through 2-5c, “Existing Conditions Photographs.”

Existing and Proposed Land Use Designations and Zoning

The Project site is currently designated by the Shasta County General Plan as Mining Resource (MR), Industrial (I), Rural Residential A (RA), Suburban Residential (SR), and Commercial (C) (see Figure 2-6, “Existing General Plan Land Use Designations”). The Shasta County Zone Districts for the Project site are Mineral Resource (MR), Interim Rural Residential (IR), Community Commercial combined with the Design Review District (C-2-DR), and General Industrial (M) (see Figure 2-7, “Existing Zoning Designations”).

As outlined in the Shasta County General Plan (Minerals Element, Policy MR-a) mining operations with 30 years or more of expected operation should be included in the Mineral Resource (MR) land use designation and Mineral Resource (MR) zone district. The policy explains that all parcels involving “extraction, processing, stockpiling, and shipping, and adjacent undeveloped area within the same ownership” shall be included within this zone district.

Approximately 80 percent of the land area within the Project site currently complies with this policy, however, 10 parcels require changes to their existing General Plan and/or zoning designation. Table 2-1, “Existing and Proposed General Plan Designations and Zone Districts,” provides the existing land use designation and zoning of each parcel within the Project site and their respective proposed designation and zoning.

TABLE 2-1: EXISTING AND PROPOSED GENERAL PLAN AND ZONING DESIGNATIONS

APN	ACREAGE	EXISTING		PROPOSED	
		GENERAL PLAN	ZONING	GENERAL PLAN	ZONING
006-770-002	143	MR	MR	MR	MR
006-770-003	143.91	MR	MR	MR	MR
006-770-004	156.66	MR	MR	MR	MR
006-770-005	4.5	MR	MR	MR	MR
065-500-002	151.91	MR	MR	MR	MR
065-500-004	152.05	MR	MR	MR	MR
307-200-002	335.79	MR	MR	MR	MR
307-200-006	7.5	MR	MR	MR	MR
307-200-007	71.7	SR	IR	MR	MR
307-200-010	512.7	MR/I	MR/M	MR	MR
307-200-018	109.62	SR	IR	MR	MR
307-200-019	11.88	SR	IR	MR	MR
307-230-004	3.20	RA/C	C-2-DR	MR	MR
307-230-005	3.39	RA/C	C-2-DR	MR	MR
307-230-006	3.50	RA/C	C-2-DR	MR	MR
307-230-014	40.35	SR	IR	MR	MR
307-230-016	0.02	RA	C-2-DR	MR	MR
307-230-017	0.04	RA	C-2-DR	MR	MR

NOTES: ZONING DISTRICTS: MR = MINERAL RESOURCE DISTRICT; M = GENERAL INDUSTRIAL; IR = INTERIM RURAL RESIDENTIAL DISTRICT; C-2-DR = COMMUNITY COMMERCIAL COMBINED WITH THE DESIGN REVIEW DISTRICT, . **GENERAL PLAN DESIGNATIONS:** SR = SUBURBAN RESIDENTIAL; MR = MINING RESOURCE; I = INDUSTRIAL; RA = RURAL RESIDENTIAL A.

SOURCE: SHASTA COUNTY. 2004 (SEPTEMBER). SHASTA COUNTY GENERAL PLAN. AMENDED THROUGH SEPTEMBER 2004. REDDING, CA.

As shown in Table 2-1 above, approximately 1,600 acres (86 percent) of the land within the site boundary is designated and zoned as Mineral Resource. The Applicant is proposing a General Plan amendment and zoning amendment for the remaining approximately 250 acres not currently designated as Mineral Resource.

The existing Shasta County General Plan Land Use Designations for the Project site are shown in Figure 2-6. The existing Shasta County Zone Districts for the Project site are shown in Figure 2-7. Figures 2-8 and 2-9 show the proposed General Plan Land Use Designations and Zoning Designations, respectively.

2.0 PROJECT DESCRIPTION

PROPOSED GENERAL PLAN AND ZONING TEXT AMENDMENTS

At the present time both the Shasta County General Plan and the Shasta County Zoning Plan have requirements which limit the maximum length of time for Use Permits for mining operations to thirty years. The Applicant has requested that these specific time limits be deleted from both the General Plan and the Zoning Plan.

Policy MR-n of the General Plan currently reads as follows:

MR-n An operating term shall be required for each mining use permit. This would set a defined length of time during which mining may occur. Any extensions beyond the permit expiration would require further environmental review and discretionary approval. The term of mining should be balanced so as to allow sufficient time for the operator to amortize investments, without sacrificing regulatory effectiveness. The maximum length of time for which any mining permit may be approved is 30 years.

The applicant has requested deletion of the final sentence of this Policy.

Shasta County Code Section 17.88.020 (F) currently reads as follows:

17.88.020 F. An operating term shall be required for each mining use permit. This would set a defined length of time during which mining may occur. Any extensions beyond the permit expiration would require further environmental review and discretionary approval. The term of mining should be balanced so as to allow sufficient time for the operator to amortize investments, without sacrificing regulatory effectiveness. The maximum length of time for which any mining permit may be approved is 30 years.

The applicant has requested deletion of the final sentence of this Code Section.

SURROUNDING LAND USES

Interstate 5, a north/south freeway, is the closest major public roadway to the Project site, and is located less than one-quarter mile from the eastern boundary of the Project site, as shown in Figure 2-4.

The Project site is surrounded by undeveloped land with limited rural residential properties to the northeast, south, southeast, and southwest as shown on Figure 2-4 and described in greater detail below. Several other mines are located nearby, with the closest (Falkenbury Shale Quarry) approximately 1.5 miles to the northeast (see Figure 2-4).

Surrounding land uses (listed in accordance with their direction relative to the Project site) include:

- North: Federal land managed by the U.S. Forest Service, including the Shasta-Trinity National Forest, and the Shasta-Trinity National Recreation Area.
- Northeast: Lehigh Southwest Cement Company's Falkenbury Quarry.
- East: Residences and commercial development on Wonderland Boulevard and the Interstate 5/Old Oregon Trail interchange. The closest residence to

the proposed processing plant site in this direction is about 2,700 feet (0.51 mile) away on Flintstone Avenue.

- Southeast: Vacant land in the City of Shasta Lake, which is planned for a mix of highway-oriented commercial development as well as residential development.
- South: Vacant land (owned by the applicant) and residences. The closest residences to the proposed south pit in this direction are about 2,000 feet (0.38 miles) away on Oak Avenue and on Oliver Street and about 3,400 feet (0.55 mile) away on Walker Lane. The closest residence to the proposed processing site in this direction is approximately 4,100 feet (0.78 mile) on Black Canyon Road.
- Southwest: Vacant land (owned by the applicant) and residences. The closest residence to the proposed south pit site in this direction is approximately 1,600 feet (0.3 mile) away on Pickard Street.
- West: Vacant land (owned by the applicant) and residences. The closest residence to the proposed north pit site in this direction is approximately 5,000 feet (0.95 mile) away on Lake Boulevard.
- Northwest: Federal land managed by the U.S. Forest Service, including the Shasta-Trinity National Forest, and the Shasta-Trinity National Recreation Area. The Shasta Lake boat launching areas of Centimudi and Digger Bay Marina are approximately one mile from the proposed north pit site. Shasta Dam is approximately 8,400 feet (1.6 miles) northwest of the proposed north pit site.

2.2 PROJECT PURPOSE AND OBJECTIVES

PURPOSE AND NEED FOR THE PROJECT

The availability, consumption, and demand for aggregate resources in California are issues of concern for both planning and transportation agencies as well as construction and building industries throughout the state. Aggregate resources provide the construction materials necessary for a wide range of public works and private-sector construction projects. The availability and consumption of aggregate resources is critical to the maintenance and growth of the State and local economy and infrastructure.

Pursuant to state mandate, the California Geological Survey (CGS) published a report entitled, *Aggregate Availability in California*, in 2002, with subsequent updates in 2006 and 2012, documenting the projected 50-year supply and need for aggregate resources in each production construction region (i.e. County, portion of County) of the state. According to the CGS report, Shasta County needs a total of approximately 93 million tons of aggregate through 2062. Shasta

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County's current aggregate reserves (resources that have been permitted for mining) represent only 56 percent of this 50-year demand (approximately 41 million tons).

The Project site contains subsurface materials (soils and rock) that are suitable for use in the production of aggregate materials, including ready-mix concrete, asphalt concrete, and raw hard rock materials suitable for use in roadbeds and other aggregate construction materials. The Project Applicant estimates that approximately 175 million tons of aggregate material is located on the site in areas suitable for extraction and recovery over the 100-year operational life of the quarry. In addition to the presence of aggregate materials on the Project site, the Project site is located immediately adjacent to Interstate 5 and an existing Union Pacific rail line, both of which would facilitate the transport and distribution of aggregate materials throughout the County, state, and region via truck and rail.

PROJECT GOALS AND OBJECTIVES

Consistent with CEQA Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the Project shall be discussed. The Project Applicant has identified the following goals and objectives for the proposed Project:

1. Create a long-term, dependable source of high-quality aggregate to meet the current and projected demand for construction materials within the intended market area, including Shasta County and the northern California region, through truck and rail haul of aggregate material.
2. Secure the ability to mine and process a known high-quality aggregate resource and establish a new, long-term supply of aggregate reserves capable of producing construction aggregate products such as riprap, ballast, aggregate base, asphalt concrete, and ready-mix concrete.
3. Provide for a maximum annual permitted sales level of two million tons of aggregate material to meet regional and local market demand.
4. Mine in a location that contains sufficient buffer distances from incompatible adjacent land uses (i.e., schools, residences, other receptors) so that hard rock mining activities, which include blasting and nighttime load-out operations, minimize substantial land use incompatibilities with existing uses and potential future uses that are consistent with existing land use and zoning designations.
5. Minimize impacts on wetlands and significant cultural resources, and avoid impacts to Shasta Lake watershed.
6. Locate the Project near the intended local market area and major transportations corridors (including Interstate 5 and the Union Pacific rail line), thereby reducing current and future truck traffic and associated impacts on local roadways.

7. For products distributed outside of the county, use an alternative transportation method for aggregate distribution (i.e., rail haul) reduces additional strain on County infrastructure.

2.3 PROJECT DESCRIPTION

OVERVIEW

The Applicant proposes to develop a hard rock quarry, aggregate processing facility, ancillary aggregate product facilities (e.g., ready-mix concrete plant, asphalt concrete batch plant, and recycled construction materials plant), and aggregate truck and railcar load-out facility within the approximately 1,850-acre Applicant-owned property. Products would include ready-mix concrete grade aggregate products as well as other construction aggregate products such as riprap, ballast, aggregate base, asphalt concrete, and ready-mix concrete.

Production and distribution goals include shipping approximately 1.5 million tons of aggregate annually via rail to regional markets and distributing 0.5 million tons of aggregate and finished products (e.g., ready-mix concrete, asphalt) annually to local markets via trucks. The maximum annual sales proposed for aggregate from the Project would be two million tons per year. The Project is planned to operate for 100 years and would generate approximately 175 million tons of aggregate material over the operational life of the quarry.

Following the completion of mining activities at the Project site, reclamation, including revegetation would be implemented. As mining activities within areas of the site are completed, concurrent reclamation activities may occur as other areas of the site continue to be mined. The Reclamation plan, including the revegetation plan, is a component of the proposed Project; both, are described in greater detail below and are contained in **Appendix C**.

MINING AND PROCESSING OPERATIONS DESCRIPTION

This section describes the specific components of the operation. Figure 2-10, "Site Plan," shows the locations of site facilities and proposed mining activities. Figure 2-20 provides a graphic depiction of the mining process proposed for the Project. This mining process is also depicted in the flowchart provided below.

MOODY FLATS QUARRY

Mining Process Flow Chart

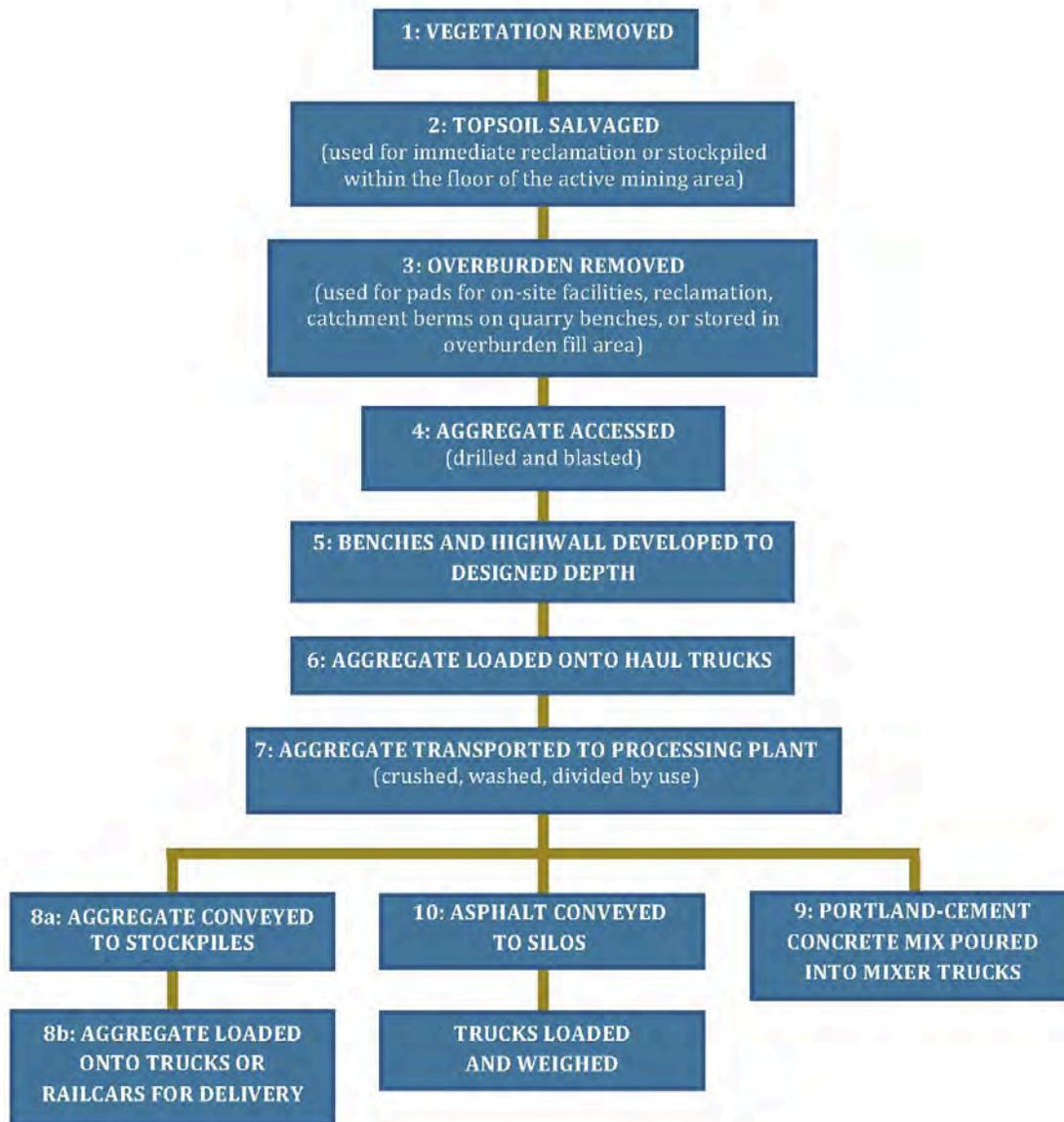


Table 2-2, “Quarry and Reclamation Plan Data Summary,” summarizes the key components of this Project.

TABLE 2-2: QUARRY AND RECLAMATION PLAN DATA SUMMARY

DESIGN/OPERATING CHARACTERISTICS	DESCRIPTION/PARAMETERS/ASSUMPTIONS	
OPERATIONAL ACTIVITIES		
Quarrying	Excavation through drilling, blasting, and heavy equipment operation	
Processing	Aggregate processing, asphalt batch, ready-mix concrete, and recycled materials plants; truck and rail load-out, and settling ponds	
Reclamation	Grading, overburden/topsoil replacement, and revegetation	
QUARRY AND RECLAMATION DATA		
Acreages		
Total Project Site Acreage	1,850± acres	
Site Disturbance Acreage		
North Pit	220± acres	
South Pit	65± acres	
Overburden fill area	60± acres	
Primary processing plant	15± acres	
Secondary and ancillary Processing and load-out area	60± acres	
Access and maintenance roads	10± acres	
Additional areas of surface disturbance	372± acres	
Total disturbance	802± acres	
Volume		
Annual quarry production (mined)	2.2± million tons	
Annual quarry production (sold)	2± million tons	
Volume of reserves	175± million tons	
Overburden and process waste	5-10 percent of total reserves (stored onsite for future reclamation activities)	
Operations Period¹		
Mining	100 years ⁵	
Final reclamation	5 years	
Processing Plants and Loading Operations	May continue operation indefinitely beyond the 100 year life of the quarry	
Quarry Dimensions	North Pit	South Pit
Approximate maximum length	4,300 feet	2,500 feet
Approximate maximum width	3,000 feet	1,600 feet
Maximum depth (bgs)*	800 feet 425 feet	
Typical Operating Hours^{2, 3, 4}		
Quarry, Primary Processing Plant, Secondary and Ancillary Processing Plant	6:00 a.m. to 10:00 p.m. Monday–Friday, 6:00 a.m. to 3:00 p.m. Saturdays	

DESIGN/OPERATING CHARACTERISTICS	DESCRIPTION/PARAMETERS/ASSUMPTIONS
Asphalt Concrete Plant and Ready Mix Concrete Plant	May – October: 4:00 a.m. to 6:00 p.m. Monday-Friday, 6:00 a.m. to 3:00 p.m. Saturday
	November – April: 5:30 a.m. to 6:00 p.m. Monday – Friday, 6:00 a.m. to 3:00 p.m. Saturday
Material load-out and off-haul	Aggregate - 6:00 a.m. to 10:00 p.m. Monday–Friday, 6:00 a.m. to 3:00 p.m. Saturdays Asphalt Concrete – 5:00 a.m. to 5:00 p.m. Monday – Friday, 6:00 a.m. to 3:00 p.m. Saturday Cement Concrete – 3 a.m. to 5:00 p.m. Monday – Friday, 6:00 a.m. to 3:00 p.m. Saturday
Railcar load-out and off-haul	24 hours a day, 7 days a week
Blasting	9:00 a.m. to 4:00 p.m. Monday – Friday
Reclamation Areas	
Open Space	378± acres of disturbed area would ultimately be reclaimed as open space. Some reclamation activities may occur concurrent with mining activities

* **Notes:** bgs = below ground surface

¹ Mining and reclamation may be completed within a shorter time frame depending on market demand for the product, but would not extend beyond the proposed 100-year project life of the quarry.

² Maintenance of mobile and plant equipment extends beyond these hours.

³ During periods of public emergency affecting the health and safety of the community, continuous 24-hour daily operations may be required.

⁴ Major projects, for example Caltrans freeway repairs, may be required to be completed during night hours or on weekends to avoid traffic conflicts. Such projects may require processing and loading operations beyond the hours shown.

⁵ The General Plan and County Code both presently limit mining permits to 30-year operational periods. (See General Plan MR-n at p. 6.3.013 and Shasta County Code § 17.88.020(F) (both stating “The maximum length of time for which any mining permit may be approved is thirty years”).) As part of this Project, the Project Applicant seeks amendment of the relevant General Plan and County Code provisions to remove this 30-year limit and to allow for continuous operation of the Project over the entire proposed 100-year operational period.

As shown in the table above and on Figure 2-10, there are two areas within the Project site that would be mined for aggregate materials; the South Pit and the North Pit. Each of these mining areas is described in greater detail below.

SOUTH PIT

The South Pit would encompass approximately 65 acres, and is most likely the area of the Project site where mining activities would start. Figure 2-10 shows the location of the South Pit within the context of the Project area. Figure 2-11 shows a cross section of the South Pit, which depicts the topography and ground surface elevations of this area under existing conditions, and shows the final topography of this area after mining has occurred. The South Pit is currently a hill with a peak elevation of approximately 1,380 feet above mean sea level (amsl), and a lower base elevation of approximately 1,050 feet amsl. Mining activities would remove the hilltop, and ultimately create a mining pit with a base elevation of approximately 950 feet amsl at the bottom of the pit. The western side of the South Pit would be a “stepped” hillside with an overall maximum slope of approximately 1.4:1 (1.4 horizontal to 1 vertical), resulting in “steps” that are approximately 50 feet tall and 50 feet wide. The western side of the South Pit would have a peak elevation of approximately 1,250 feet amsl following the completion of mining activities, which would step down and to the east until reaching the floor of the South Pit at an elevation of approximately 950 feet amsl. The eastern side of the South Pit would have a maximum elevation of approximately 1,050 feet amsl following completion of mining activities.

NORTH PIT

The North Pit would encompass approximately 220 acres. Figure 2-10 shows the location of the North Pit within the context of the Project area. Figure 2-11 shows a cross section of the North Pit, which depicts the topography and ground surface elevations of this area under existing conditions, and shows the final topography of this area after mining has occurred. The western portion of the North Pit is currently a sloped hillside with a maximum existing ground surface elevation of approximately 1,950 feet amsl. The hillside slopes downward to the east, and generally levels out at an elevation between 1,350 and 1,400 feet amsl. Mining activities would generally follow the existing slopes and contours of the North Pit’s existing topography, removing approximately 100-250 feet of materials along the contours of the slope and the base of the hillside. The western side of the North Pit would be a “stepped” slope or hillside, with an overall maximum slope of approximately 1.4:1 (1.4 horizontal to 1 vertical), resulting in “steps” that are approximately 50 feet tall and 50 feet wide. The western side of the North Pit would have a peak elevation of approximately 1,950 feet amsl following mining activities, which would step down and to the east until reaching the floor of the North Pit at an elevation of approximately 1,175 feet amsl. The eastern side of the North Pit would have a maximum elevation of approximately 1,325 feet amsl following the completion of mining activities.

QUARRY PLAN AND OPERATIONS

Removal of Vegetation, Topsoil, and Overburden

Before the aggregate is removed, vegetation would be removed in the immediate working areas and managed on-site. It would be retained as much possible on site to be used as a soil amenity for future soil replacement and/or mulched for erosion control, depending on the type of vegetation removed. Topsoil salvaged from the site would be retained and stored in a viable

condition and used for reclamation. If areas for concurrent or final reclamation were available, then topsoil would be used for those immediate purposes.

Otherwise topsoil would be stockpiled separately from overburden within the active mining area for future distribution on completed benches or the quarry floor. Topsoil used in concurrent and final reclamation could be amended with silts and fines from silt ponds and stormwater facilities if necessary and available.

After the topsoil is stripped and stockpiled, any overburden (i.e., soil and other weathered aggregate material not suitable for sale or blending) would be removed. The Applicant estimates that about 8 million cubic yards of overburden material may be excavated over the 100-year life of the Project. Overburden materials would consist of material not suitable for use in aggregate production, silt material from the aggregate washing system, and silts excavated during maintenance of stormwater control systems. Depending on market conditions, some overburden could be sold as product.

Some overburden materials would be used to construct pads for permanent on-site facilities and for use in concurrent and final reclamation. Approximately four million cubic yards of overburden are anticipated to be necessary to construct catchment berms on quarry benches and fill for equipment and processing facility pads. The remaining overburden would be permanently stored in the overburden fill area. After the vegetation, topsoil, and overburden is cleared in the active operations area, aggregate removal would begin.

OVERBURDEN FILL AREA

The overburden fill area would encompass approximately 60 acres, and would be located immediately east of the North Pit, and north of the South Pit. Figure 2-10 shows the location of the proposed overburden fill area. Figure 2-12 shows a cross section of the overburden fill area, which includes the existing ground surface levels and the final ground surface levels following the completion of mining activities and the placement of overburden materials in this area. As shown in Figure 2-12, the overburden fill area is currently a gentle slope decreasing in elevation from west to east, with a small depression located near the center of the 60-acre area. The existing elevation on the western edge of this area is 1,200 feet above mean sea level (amsl) and the elevation on the eastern edge is 1,000 feet amsl. The lowest elevation is approximately 950 feet amsl, near the center of the overburden fill area. Following the placement of overburden materials in the overburden fill area, a mounded hill, approximately 60 acres in size would be created. The maximum elevation would be approximately 1,300 feet amsl, as shown in Figure 2-12.

Excavation and Blasting

Operations at the site would use conventional mining practices common in the industry. Quarrying would begin by establishing a working bench. As the initial bench is excavated laterally along the top slope of the quarry face, a new bench would be excavated concurrently at the next lower level. The benches would be excavated until final quarry elevations are reached for the mined bench; successive benches would be developed as the quarry is excavated downward. The quarry would be excavated in benches, with a maximum bench height of 50 feet and a minimum

bench depth of 50 feet, with an overall (stepped) slope of approximately 1.4:1 (1.4 horizontal to 1 vertical) (see Figure 2-13, "Conceptual Quarry Excavation Cut Slope"). The South Pit maximum depth of excavation would be approximately 425 feet below ground surface (950 feet amsl) and the North Pit maximum depth of excavation would be 800 feet below ground surface (1,175 feet amsl).

Mineral reserves would be removed through a combination of drilling, blasting, and excavation equipment. All blasts would occur during daylight hours and only on regular business days (not on weekends or federal holidays). The transportation, storage, and handling of materials used for blasting would be performed or supervised by a licensed blasting expert contracted or employed by the Operator. Materials used for blasting, typically ammonium nitrate and fuel oil (ANFO), could be stored on-site.

The Applicant would comply with all federal (i.e., U.S. Bureau of Alcohol, Tobacco, Firearms, and Explosives) and local law enforcement (i.e., Shasta County Sheriff's Department) regulations regarding transportation, storage, use, and detonation of blasting materials.

Loaders or similar excavating equipment would be used to remove the aggregate for processing after blasting. Blasted rock would be loaded onto haul trucks and transported to or within the primary processing plant adjacent to the active pit.

PLANT FACILITIES AND EQUIPMENT

Primary Processing Plant

Blasted/excavated rock from the active quarry area would be transported via loader or haul truck to an aggregate plant for primary processing. A primary crusher/feeder would be located within the active quarry or primary processing plant area to initiate processing (see Figures 2-10 and 2-14). The material discharged from the primary crusher would be moved along a series of conveyors to a large surge pile. Raw feed from the surge pile would be drawn from a tunnel system under the surge pile and conveyed to the secondary and ancillary processing and load-out area.

Secondary and Tertiary Processing Plant

The secondary and tertiary processing plant would be located within the secondary and ancillary processing and load-out area (see Figures 2-10 and 2-14) and able to process up to 1,000 tons of aggregate per hour. Figure 2-14 shows a detailed site plan for the secondary and ancillary processing and load-out area. Aggregate material would be separated using a large vibrating screen to isolate the larger material. The larger material would be reduced to a smaller size in a secondary cone crusher. Smaller material would be screened out as base material or conveyed for additional screening and reduction in tertiary crushers. The material would then be conveyed to the dry finished product screens, where the material would be used to make asphalt materials, or to the washed finished product screens, where the material would be used to make concrete aggregates and other washed materials. The smaller fractions of these materials may be washed in a sand screw tank to remove clays and mineral fines and, ultimately, to make concrete sand.

Wash water containing suspended fines from the wet plant (used for washing aggregate material) would be piped to a settling pond and/or water clarifying system. If a water clarifying system is used, the fines would be separated and slurried to a belt press system where additional water would be removed to create a stackable fines product. The fines material would be sold as product, mixed with overburden and/or topsoil for use in reclamation (if necessary or appropriate), or transported and deposited into the overburden fill area. If a settling pond system is used, periodic cleaning of the pond would be required to remove fines that have settled. These fines would be used in a manner similar to the water clarifier fines discussed above. The cleaned water from the settling ponds and/or clarifying system would be continuously recycled back through the wet plant or used to control dust on-site.

The various finished materials produced at the plant would be conveyed into separate stockpiles. Tunnels containing conveyors would be situated beneath the asphalt aggregate and concrete aggregate stockpiles. The aggregate in these stockpiles would be fed into the asphalt concrete batch plant and ready-mix cement concrete plant.

Haul Truck Loading and Off-Haul

Empty haul trucks would enter the Project site from Wonderland Boulevard onto a private access road. Haul trucks would travel on the access road to the secondary and ancillary processing and load-out area for loading. Sorted stockpiled aggregate products not used for asphalt concrete or cement concrete would be loaded into empty trucks with mobile equipment, load-out bins, or conveyors. The full trucks would be weighed at an on-site truck scale and ticketed for delivery off-site.

Asphalt Concrete Batch Plant

The asphalt concrete batch plant would be located within the secondary and ancillary processing and load-out area (see Figure 2-14). The asphalt concrete batch plant would have the capacity to produce approximately 200 tons of asphalt per hour and a maximum of approximately 220,000 tons per year. Aggregate material would be fed from the aggregate stockpiles. The plant would heat and dry the aggregate in a rotary dryer fueled by liquid propane gas. Exhaust gases and suspended dust would be blown through sealed ductwork to a baghouse system for collecting pollution. The processed dust would be removed and recycled back into the asphalt concrete product. A percentage of recycled asphalt concrete product may be added to the mix at this point, along with hot asphaltic oil. Next, the finished product would be transported up to an enclosed drag-slat conveyor and then to a set of insulated and sealed load-out silos. The trucks would be loaded and weighed within the sealed silos to minimize air emissions.

Ready-Mix Concrete Plant

The ready-mix concrete plant would be located within the secondary and ancillary processing and load-out area (see Figure 2-14). This plant would produce approximately 200 tons of ready-mix concrete per hour and a maximum of approximately 280,000 tons per year. Aggregate material would be fed from the aggregate stockpiles and sent to the batch tower. Aggregate, Portland cement, and water would be separately weighed and blended in a mixer. Dust generated within

the plant would be drawn through a baghouse system and returned to the concrete product. The ready-mix concrete would be poured into mixer trucks, and then the loads would be ticketed and sent to their destination.

Recycle Plant

The recycle plant would be capable of crushing asphalt concrete, broken Portland cement concrete, and a combination of asphalt concrete and Portland cement concrete. The plant could produce recycled base rock and/or recycled asphalt product for recycling back into the hot mix asphalt plant. Actual production at the plant would depend on the available supply of material for recycling.

Recycle materials generated from construction demolition sites throughout the region would be trucked in and stockpiled next to the recycle plant area. Material would be loaded into the feeder by wheel loader. A grizzly (gravity-fed sorting chute) would remove the fines and direct the larger material to the jaw crusher. The jaw would be wide enough to accept large slabs and could reduce the slabs to a conveyable material. Once on the main belt, a large magnet downstream of the crusher would pull off any rebar or steel present in the crushed material. The rebar and steel would be collected and sent to a metal recycler.

The material would be sent over a screen deck to be sized and separated and oversize material would go to another crusher to be further reduced and recirculated to the screen deck. The throughput material would be conveyed to a stockpile. Recycled base product would be loaded onto trucks and sent to the truck scales for weighing and ticketing. Finished recycled asphalt product would be sent to the asphalt plant for recycling into the asphalt.

Equipment

Table 2-3, "Typical Site Equipment," describes the types of processing plants and mobile equipment that would typically be used in Project operations.

TABLE 2-3: TYPICAL SITE EQUIPMENT

EQUIPMENT ¹	FUEL	USES
MINING OPERATIONS		
Scrapers	Diesel	Removal of topsoil and overburden
Dozers	Diesel	Stripping, reclamation, and surge feed to shovels/loaders
Blast-hole drill rigs	Diesel	Drilling holes for blasting
Bulk emulsion distribution truck	Diesel	Loading bulk blasting materials into drill holes
Hydraulic shovels or front-end loaders	Diesel	Loading haul trucks at quarry face
Haul trucks	Diesel	Hauling raw aggregate material from quarry face to primary crushing area
Excavator with hammer	Diesel	Breaking down oversized rocks
Motor grader	Diesel	Maintaining access and haul roads

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EQUIPMENT ¹	FUEL	USES
Water truck	Diesel	Watering haul road and access roads
ROCK PROCESSING PLANT OPERATIONS²		
Primary crusher and grizzly feeder	Electricity	Reducing oversized rocks to approximate size for conveyor transport
Pit conveyor	Electricity	Conveying raw materials to raw material stockpiles at the primary processing plant
Secondary, tertiary cone crushers	Electricity	Reducing rock to product's specification sizes
8 x 24 dry screens	Electricity	Sorting rock to specified sizes
8 x 24 wet screens	Electricity	Washing and sorting rock to specified sizes
Plant conveyors	Electricity	Transferring material between processes
Stockpile conveyors	Electricity	Stockpiling finished aggregate for load-out
Overland conveyor	Electricity	Conveying aggregate material to secondary and ancillary processing and load-out area
Load-out silos	Electricity	Loading processed aggregate, asphalt, and ready-mix materials onto trucks for delivery off-site
Front-end loaders	Diesel	Loading processed aggregate materials onto trucks for delivery off-site
Water truck	Diesel	Watering stockpile area and access roads
Asphalt concrete batch plant	Electricity and Natural Gas	Manufacturing asphaltic concrete from rock products produced on-site and from asphalt oil delivered and stored on-site
Ready-mix concrete plant	Electricity	Manufacturing ready-mix concrete using rock products produced on-site and Portland Cement delivered and stored on-site
Recycled materials plant	Electricity	Manufacturing recycled products using asphalt and concrete delivered from off-site
Portable diesel generator	Diesel	Providing power to temporary and/or portable processing plant
Cement storage silo	NA	Storing cement
Portland cement storage silo	NA	Storing cement
ADMINISTRATIVE EQUIPMENT		
Scales	Electricity	Weighing trucks for sales tonnage
Office	Electricity	Administering mine operations
Shop	Electricity	Maintaining equipment
Pickups/mechanics trucks	Gas/Diesel	Implementing maintenance and administrative work

EQUIPMENT ¹	FUEL	USES
FUEL STORAGE		
Aboveground diesel fuel storage tanks (two 5,000 gallon or one 10,000 gallon)	N/A	Storing fuel for mobile and stationary equipment
Fuel pump	Electricity	Transferring fuel from storage tank
Aboveground gasoline tank (one 2,000 gallon))	NA	Storing fuel for trucks and mobile equipment
Aboveground asphalt oil storage tank (four 5,000 gallon or two 10,000 gallon))	NA	Storing asphalt oil for use in manufacturing of asphaltic concrete
Natural gas storage tank (2,500 – 5,000 gallon capacity)	NA	Storing natural gas

Notes: N/A = not applicable.

¹ Equipment would be purchased at the time it is needed and may differ somewhat from equipment listed here.

² Aggregate processing equipment would receive power from diesel generators at the start of operations.

The type of vehicles used would vary somewhat over time depending on availability, the introduction of new models to suit different on-site conditions, and the need to perform specific, short-term quarry or reclamation tasks.

Rail Siding/Spur Operations and Load-Out

The Project would result initially in the construction of three rail lines roughly parallel with the main Union Pacific railroad line: an inbound track, load-out track, and storage track. A fourth track, the runaround track, may be constructed in the future. At full buildout, the rail siding/spur facility would have the capacity to load two trains a day. Each train would have 80 railcars. Each rail car could hold approximately 100 tons of aggregate; therefore, each train could transport approximately 8,000 tons of aggregate per trip.

Union Pacific Railroad would deliver empty railcars to the quarry. The delivered cars would be moved onto the inbound track and then divided between the loading and storage tracks. The Operator would then load aggregate product via mobile equipment or conveyor into empty railcars on the loading track. Once the rail cars are loaded a locomotive would move the full cars to the storage track and empty cars to the loading track. Once all railcars are loaded, they would be attached to a locomotive and routed south, back onto the Union Pacific Railroad mainline for transport to the regional market. Loaded trains would only be routed north under rare and emergency circumstances.

The Project would ship approximately three-quarters of its finished aggregate products to regional sites via rail, and would add rail cars totaling less than one train trip per day to the existing level of rail use. Union Pacific Railroad has been running trains along the rail line at the Project site since the early 1900's. Peak rail traffic, ranging between 18 and 20 train trips per day, took place during 2005-2007. Although in the wake of the economic downturn starting in 2008, rail transport has decreased to roughly 12 trips per day, the rail line has historically experienced the more extensive baseline use of up to 20 trains per day. Accordingly, the additional rail trips that the Project would

contribute to Union Pacific's existing rail operation impacts would fall easily within this baseline of operations.

Ancillary Facilities

Stationary equipment and structures would be located within the secondary and ancillary processing and load-out area. Up to four buildings could be used for such things as administrative offices, aggregate material testing, storage shed for equipment and small-quantity fuels, and/or maintenance shop. An equipment maintenance and fuel storage site would service on-site equipment and fuel trucks for off-site deliveries. Tanks for diesel, oil, and hydraulic fluids would be sited in this area.

OPERATIONAL DETAILS AND ANCILLARY FACILITIES

Project Reserves and Production

The Applicant is proposing a 100-year Project with maximum annual sales of two million tons (approximately 840,000 cubic yards) per year. Sufficient reserves (approximately 175 million tons) are within the proposed Project site to support marketing up to two million tons of aggregate material annually for 100 years. Peak daily aggregate production would not exceed processing of approximately 26,000 tons of aggregate. The asphalt concrete batch plant and ready-mix concrete plant would have individual daily maximum productions of approximately 3,200 tons. Actual production rates would vary, depending largely on aggregate consumption in the local and regional markets. Although sales would not exceed two million tons per year, annual sales in some years could be substantially less than proposed maximum annual levels. Operation of the asphalt concrete batch plant and the ready-mix concrete plant may continue indefinitely beyond the 100-year life of the quarry operations.

Operating Schedule and Work Force

Typical Project operating hours (mining activities) would be from 6:00 a.m. to 10:00 p.m. (16 hours per day), Monday through Friday, and 6:00 a.m. to 3:00 p.m. on Saturdays, year round. Processing, load-out, and hauling of aggregate material off-site and loading of railcars would occur up to 24 hours a day, seven days a week. To accommodate the California Department of Transportation and other public agency projects, the asphalt batch and ready-mix concrete plants may also operate and load-out material 24 hours a day, seven days a week, 365 days per year.

The proposed Project, including mining, processing, and administrative functions, would employ between 25 and 50 people. Employees would be primarily skilled workers in the construction materials industry, such as heavy equipment operators, maintenance personnel, and support staff.

Access and Project Traffic

Vehicles would enter and exit the Project site using a paved private access road that would connect to Wonderland Boulevard via the Interstate 5/Mountain Gate off-ramp (shown in Figure 2-10). Access to the Project site would be controlled by a gate at the entrance to the Project site.

The gate would be closed and locked when the Project is not actively operating. Haul roads within the site would be paved or surfaced with gravel or hard-packed dirt.

Aggregate material that is not transported off-site via rail would be hauled typically in 25-ton trucks to its destination. The regional road system near the Project is shown in Figure 2-16. The maximum daily vehicle and truck trips generated by the Project are provided in Table 2-4.

TABLE 2-4: PROJECTED TRIP GENERATION

USES	AXLES	DAILY TRIPS (ROUND-TRIPS) ⁶	AM (PEAK)		PM (PEAK)	
			ENTERING	EXITING	ENTERING	EXITING
BUILDOUT						
Facility employees ¹	2	24	5	5	5	5
Ready-mix trucks ²	3 or 4	178	18	18	2	2
Asphalt trucks ³	5	128	10	10	1	1
Aggregate trucks ⁴	5	200	20	20	2	2
Cement trucks	5	7	2	2	1	1
Liquid asphalt/propane trucks	5	9	2	2	1	1
Recycled material trucks	5	7	2	2	1	1
Fuel trucks	5	3	1	1	0	0
Outside services ⁵	2	4	0	0	0	0
Buildout total	--	560	60	60	13	13
PARAMETER	TRIP GENERATION (ROUND-TRIP ⁶)			PEAK HOUR		
	ANNUAL	MAXIMUM DAILY	AM	PM		
ANNUAL TRAIN TRIPS						
Aggregates (export market)	200	2	N/A	N/A		

Notes:

¹ Estimate based on a maximum of 24 employees operating entire facility (aggregate plant, ready-mix, and asphalt).

² Ready-mix concrete truck capacity of 18.2 tons per truck; assume sales of 3,300 tons per day equaling a maximum of 178 trips per day.

³ Assume 25 tons per truck and maximum daily sales of 3,200 tons per day (or a maximum of 128 trips per day).

⁴ Aggregate based on estimates for maximum sales per day of 5,000 tons per day (or a maximum of 200 trips per day).

⁵ Outside deliveries (e.g., FedEx), subcontractor services.

⁶ Round-trip is defined as an empty vehicle entering the site, picking up material (i.e., asphalt, ready-mix concrete), and exiting the site.

⁷ Based on 80-car unit train with 100-ton capacity per car.

A second site access point would connect to Digger Bay Road, near the northwest corner of the site. This access point would be limited to access for equipment, material used for blasting (typically ammonium nitrate and fuel oil (ANFO)) delivery and employee traffic when operations necessitate such access, primarily during operation of the North Pit. No material transport would occur on this access road.

Emergency access to and from the site would not only be provided by the access points from Wonderland Boulevard and Digger Bay Road, but also one emergency-only access road. The emergency-access road follows the rail spur/siding to the southeast corner of the site to an existing access road for the UP mainline as shown in Figure 2-10.

Fuels

Trucks and other mobile equipment would be run on diesel and gasoline. Diesel and gasoline fuels would be stored on-site in aboveground tanks (see Table 2-3 above) on an impervious surface with secondary containment, as required by existing regulations. Diesel fuels would be necessary for most mobile equipment and during the temporary use of diesel generators at Project start-up.

A mobile fuel and lubrication truck would be used to service vehicles on-site. The fuel/lube truck can carry a limited amount of petroleum products, is equipped with automatic shut-off valves to prevent spills, and carries appropriate absorbent materials to contain and recover spillage. An approved spill prevention, control, and countermeasures (SPCC) plan would guide reporting, control, and cleanup activities in the event of a spill in the quarry or other operating areas.

Utilities and Lighting

Currently, no electrical power is available at the Project site. The Applicant eventually plans to connect to the power grid through the extension of power lines. The Applicant is currently pursuing an agreement with the City of Shasta Lake to provide electrical power to the Project site. As shown in Figure 2-15A, there is an existing City of Shasta Lake 12Kv power line located immediately to the southeast of the Project boundary. Existing power poles and a 3-phase power line are located along Black Canyon Road, extending northwest to the project boundary near the UPRR right of way. As shown in Figure 2-15B, the Applicant proposes to extend the power lines to the west, across the UPRR to provide power to the Project site.

The Applicant would not exceed one million tons of annual production until electrical power was provided onsite by a local service provider. In the interim, portable diesel generators would provide power for equipment on-site. Any future facilities and related surface disturbance necessary to connect with the existing power grid (e.g. poles, substations) would occur within the proposed limits of surface disturbance.

Nighttime operations would require lighting for worker safety. Lights would be positioned in accordance with applicable Occupational Safety and Health Administration and Mine Safety and Health Administration safety standards and in locations that minimize glare and light off-site.

Sanitary Systems

The Project would also include providing sanitary systems using portable chemical toilets in Project areas that require temporary, mobile sanitation (e.g., active quarry area). The Project would install a septic system to service facilities associated with permanent onsite structures and buildings located within secondary and ancillary processing and load out facility.

Site Security and Fencing

All site facilities would be located on private property. The top slope of the quarry highwalls would be fenced and bermed. The site entrance and northwest access point would be gated and fenced. Signage would be provided around the entire property boundary as required to meet federal and state safety requirements, and consistent with the County zoning code. Private security services would be provided if determined necessary by the Operator.

WATER USE AND MANAGEMENT

Project Water Demand

The proposed Project would require water for various components of the operation. In the processing operations, water would be consumed when water is:

- Retained in the product after washing,
- Used to manufacture ready-mix concrete,
- Used to process recycled material,
- Used to wash trucks (aggregate, ready-mix concrete, and asphalt concrete trucks),
- Used by misters to control dust on conveyor belts, and
- Evaporated from the retention basins.

In addition to these water uses in the processing area, water would also be used to control dust in the quarry and on the haul roads. During the initial five to 15 year operating period, the anticipated non-potable water demand for the Project is estimated to be 65 acre-feet per year (afy). After that, at the proposed processing rate of two million tons per year, approximately 254 acre-feet per year of non-potable water is projected to be consumed by the Project. Table 2-5, "Estimated Project Operations Net Water Use at Full Production," provides the estimated water usage for the Project. In addition, between 500 and 1,000 gallons per day of potable water would be required for usage in the office and bathroom by employees.

2.0 PROJECT DESCRIPTION

TABLE 2-5: ESTIMATED PROJECT OPERATIONS NET WATER USE AT FULL PRODUCTION

PROJECT COMPONENT	NET ANNUAL CONSUMPTION (ACRE- FEET PER YEAR)*	
	INITIAL OPERATIONS (5- 15 YEARS)	PEAK PRODUCTION
Dust control in quarry ¹	13	48
Dust control in processing area ²	10	39
Wash water content in product	19	74
Ready-mix concrete	4	17
Evaporative loss	19	77
Net annual usage	65	254

Notes:

* These values are approximate.

¹ Includes dust control for active mining area and haul roads.

² Includes dust control for conveyor belts; the aggregate wash, asphalt concrete batch plant, ready-mix concrete batch plant, and recycling plant; and truck washing.

Project Water Supply

Water for the proposed Project would be developed onsite and supplied by the Project Applicant. Water would come primarily from storm water runoff that would be retained onsite and secondarily from groundwater from wells located or to be located on the Project site.

STORM WATER RETENTION FOR NON-POTABLE WATER SUPPLIES

Two stormwater retention basins with a total capacity of at least 259 acre-feet would be constructed below the North and South Pits. Additional stormwater retention and settling basins would also be constructed on the Project site as needed. The average annual runoff from the North and South Pit areas alone would be more than 800 acre feet per year, which would provide sufficient water supply to meet Project non-potable water demands during peak annual production.

In general, stormwater from the North Pit and the South Pit would be retained within sumps within each pit. Runoff from the Primary Processing Plant would also be directed into the South Pit Sump. These sumps would change in size and location as each pit is developed as mining operations expand and progress across the site. For example, initially the sumps would need to be constructed at the downslope edge of the pit. Once the pits are larger, the sumps would be

relocated within the lowest part of the pits. Water from the sumps within the mine pits would be pumped out of the pits as needed to maintain adequate storage within the sumps to accommodate additional storm water flows. The sumps, however, would be over-sized so that they could also provide storage to meet the Project water needs.

Initially, small disturbance areas, relative to the full Project scope, would occur in the South Pit area, the Primary Processing Plant area, and the access routes. A stormwater retention basin would be constructed near the base of the South Pit to collect stormwater runoff from the South Pit area. Once the South Pit is enlarged, the South Pit Sump would be relocated within the pit. Disturbance in the North Pit area, most of the Overburden Stockpile, and the railroad load-out area would not occur for five to 15 years after the Project is initiated. During the initial five to 15 year operating period, the anticipated non-potable water demand for the Project is estimated to be 65 acre-feet per year. This water demand would be supplied from the initial stormwater system.

The storm water retention system for the proposed Project has been designed and sized to fully accommodate storm water runoff generated on and around the Project site. For example, the nominal dimensions of the South Pit Sump are 250 feet by 250 feet by 50 feet (depth), which is approximately 1.5 acres with a capacity of 78.2 acre-feet. This is an adequate size to retain all stormwater that would flow to this portion of the site. In order to meet the water supply demand of the Project, the dimensions of the South Pit Sump would be expanded to approximately 350 feet by 350 feet by 50 feet (depth) which would double the capacity of the sump. This expansion to the size and dimensions of the South Pit Sump would allow for a full year of initial Project water demand to be retained within the sump, while leaving adequate capacity to retain runoff from a severe storm event.

As production capacity of the quarry increases beyond the initial five to 15 year period of operations, the Project's water demand would increase proportionately. The additional water demand would be met by constructing a stormwater retention basin near the base of the North Pit to collect stormwater runoff from the North Pit area. As with the South Pit, once the North Pit is enlarged, the North Pit Sump would be relocated within the pit. The nominal size of the North Pit Sump would be 400 feet by 400 feet by 50 feet (depth), or approximately 3.7 acres with a capacity of 182 acre-feet, which is sufficient to retain storm water generated in this portion of the Project site. In order to meet the additional water demand that would be generated as mining operations expand across the Project site, which would eventually be 195 acre-feet from the North Pit Sump, the perimeter of the sump would be expanded to approximately 600 feet by 600 feet by 50 feet (depth), or approximately 8.25 acres.

An expanded discussion of the dimensions and capacities of the storm water retention system is provided in greater detail in Section 3.9- Hydrology and Water Quality.

GROUND WATER USE FOR POTABLE WATER SUPPLIES

According to the American Water Works Association, water use in a commercial setting (i.e. toilets and faucets using water-efficient fixtures) is approximately 20 gallons per worker per day. It is

anticipated that the proposed Project would employ between 25 and 50 people. Therefore, the anticipated potable water demand of the Project would be between 500 gallons per day and 1,000 gallons per day.

There is an existing well on the Project site (Well OW-1). Well OW-1 would provide potable water to the office area to supply the needs of both office and bathroom uses on-site. Well OW-1 has a production capacity of two gallons per minute, which is equivalent to 2,880 gallons per day. The Applicant proposes to install above-ground water storage tanks adjacent to Well OW-1 to augment and supplement the potable water supply demands of the Project. Two 10,000-gallon above-ground storage tanks may be used to store potable water.

Water Reclaiming/Recycling

Wash water containing suspended fines from the aggregate plant would be piped to a series of settling ponds and/or a water clarifier system next to the plant. After aggregate is washed, the water would discharge into a sediment pond. This pond would be designed to allow sediment to settle and clean water to overflow and be recycled back through the dewatering process. Periodically, fines would be dredged from the bottom of the pond and used as a binder in base rock production or blended with topsoil and/or overburden material.

If a water clarifier system is used, water would be separated from the aggregate fines in a settling tank and belt press system. The fines would be deposited in the overburden fill area or sold as product if there is a surplus not needed for soil for reclamation. The clean water from the clarifier system would be continuously recycled through the wash plant and back to the clarifier. Using either method, it is estimated that 70 to 75 percent of wash water would be recycled.

PROJECT PHASING

Quarry

The maximum operational life of the quarries is proposed to be 100 years. The Project would include developing two quarry areas; the South Pit and the North Pit, as described in greater detail above. The South Pit would likely be excavated first, and would produce aggregate reserves sufficient to last approximately 20 to 30 years. The adjacent primary processing plant would be constructed simultaneously with initial development and excavation at the South Pit.

Although the Applicant plans to begin operations in the South Pit, environmental constraints, geological factors, and/or economic factors could require quarry activities to begin in the North Pit before quarry activities have concluded in the South Pit. Both the North and South Pits would be developed using a bench/highwall configuration that is typical for hard rock quarries. This configuration is created through successively deeper cuts (benches) in the rock until the design depth is reached. Therefore, no further phasing would be necessary because each pit would be continuously operated.

Production is expected to ramp up as contractual linkages to customers are established in local and regional markets. Capital investments would be made in order to supply demand for

aggregate products. A permanent electrical supply would be established before aggregate production exceeds one million tons per year. As volumes increase near the one million tons per year level and customer contracts in regional markets are established the railroad load-out facility would be constructed, which would allow for full production at the site to occur.

Actual production volumes at the site would vary year to year based on market demands, but would not exceed one million tons a year until electricity is established onsite at which time production could be increased to a maximum of two million tons per year.

Secondary and Ancillary Processing, Load-Out, and Overburden Fill Area

The secondary and ancillary processing, load-out, and overburden fill area and the rail siding/spur would be developed concurrently with mining operations to occur within the first five to 15 years (see Figure 2-10, "Site Plan" and Figure 2-14, "Secondary and Ancillary Processing and Load-Out Area.")

The secondary and ancillary processing and load-out area would be developed in two phases. The first phase would include developing a pad on the northeast side of Moody Creek for a portable secondary and tertiary processing plant, ready-mix concrete plant, asphalt concrete batch plant, and aggregate load-out facility that would include a truck scale and scale house. Initially, stationary equipment would be operated using portable generators. Construction of the access road and rail siding/spur would be completed during this phase in addition to connecting to the electricity grid to power stationary facilities. The rail siding/spur facility would include construction of an inbound track, a loading track, and a storage track. Portable trailers would be brought on-site for use as temporary office facilities. This first phase is anticipated to last between five and 15 years depending on market demand for aggregate products, economic factors, and mitigation measures/conditions of approval imposed during the environmental review process.

The second phase would include diverting Moody Creek and expanding the secondary and ancillary processing and load-out areas sufficient to meet the demand of producing two million tons of aggregate annually. The expansion would include installing a permanent secondary and tertiary processing plant, and building permanent office facilities. If sufficient aggregate demand in the region warrants expanding the rail siding/spur facility, a fourth track (i.e., a runaround track) would be constructed.

RECLAMATION PLAN

Mine reclamation is required by the California Surface Mining and Reclamation Act (SMARA). SMARA requires mines to be reclaimed to a usable condition that is readily adaptable for a productive alternative land use. The reclaimed mine must also create no danger to public health or safety. A reclamation plan has been submitted as part of the application materials in compliance with SMARA regulations, and is attached as **Appendix C**.

The anticipated land use following reclamation varies based on its use during active mining. As shown on Figure 2-17, approximately 378 acres of the disturbed portion of the Project site would be reclaimed following mining operations.

2.0 PROJECT DESCRIPTION

The North and South Pits, overburden fill area, and primary processing plant would be returned to an open space condition through revegetation measures consistent with surrounding vegetation. The North Pit would not be backfilled. The benches and pit floor of the North Pit would remain at the same topography as their post-mining conditions.

The South Pit could be partially backfilled with overburden to an elevation of approximately 1,050 amsl and revegetated. If not backfilled, the pit could be used for water storage.

The secondary and ancillary processing and load-out area, rail siding/spur, and access road would remain indefinitely as a post-reclamation land use. The proposed post-mining land use would be suitable for open space and mineral processing facilities as allowed under the proposed General Plan land use designation and Zoning district, Mineral Resource.

Figure 2-17, “Reclamation Plan,” and Figures 2-18a and 2-18b, “Reclamation Plan Cross-Sections,” show the proposed plans for reclamation. A full and detailed description of the Reclamation Plan is included in **Appendix C**.

The proposed revegetation plan, which is part of the Reclamation Plan, identifies the revegetation goals and actions necessary to meet the obligations outlined in SMARA. The proposed Revegetation Plan is attached as **Appendix C**.

In summary, revegetation efforts would reestablish native plant habitats that currently occur within and/or adjacent to proposed areas of surface disturbance. A native plant/seed collection and propagation program would be initiated to provide watershed and/or plant materials for the revegetation work. Monitoring and performance standards are included in the revegetation plan to assess revegetation performance and success. Revegetation maintenance would occur until planted areas are revegetated and established consistent with proposed success criteria for each revegetation area. A test plot program would be specified to determine the best methods and techniques to achieve the revegetation objectives.

The revegetation plan is predicated on site conditions following hard rock mining. As mining would result in a series of highwalls and benches, revegetation is limited to the quarry floor, catchment berms created on the benches, overburden fill area, primary processing plant, and other surface disturbance ancillary to mining (e.g. haul roads). The site plan is depicted on Figure 2-10. Areas to be revegetated are depicted on Figure 2-19. Revegetation would be initiated upon completion of the mining operation, except when safety and geotechnical principles would allow revegetation of completed benches in the North and South pits to occur prior to completion of mining. The plan identifies revegetation of approximately 378 acres.

Habitats to be created on the site would include successional foothill pine woodland, oak woodland, and freshwater wetlands. The design utilizes the principles of natural plant succession as well as supplemental revegetation techniques to reclaim the disturbed areas, the created diversion channel, and the constructed sheet drain area. Early successional (or “pioneer”) plant species that are adapted to establishing in open disturbed areas would be used to provide early native plant cover and create microhabitats conducive to the growth of later successional species, such as pines and oaks.

Most of the proposed revegetation areas would have upland conditions. Only the Moody Creek diversion channel and the vegetated sheet drain feature would have wetland conditions.

Overburden and stockpiled topsoil would be applied to revegetation areas, such as benches on the quarry high walls, to aid revegetation. The use of topsoil in reclamation would be limited to cover of the overburden fill area, catchment berms on the North and South Pit benches, primary processing plant, and internal haul roads. As stated above in this chapter, the primary processing plant, secondary and ancillary processing and loadout area, rail siding/spur, and access road would remain post reclamation and would not be subject to revegetation treatment. Concurrent reclamation and associated topsoil use would be limited to catchment berms on completed benches, construction pads, and internal haul roads. Redistribution of topsoil would be structured so that harder mine overburden and waste is placed below finer materials including overburden or waste mixed with silts and fines. Topsoil used in concurrent and final reclamation could be amended with silts and fines from silts ponds and stormwater facilities if necessary and available, in order to ensure that soil types used during revegetation are adequate to meet revegetation success criteria. Topsoil, as available, would be spread over the overburden at a depth determined appropriate to meet revegetation success criteria as shown in test plots described below.

A test plot program would be established concurrent with mining until a determination is made as to the most appropriate planting procedure to be followed for each plant community to ensure successful implementation of the revegetation plan. Three distinct test plot areas would be established to test revegetation success: 1) catchment berms on quarry benches, 2) overburden fill area, and 3) quarry floors and primary processing plant. Test plots for these three areas would be located in soils and locations representative of future revegetation areas. A total of three plots would be tested within each of the three areas. Each plot would have varied rip, topsoil, and overburden depths, and representative mixes of native seeds and plants of each plant community type to be restored. The test plot program would be initiated when sufficient areas are available for concurrent reclamation. For the catchment berms, this would not begin until completion of the first quarry bench and safety standards allow such activities. Test plots for the quarry floors, primary processing plant, and overburden fill area would occur five years prior to concurrent or final reclamation of these areas.

Establishment of the successional pine woodland, oak woodland, and freshwater wetlands would be accomplished through a combination of hydroseed application and container stock plantings. Plant species growing within natural habitats adjacent to mined areas are also expected to naturally colonize the revegetation areas.

All upland area container stock plantings would receive supplemental drip irrigation during a five-year establishment period, after which the installed plants would rely on natural soil moisture for sustenance. The freshwater wetland revegetation areas are not expected to require supplemental irrigation.

A full and detailed description of the Revegetation Plan is included in **Appendix C**.

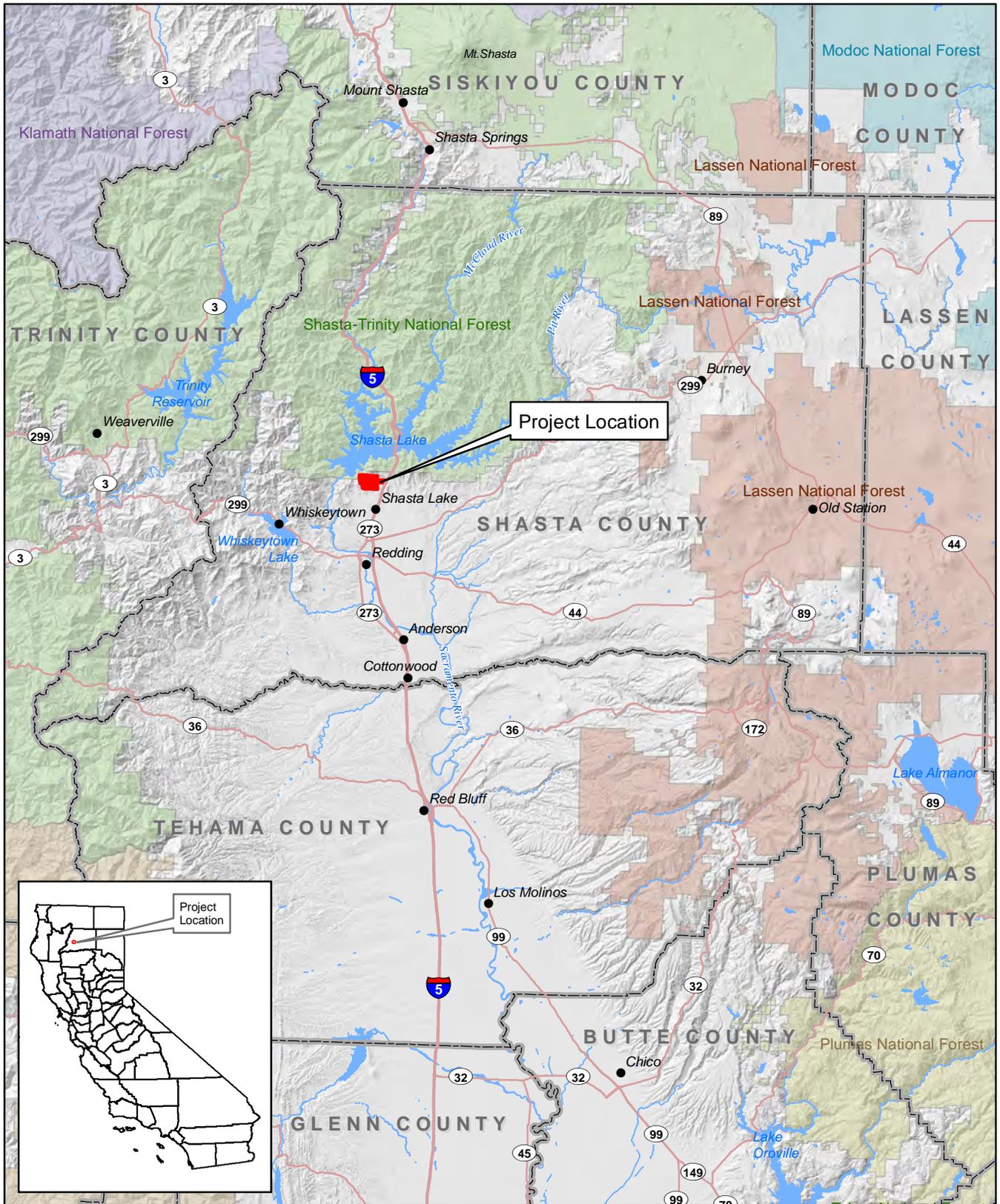
2.4 USES OF THE EIR AND REQUIRED LEAD AGENCY APPROVALS

Shasta County is the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050. This EIR may be used for the following direct and indirect actions regarding the proposed Project.

Shasta County Approvals

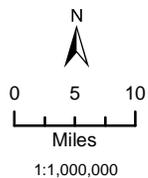
Actions taken by the Shasta County may include, but are not limited to:

- Certification of the Final EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Adoption of Findings of Fact and a Statement of Overriding Considerations;
- Approval of a General Plan map amendment to change the existing General Plan designations as follows: on Assessor's Parcel Numbers (APN) 307-200-007, --018, and -019, and 307-230-014 from Suburban Residential (SR) to Mineral Resource (MR); on APNs 307-230-004, 005, 006, 016 and -017 from Rural Residential A (RA) to Mineral Resource (MR); and on APN 307-200-010 from Mineral Resource and Industrial (MR/I) to Mineral Resource (MR);
- Approval of a General Plan text amendment to remove the last sentence of Policy MR-n, which limits mining permits to 30 years;
- Approval of a zoning map amendment to rezone district as follows: for Assessor's Parcel Numbers (APN) 307-200-007, -018, -019, and 307-230-014 from Interim Rural Residential (IR) to Mineral Resource (MR); APNs 307-230-004, 005, 006, 016 and -017 from Community Commercial combined with the Design Review District (C-2-DR) to Mineral Resource (MR); and APN 307-200-011 from Mineral Resource and General Industrial (MR/M) to Mineral Resource (M);
- Approval of a zoning text amendment to remove the last sentence of Section 17.88.020(F) of the Shasta County Code, which limits mining permits to 30 years;
- Approval of a use permit to quarry identified aggregate resources, process those materials on-site (including an asphalt concrete batch plant and ready-mix concrete plant), a recycled construction materials plant, and stockpile and load-out processed aggregate via truck and rail;
- Approval of a Reclamation Plan designed in conformance with the California Surface Mining and Reclamation Act (SMARA) and applicable General Plan and zoning designations to provide for an open space use of the land post-mining; and
- Issuance of other required permits (grading, building, road encroachment, etc.)



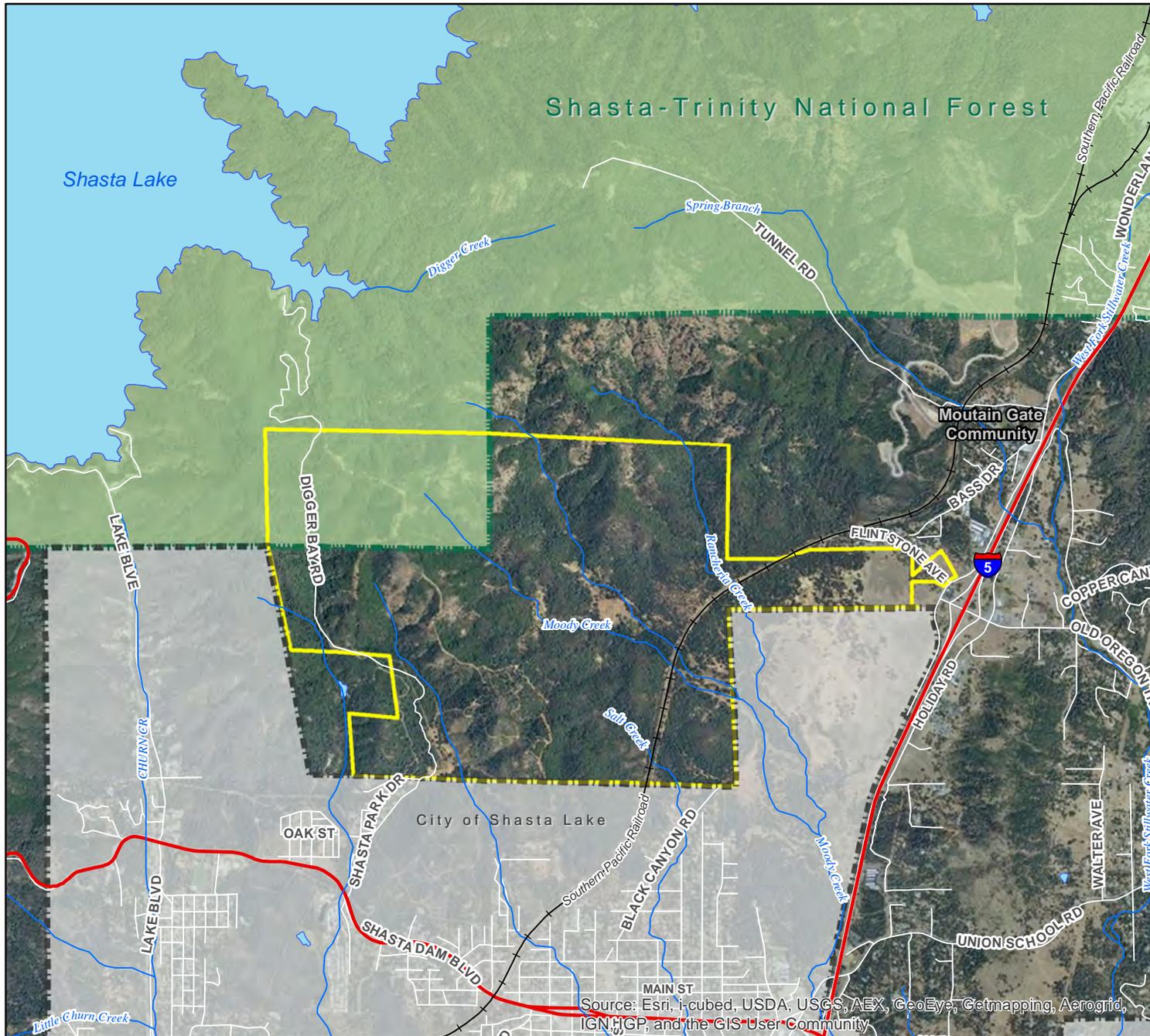
MOODY FLATS EIR

Figure 2-1: Regional Location Map



Data sources: Shasta County GIS, ESRI StreetMap North America, ArcGIS Online World Imagery, USFS Administrative Forests. Map date: October 17, 2012.

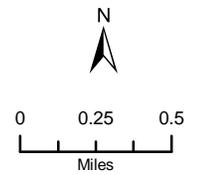
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MOODY FLATS EIR

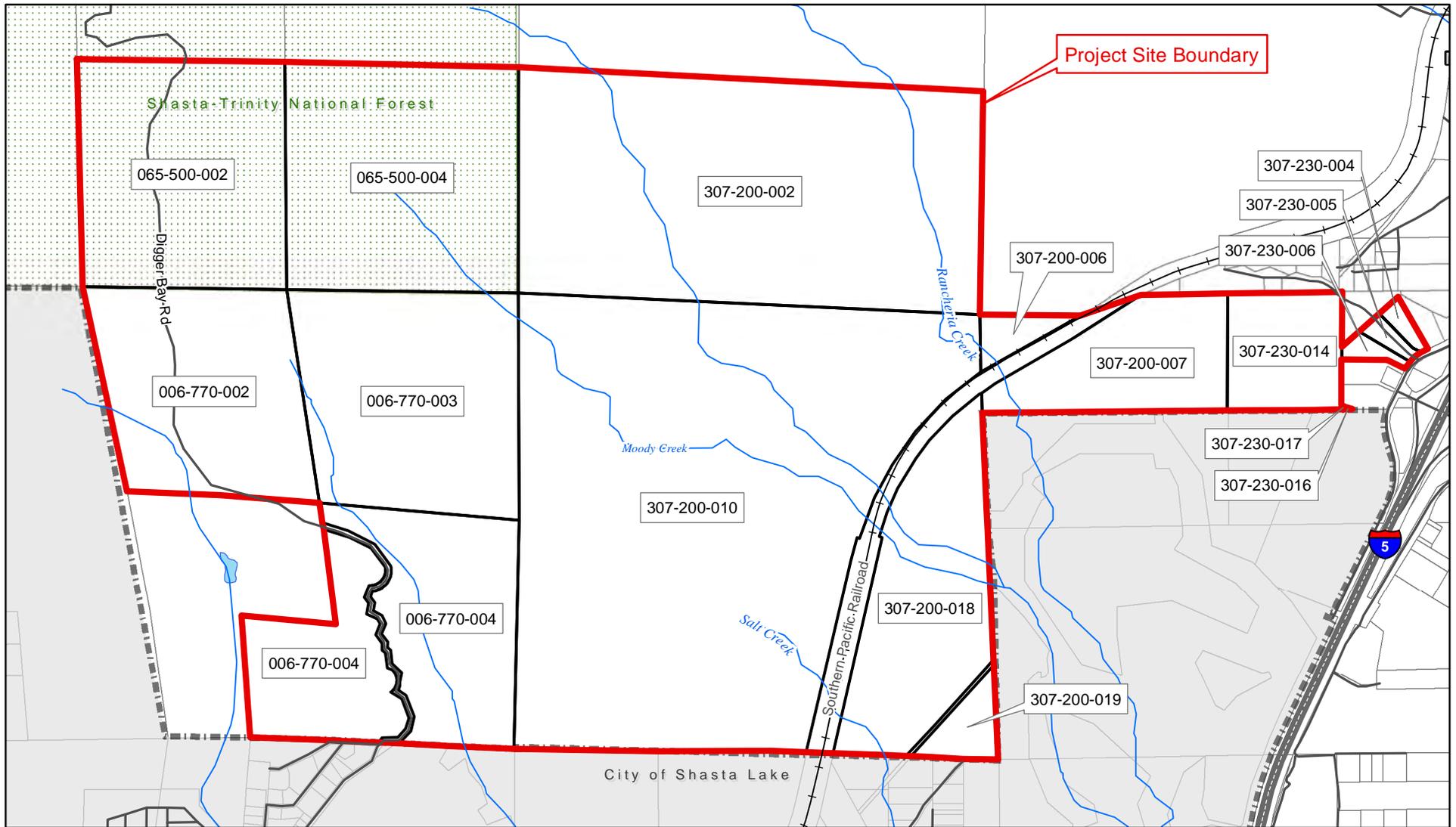
Figure 2-2: Vicinity Map

- Project Site Boundary
- City of Shasta Lake
- Shasta-Trinity National Forest
- Streams



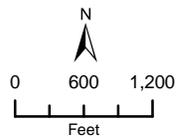
Data sources: Shasta County GIS, ESRI StreetMap North America, ArcGIS Online World Imagery, USFS Administrative Forests. Map date: October 17, 2012.

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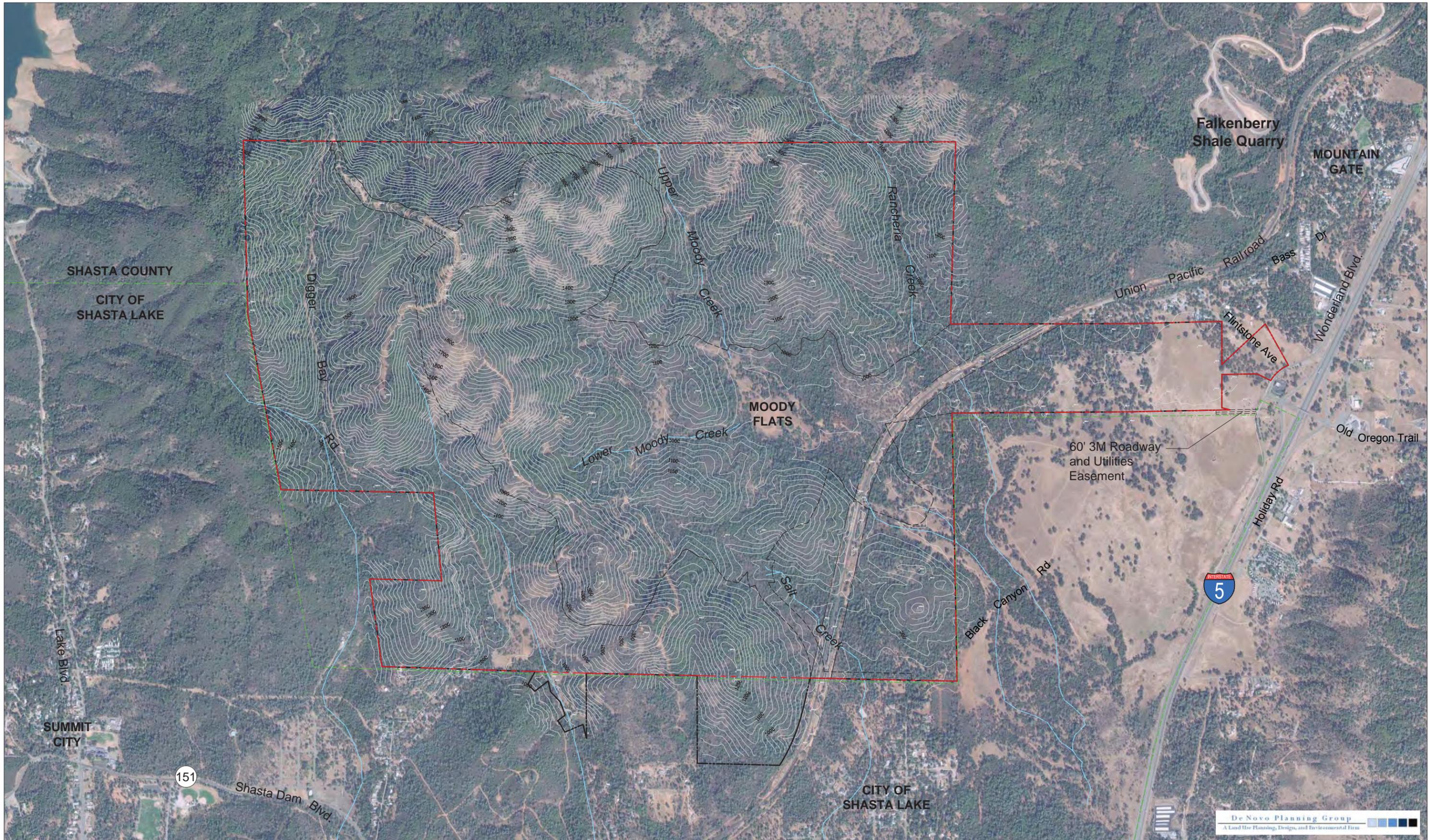
Figure 2-3: Assessor's Parcel Map



1:20,000

Data sources: Shasta County GIS, ESRI StreetMap North America, USFS Administrative Forests. Map date: October 18, 2012.

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AERIAL PHOTOGRAPH SOURCE: Pace Civil, Inc. (08-2006)



- Property Ownership
- Site Boundary
- Limits of Surface Disturbance

± 1900 acres
± 1810 acres

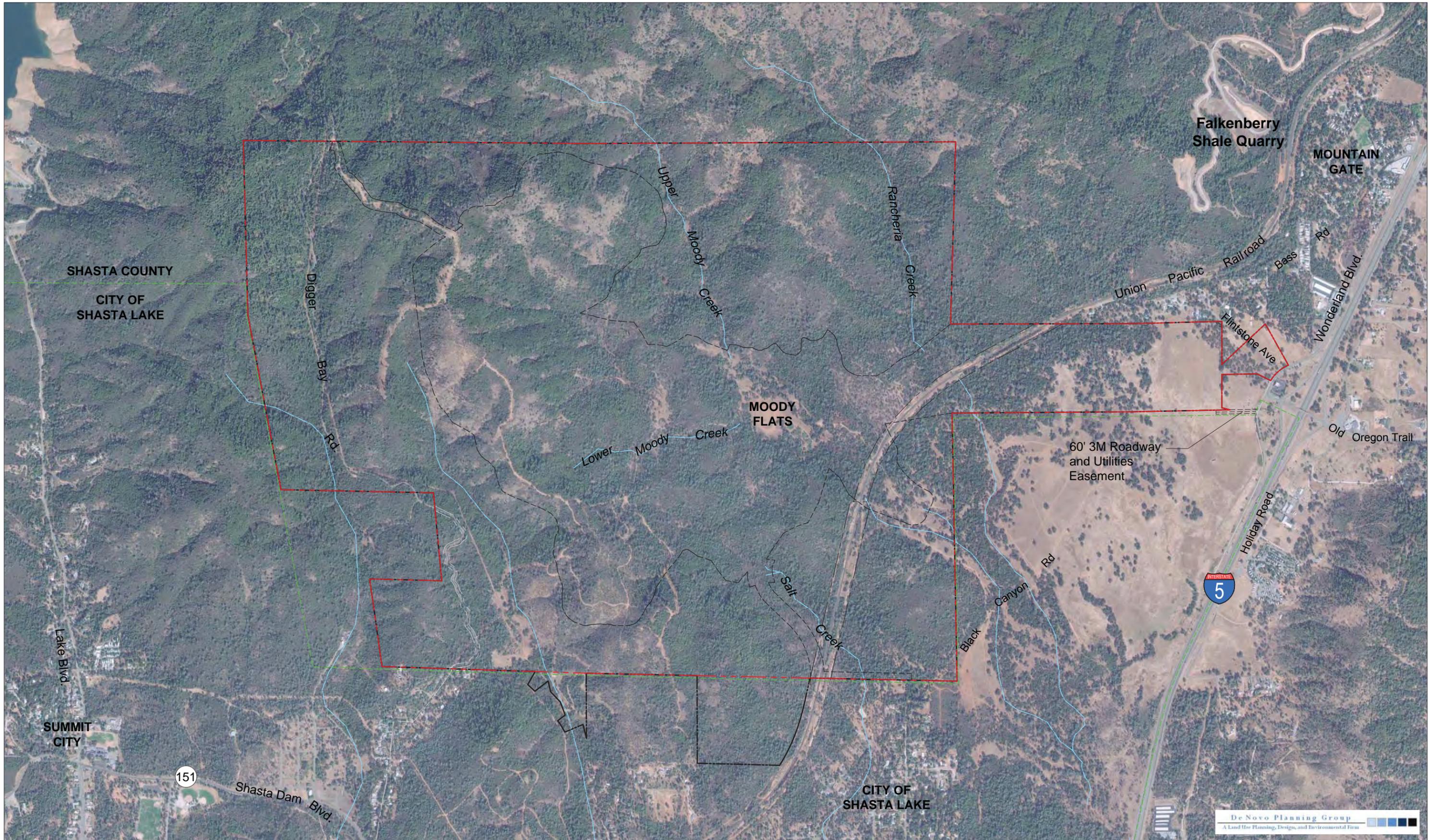
- City of Shasta Lake Boundary
- Residential Areas



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A Land Use Planning, Design, and Environmental Firm

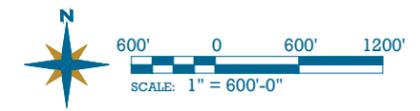
MOODY FLATS EIR
Figure 2-4A: Existing Conditions Aerial Photograph with Topographic Contours

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AERIAL PHOTOGRAPH SOURCE: Pace Civil, Inc. (08-2006)

- Property Ownership
 ± 1900 acres
 City of Shasta Lake Boundary
- Site Boundary
 ± 1810 acres
 Residential Areas
- Limits of Surface Disturbance



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Figure 2-4B: Existing Conditions Aerial Photograph

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North Pit Mineral Resource (View from West) PHOTOGRAPH DATE: 08-2008



South Pit Mineral Resource (View from West) PHOTOGRAPH DATE: 08-2008

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Figure 2-5a: Existing Conditions Photographs



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Secondary and Ancillary Processing and Load-Out Area (View Southwest) PHOTOGRAPH DATE: 08-2008



Overburden Fill Area PHOTOGRAPH DATE: 08-2008

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Figure 2-5b: Existing Conditions Photographs



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Overpass Location PHOTOGRAPH DATE: 08-2008



UP Main Line and Rail Siding/Spur Location PHOTOGRAPH DATE: 08-2008

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Figure 2-5c: Existing Conditions Photographs



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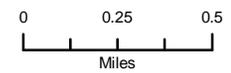
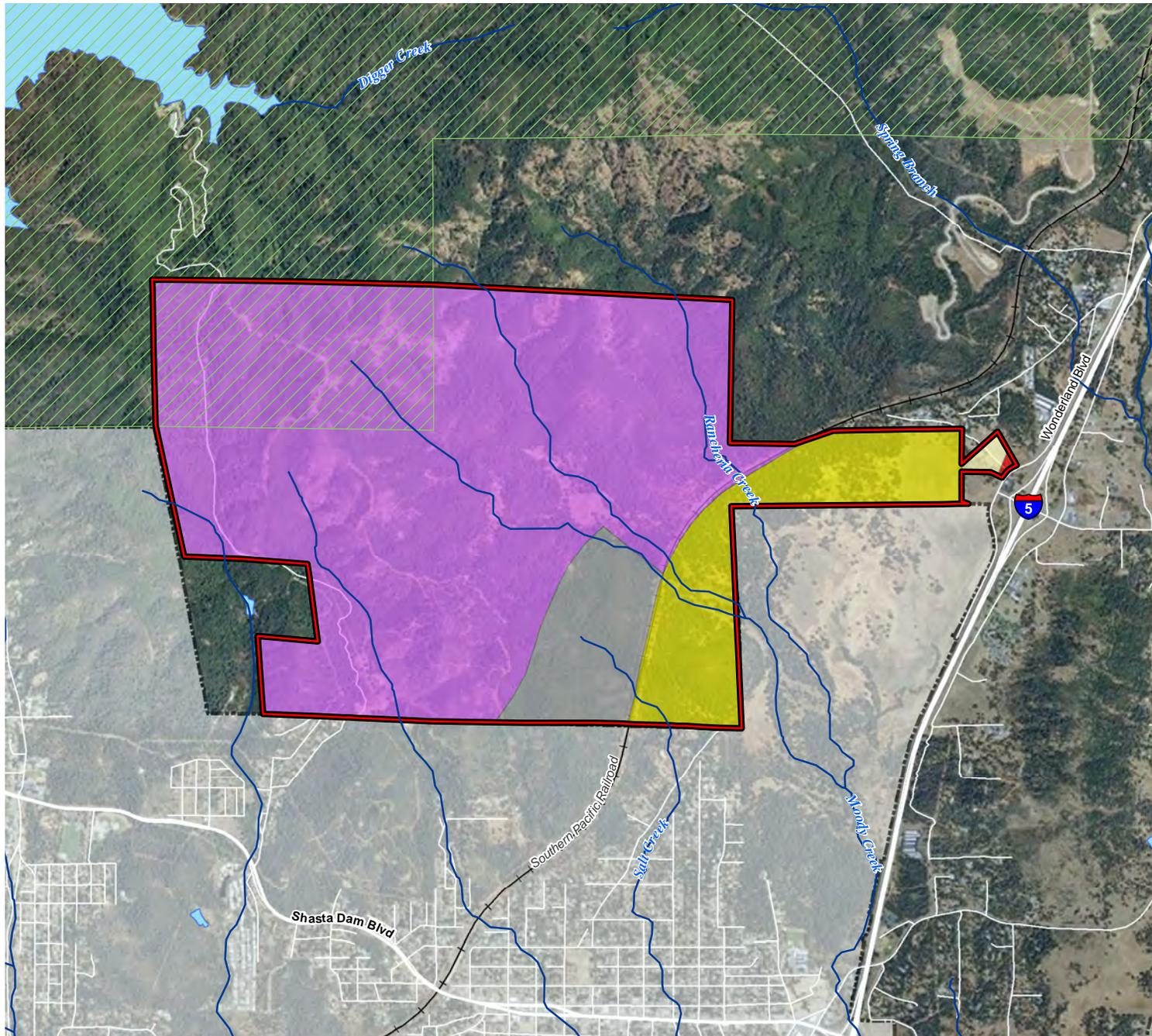
MOODY FLATS EIR

Figure 2-6: Existing General Plan Land Use Designations

Shasta County Land Use Designations

-  MR - Mineral Resource
-  I - Industrial
-  SR - Suburban Residential
-  C - Commercial
-  RA - Rural Residential A

-  Project Site Boundary
-  City of Shasta Lake
-  Shasta-Trinity National Forest

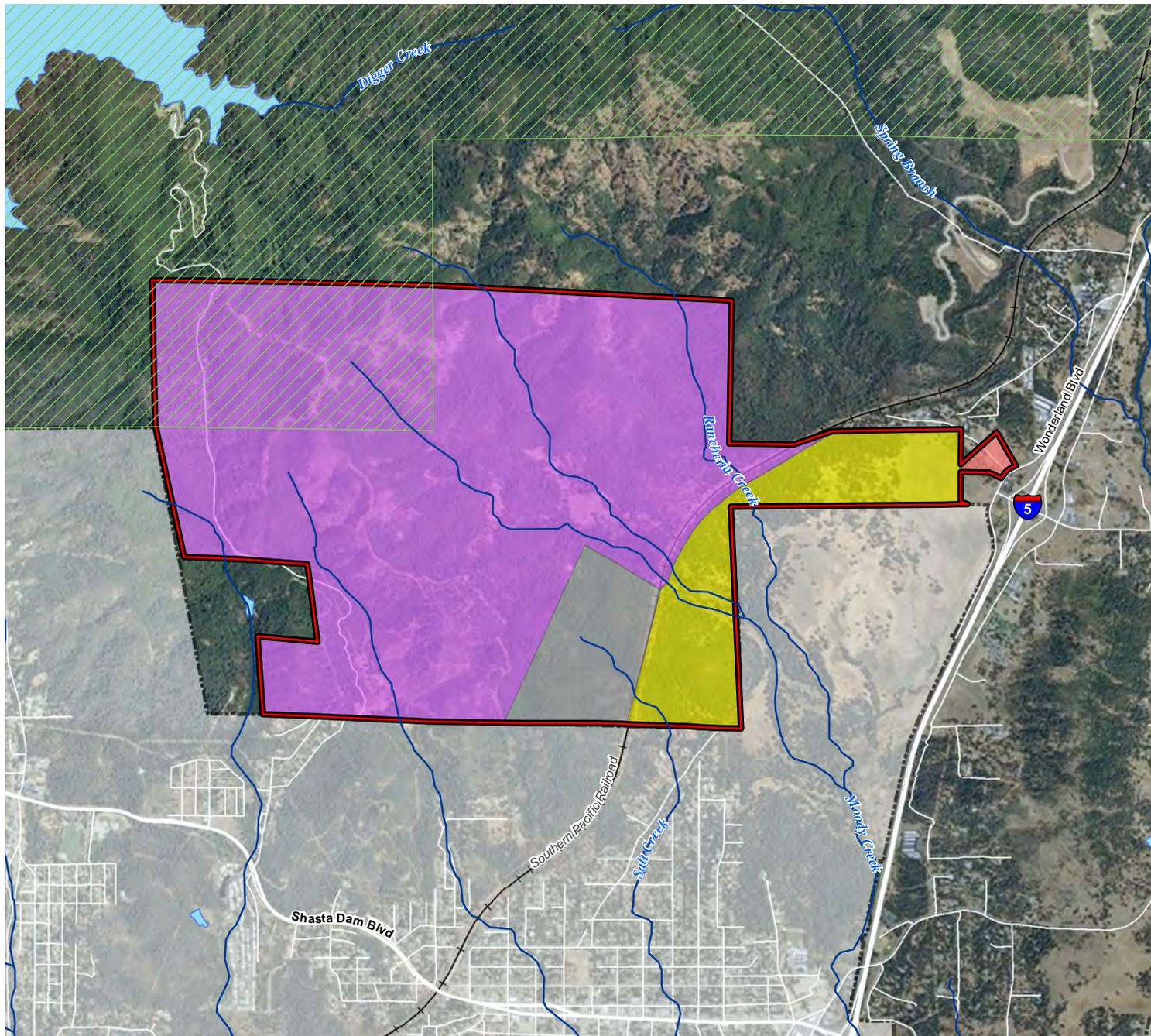


Data sources: Shasta County GIS, City of Shasta Lake GIS, ESRI StreetMap North America, USFS Administrative Forests. Map date: May 7, 2013.

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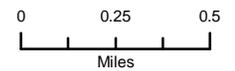
Figure 2-7: Existing Zoning Designations



Shasta County Zoning Designations

- Mineral Resources
- General Industrial
- Interim Rural Residential
- Community Commercial Design Review

- Project Site Boundary
- City of Shasta Lake
- Shasta-Trinity National Forest



Data sources: Shasta County GIS, City of Shasta Lake GIS, ESRI StreetMap North America, USFS Administrative Forests. Map date: May 7, 2013.

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Figure 2-8: Proposed General Plan Land Use Designations

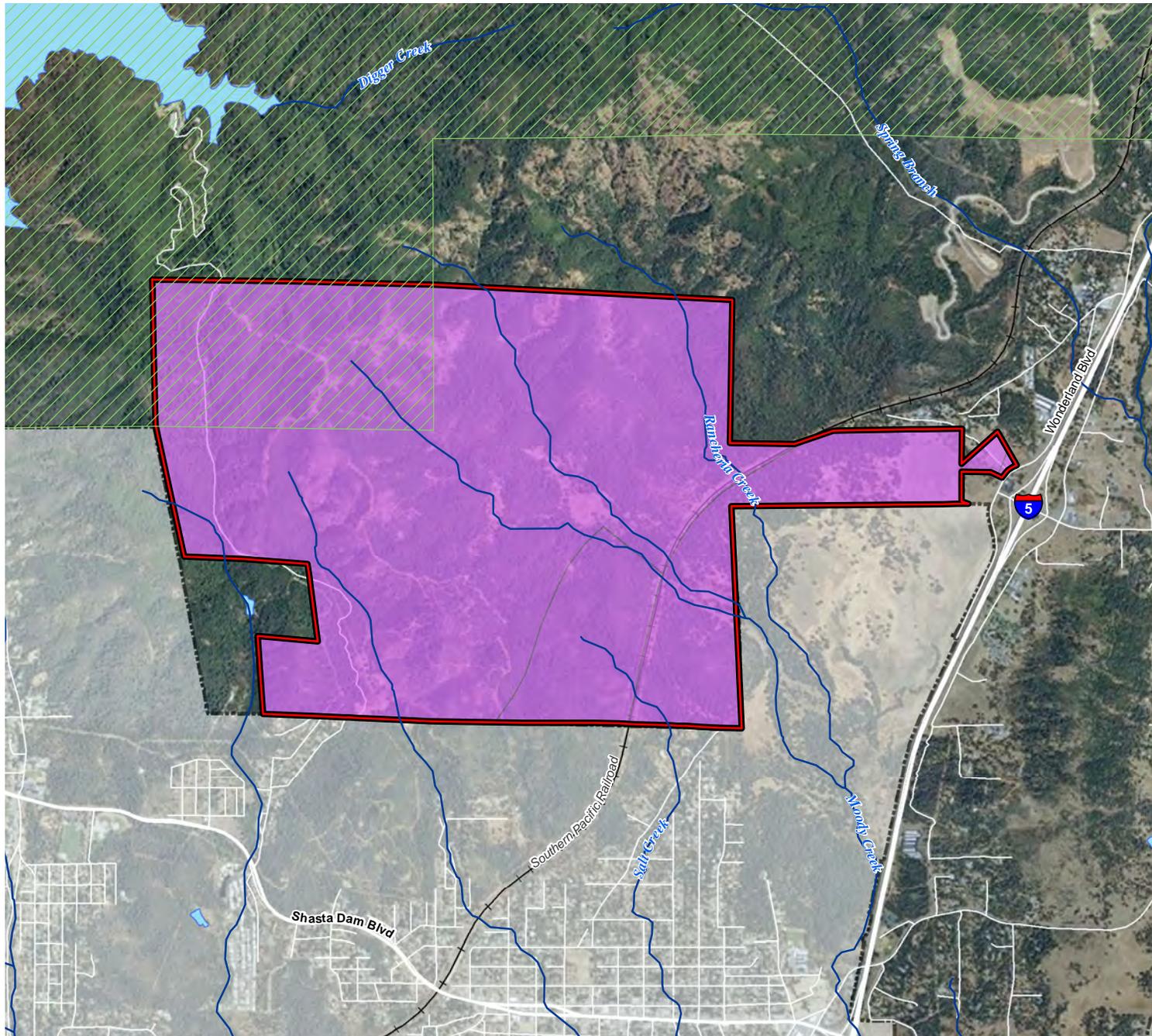
Shasta County Land Use Designations

MR- Mineral Resources

Project Site Boundary

City of Shasta Lake

Shasta-Trinity National Forest



Data sources: Shasta County GIS, City of Shasta Lake GIS, ESRI StreetMap North America, USFS Administrative Forests. Map date: May 7, 2013.

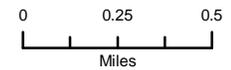
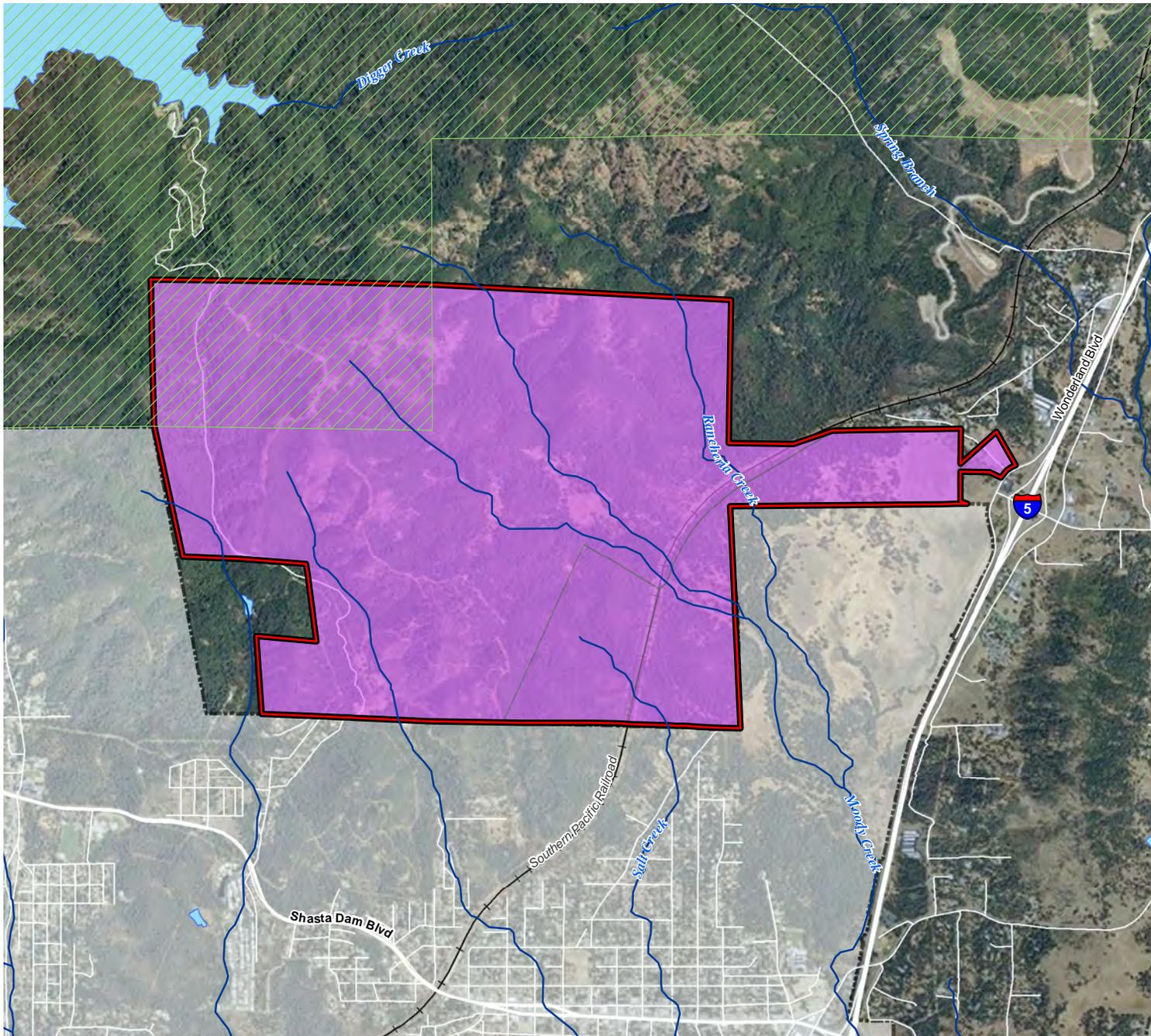
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Figure 2-9: Proposed Zoning Designations

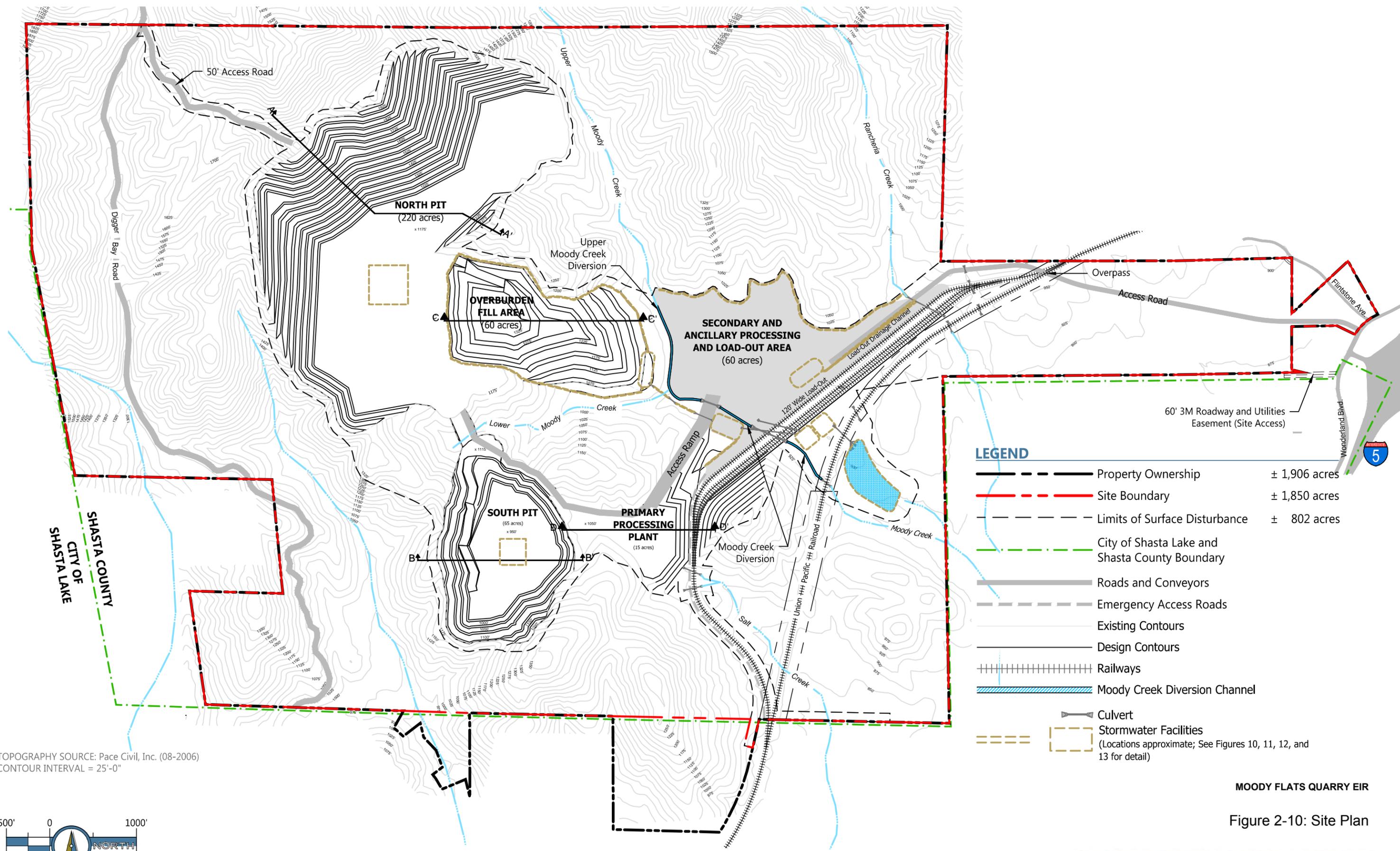
Shasta County Zoning Designations

-  Mineral Resources
-  Project Site Boundary
-  City of Shasta Lake
-  Shasta-Trinity National Forest

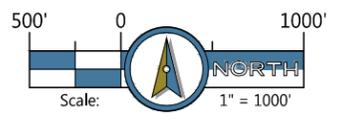


Data sources: Shasta County GIS, City of Shasta Lake GIS, ESRI StreetMap North America, USFS Administrative Forests. Map date: May 7, 2013.

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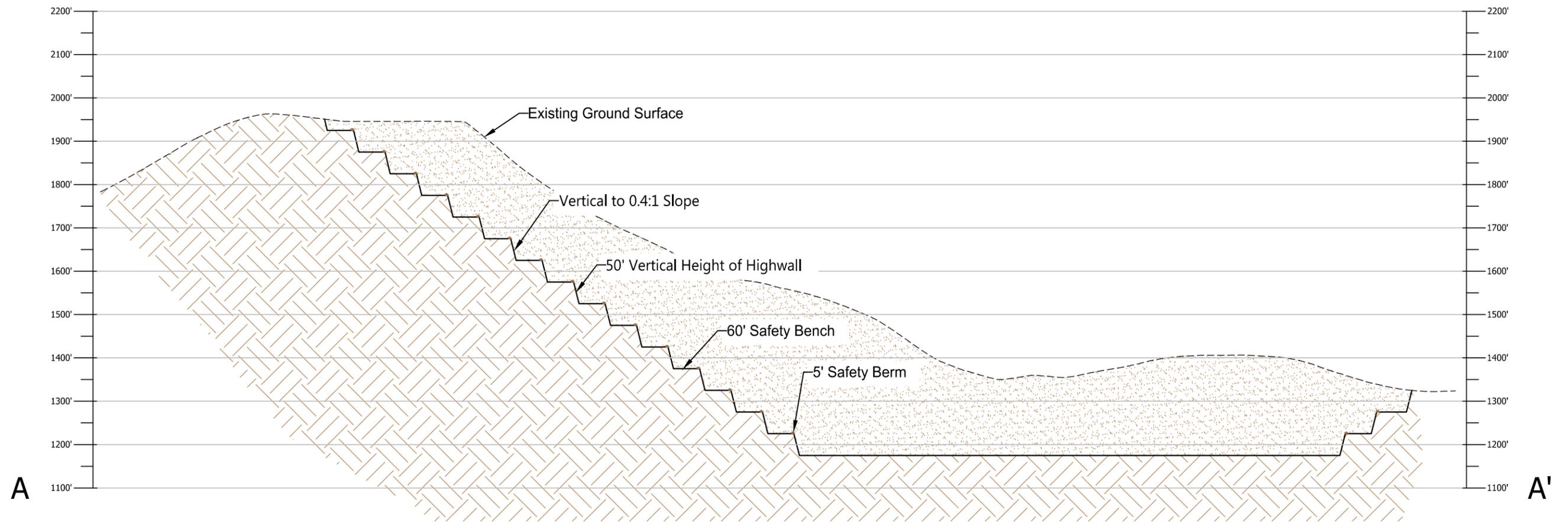
TOPOGRAPHY SOURCE: Pace Civil, Inc. (08-2006)
 CONTOUR INTERVAL = 25'-0"



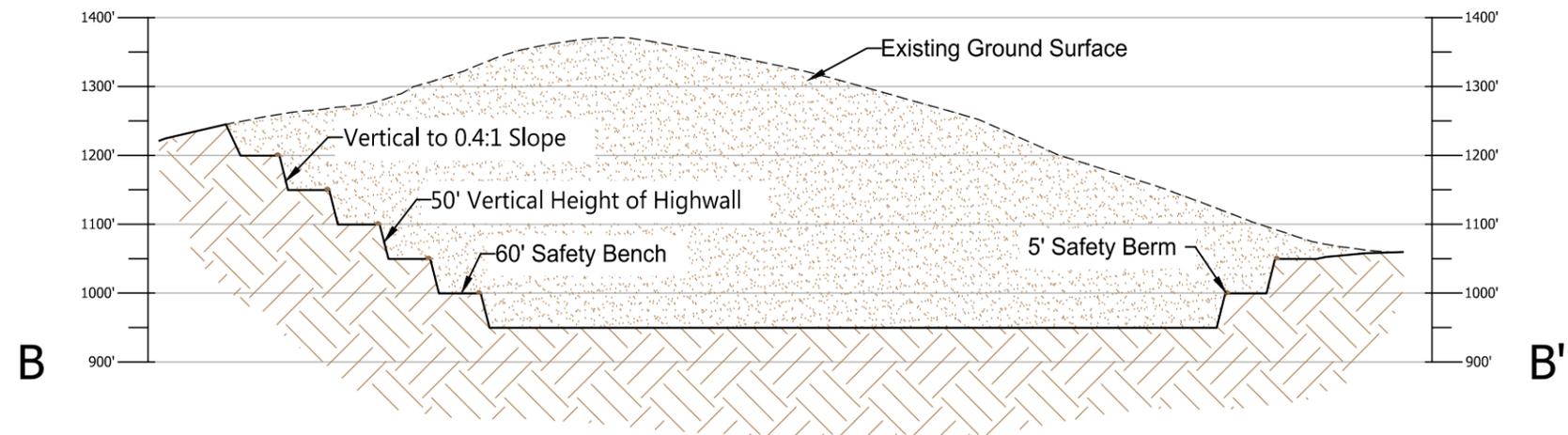
- LEGEND**
- Property Ownership ± 1,906 acres
 - Site Boundary ± 1,850 acres
 - Limits of Surface Disturbance ± 802 acres
 - City of Shasta Lake and Shasta County Boundary
 - Roads and Conveyors
 - Emergency Access Roads
 - Existing Contours
 - Design Contours
 - Railways
 - Moody Creek Diversion Channel
 - Culvert
 - Stormwater Facilities (Locations approximate; See Figures 10, 11, 12, and 13 for detail)

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Figure 2-10: Site Plan

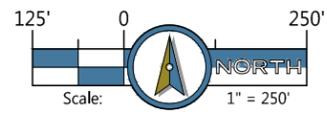


**NORTH PIT
CROSS-SECTION A-A'**
SCALE: 1" = 250'-0"



**SOUTH PIT
CROSS-SECTION B-B'**
SCALE: 1" = 250'-0"

SEE FIGURE 9 FOR QUARRY PLAN CROSS-SECTION LOCATIONS



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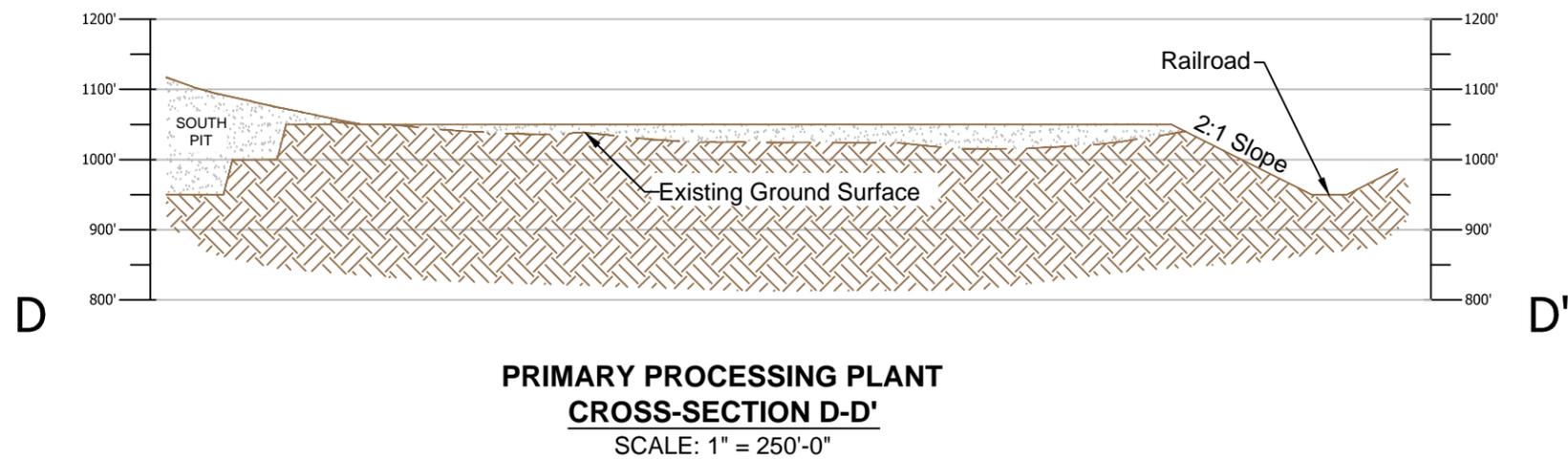
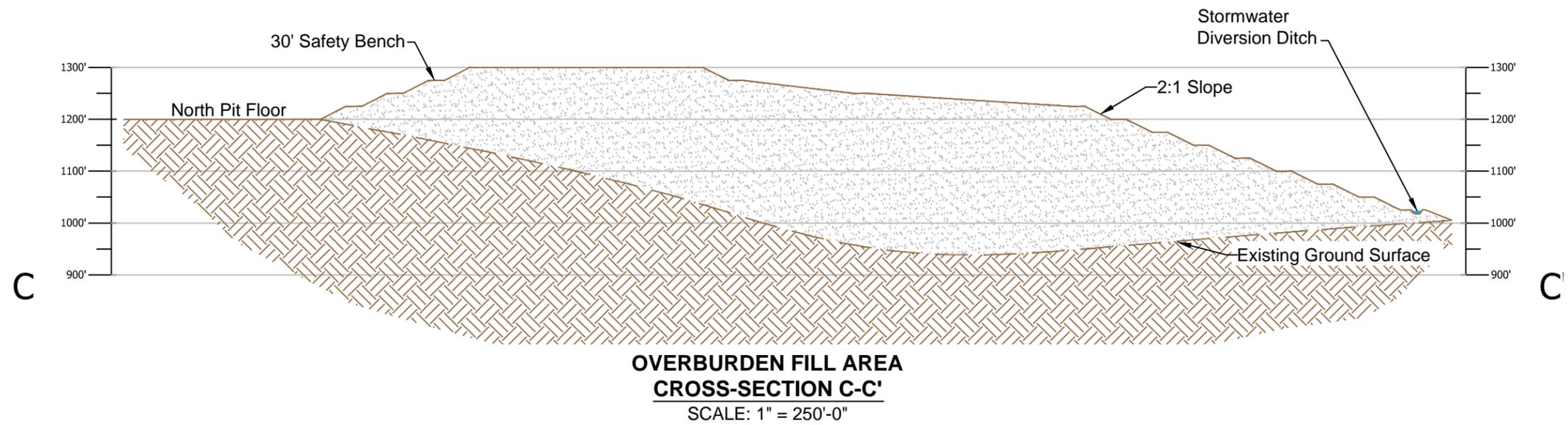
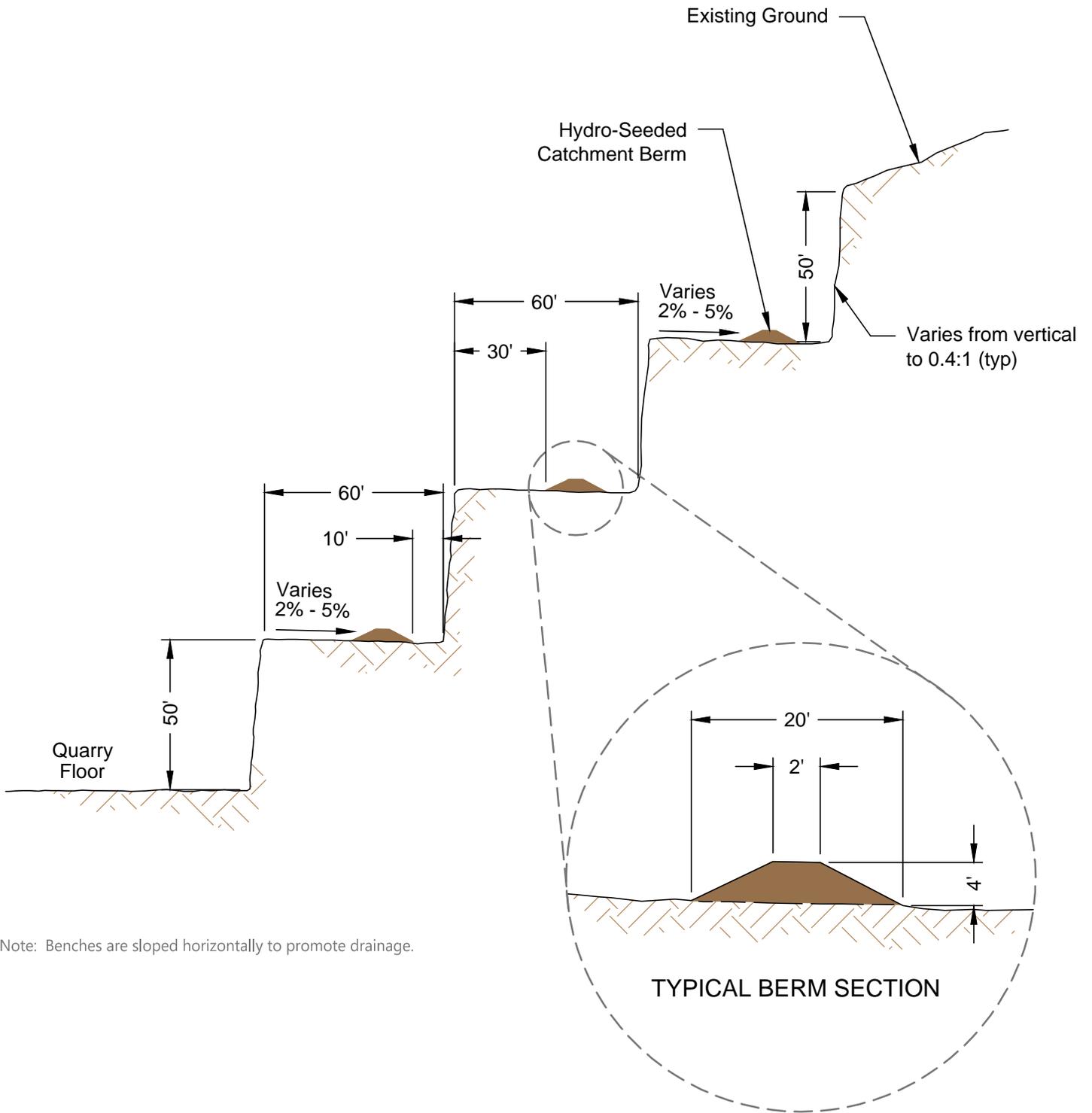


Figure 2-12: Overburden Fill Area and Primary Processing Plan Cross Sections

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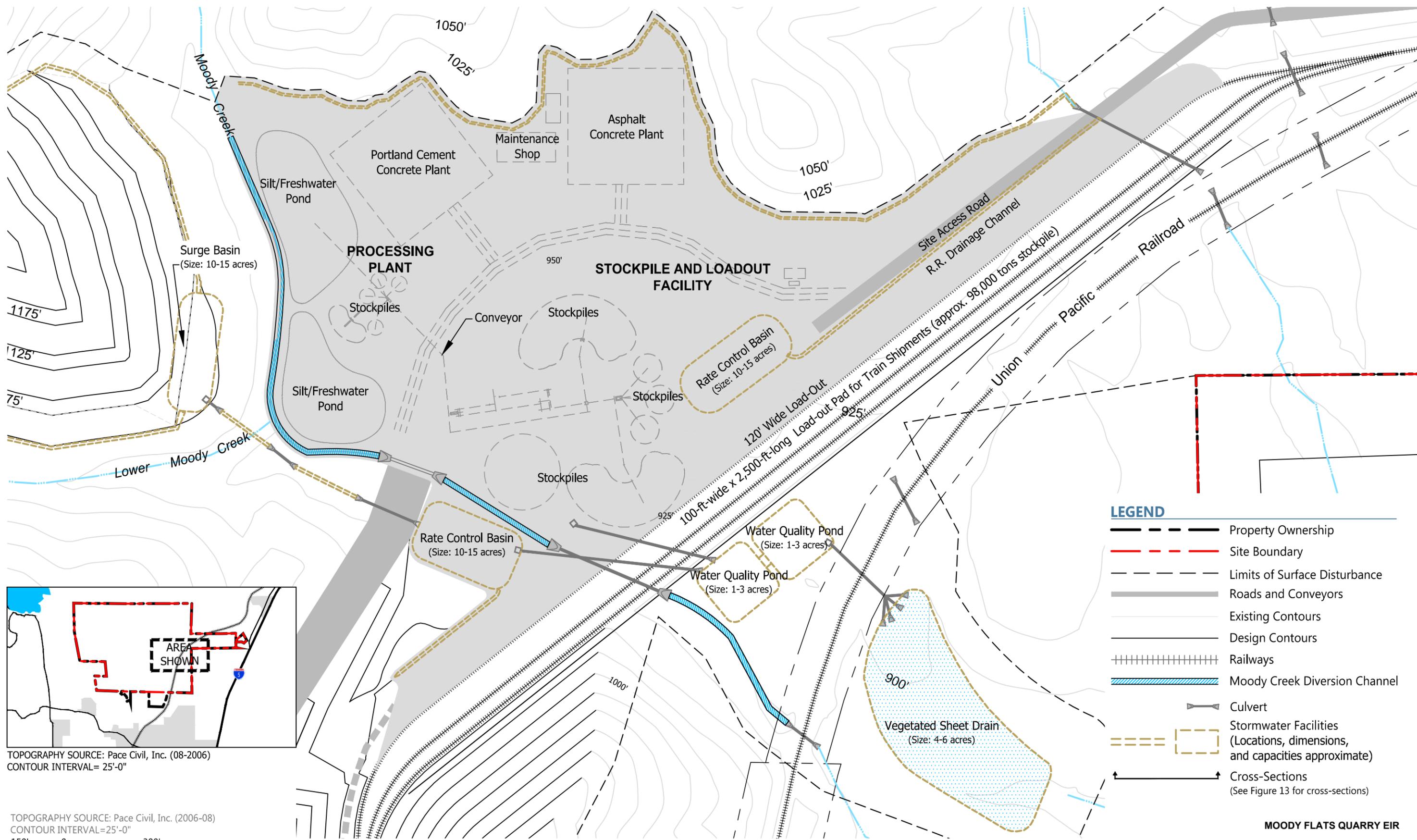
Note: Benches are sloped horizontally to promote drainage.

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Figure 2-13: Conceptual Quarry Excavation Cut Slope



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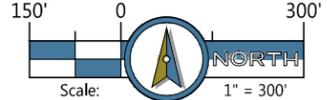


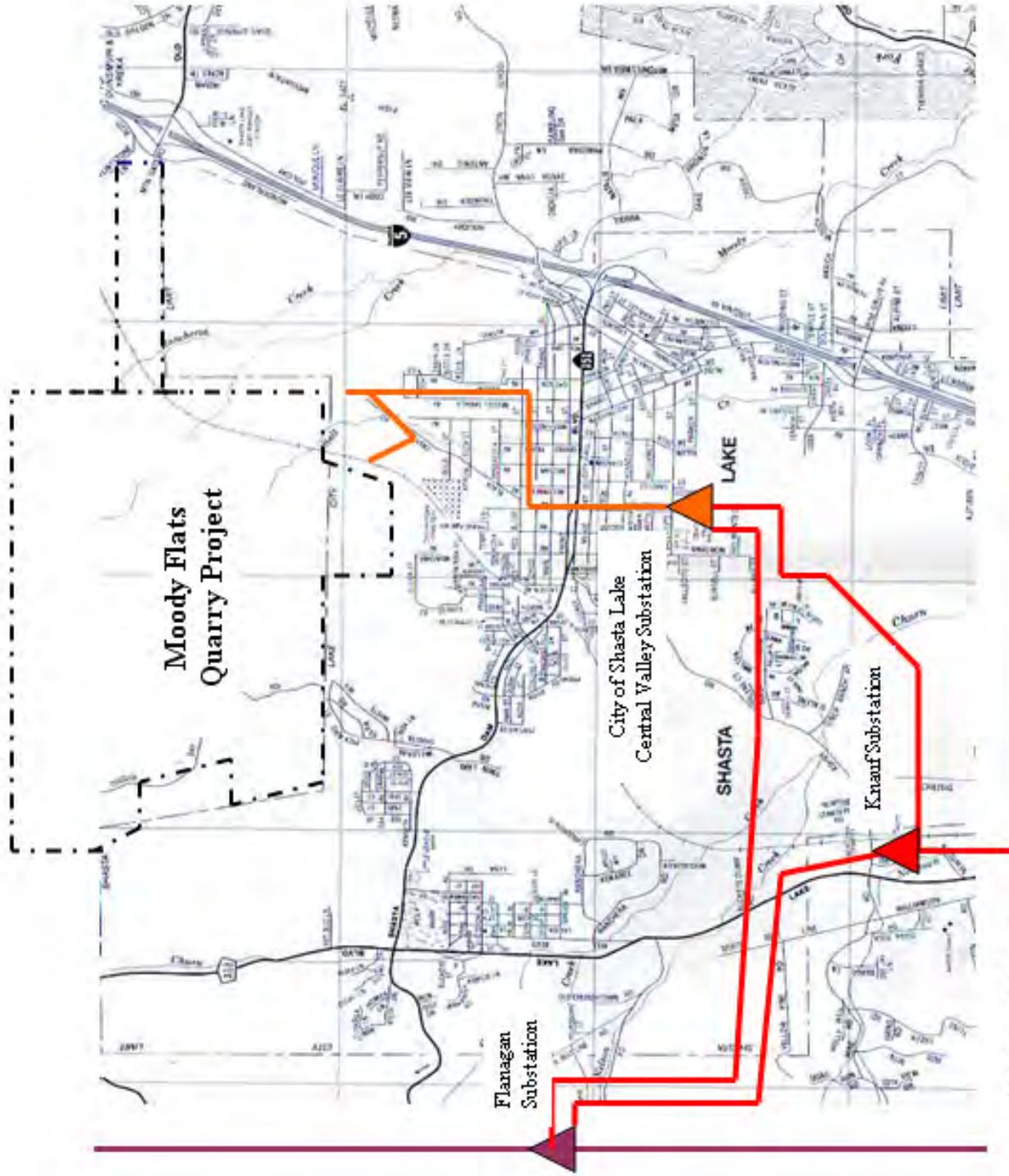
MOODY FLATS QUARRY EIR

Figure 2-14: Secondary and Ancillary Processing and Load-Out Area

TOPOGRAPHY SOURCE: Pace Civil, Inc. (08-2006)
CONTOUR INTERVAL= 25'-0"

TOPOGRAPHY SOURCE: Pace Civil, Inc. (2006-08)
CONTOUR INTERVAL= 25'-0"

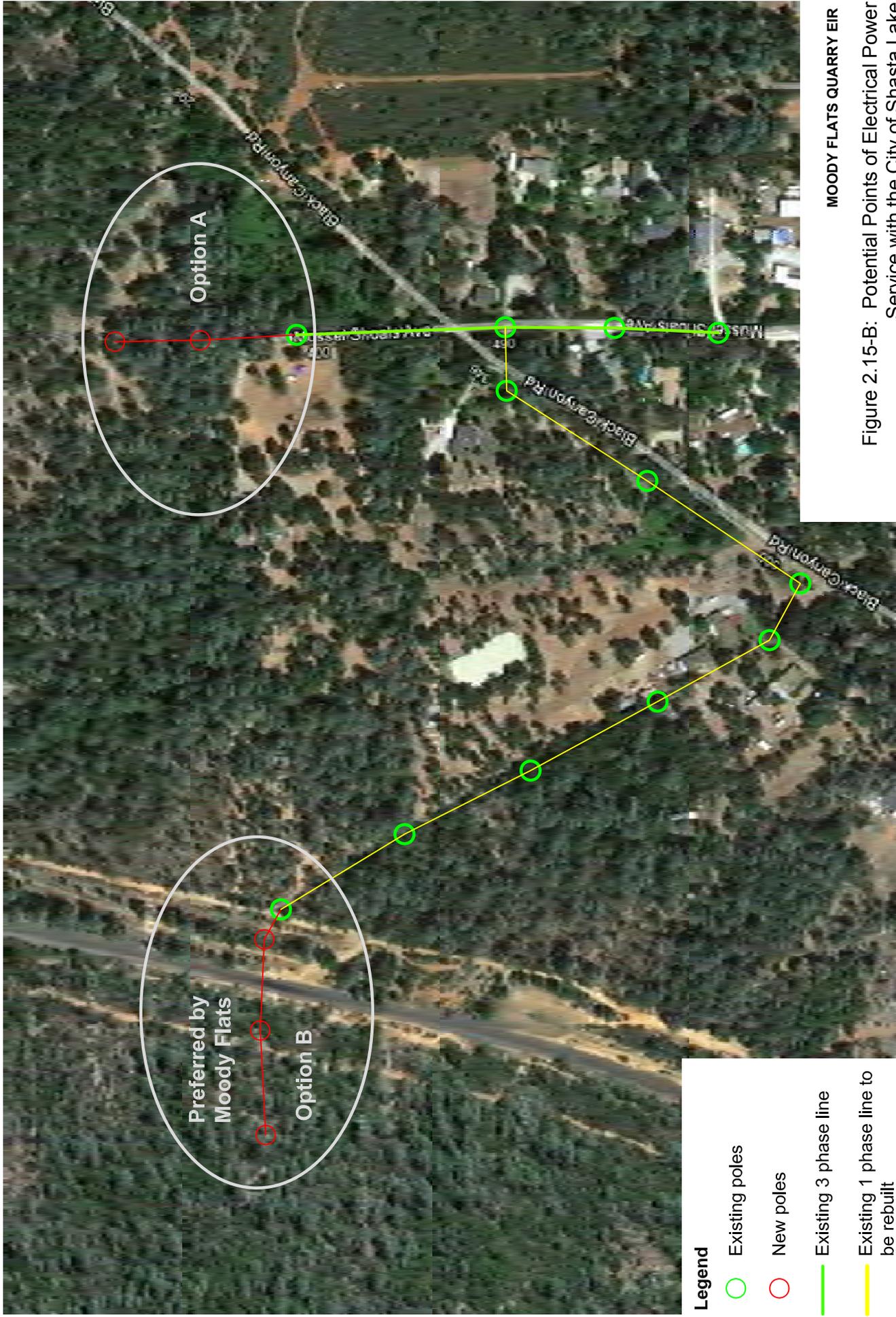




MOODY FLATS QUARRY EIR
 Figure 2.15A: Single Line Diagram of Existing Electric
 Utility Infrastructure

- WAPA 230 Kv
- City of Shasta Lake 115 Kv
- City of Shasta Lake 12 Kv

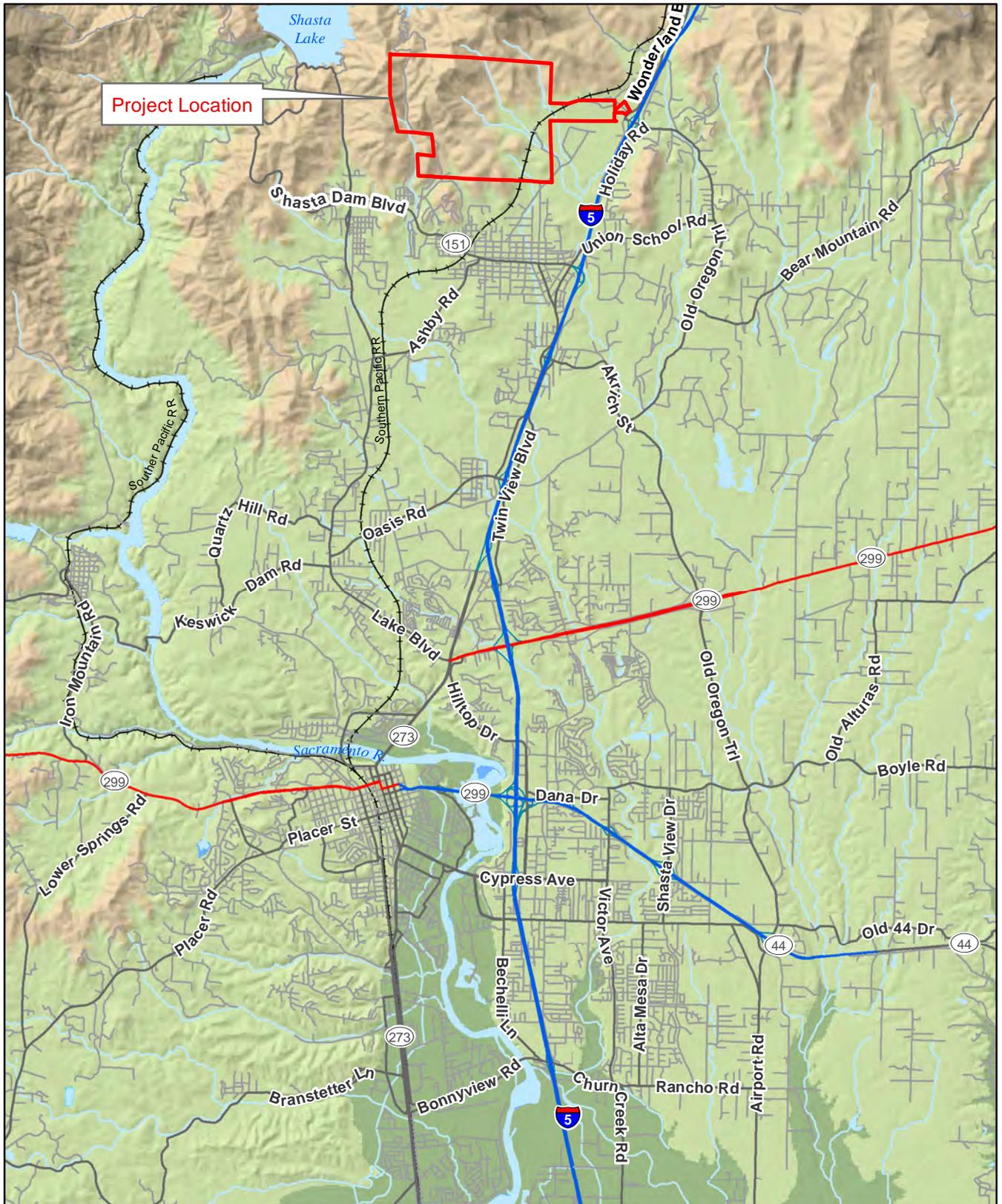
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Figure 2.15-B: Potential Points of Electrical Power Service with the City of Shasta Lake

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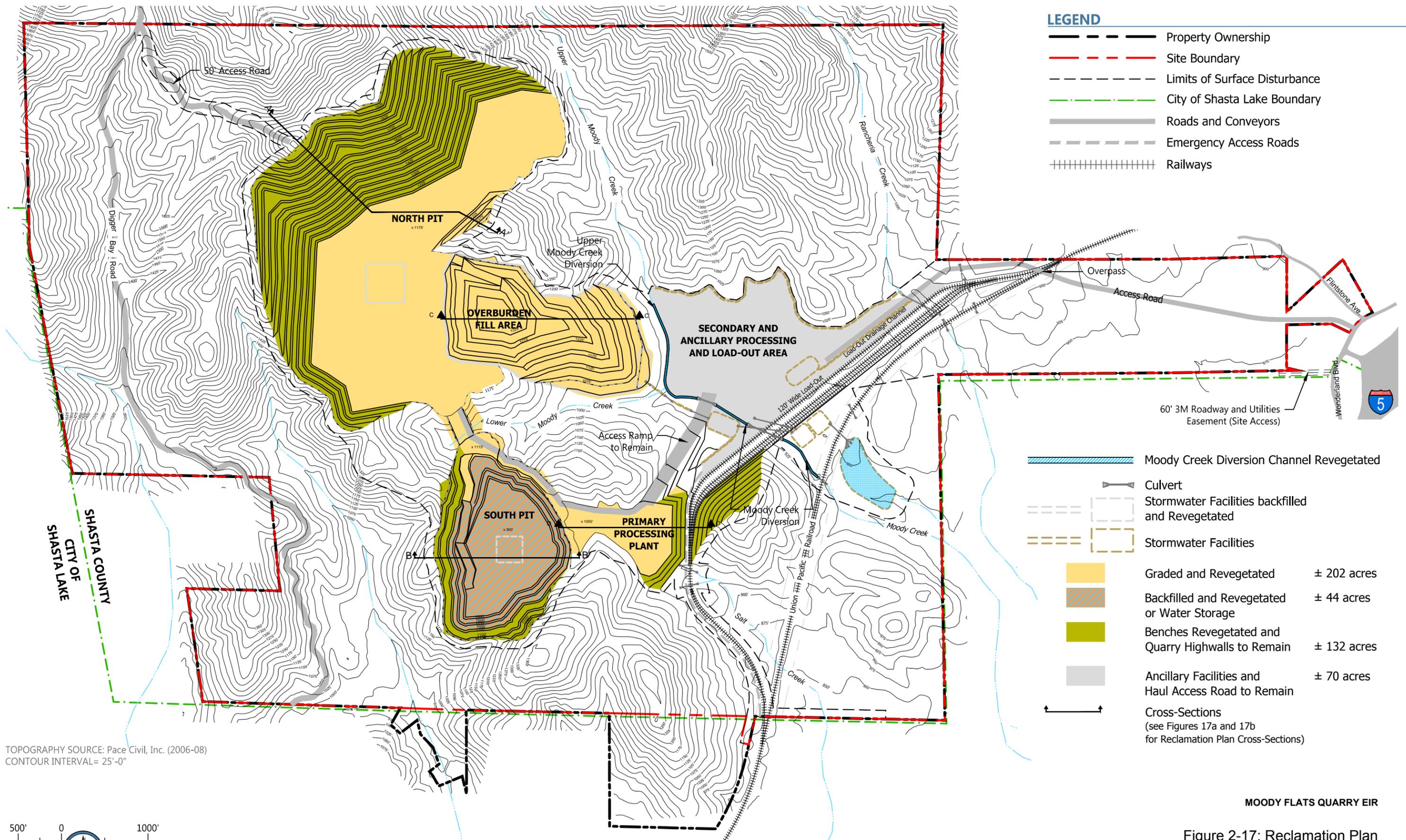
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Figure 2-16: Regional Roadway Network



Data sources: ESRI StreetMap North America, California Spatial Information Library. Map date: December 7, 2012.

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- LEGEND**
- Property Ownership
 - Site Boundary
 - Limits of Surface Disturbance
 - City of Shasta Lake Boundary
 - Roads and Conveyors
 - Emergency Access Roads
 - Railways

- Moody Creek Diversion Channel Revegetated
- Culvert
- Stormwater Facilities backfilled and Revegetated
- Stormwater Facilities
- Graded and Revegetated ± 202 acres
- Backfilled and Revegetated or Water Storage ± 44 acres
- Benches Revegetated and Quarry Highwalls to Remain ± 132 acres
- Ancillary Facilities and Haul Access Road to Remain ± 70 acres
- Cross-Sections (see Figures 17a and 17b for Reclamation Plan Cross-Sections)

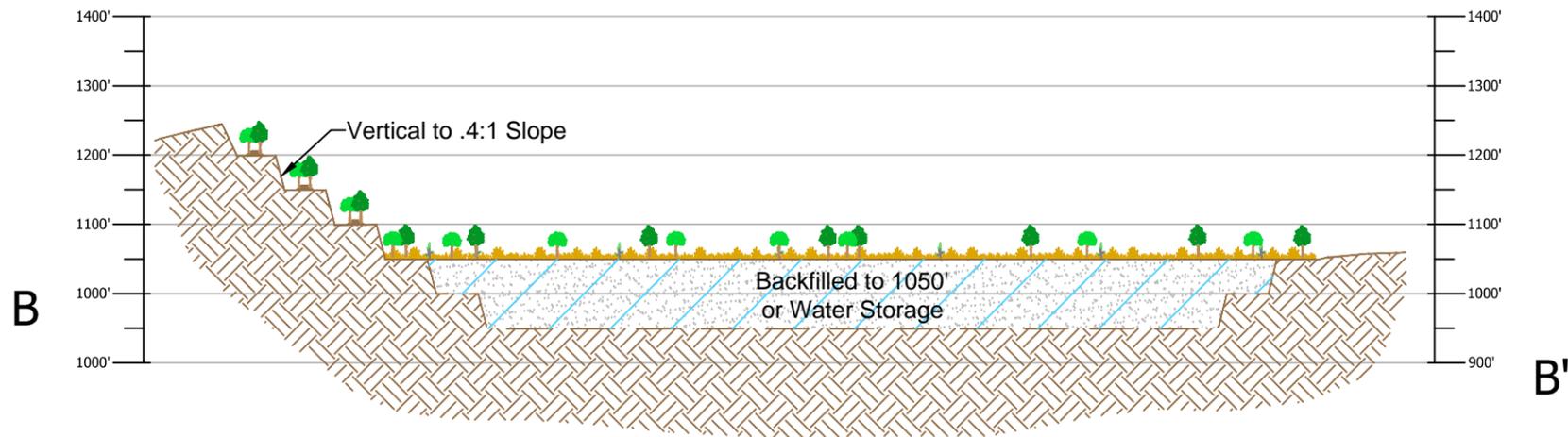
TOPOGRAPHY SOURCE: Pace Civil, Inc. (2006-08)
 CONTOUR INTERVAL= 25'-0"



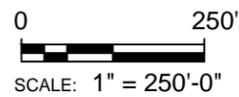
Figure 2-17: Reclamation Plan



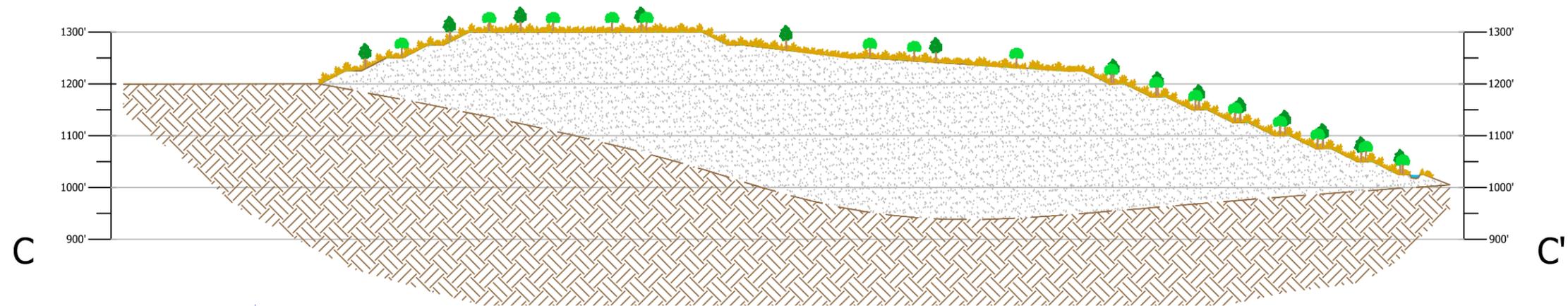
**NORTH PIT
CROSS-SECTION A-A'**
SCALE: 1" = 250'-0"



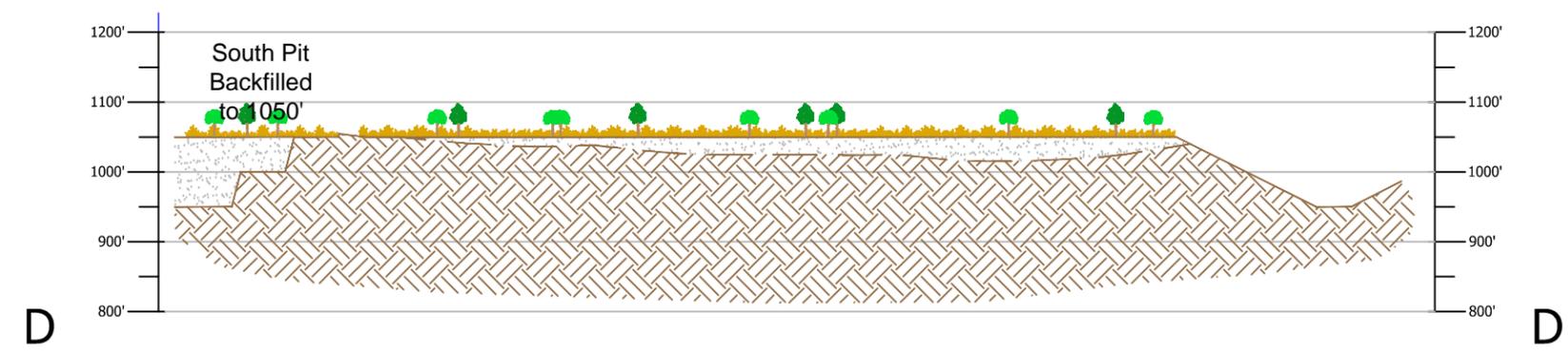
**SOUTH PIT
CROSS-SECTION B-B'**
SCALE: 1" = 250'-0"



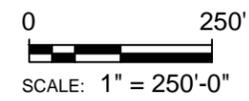
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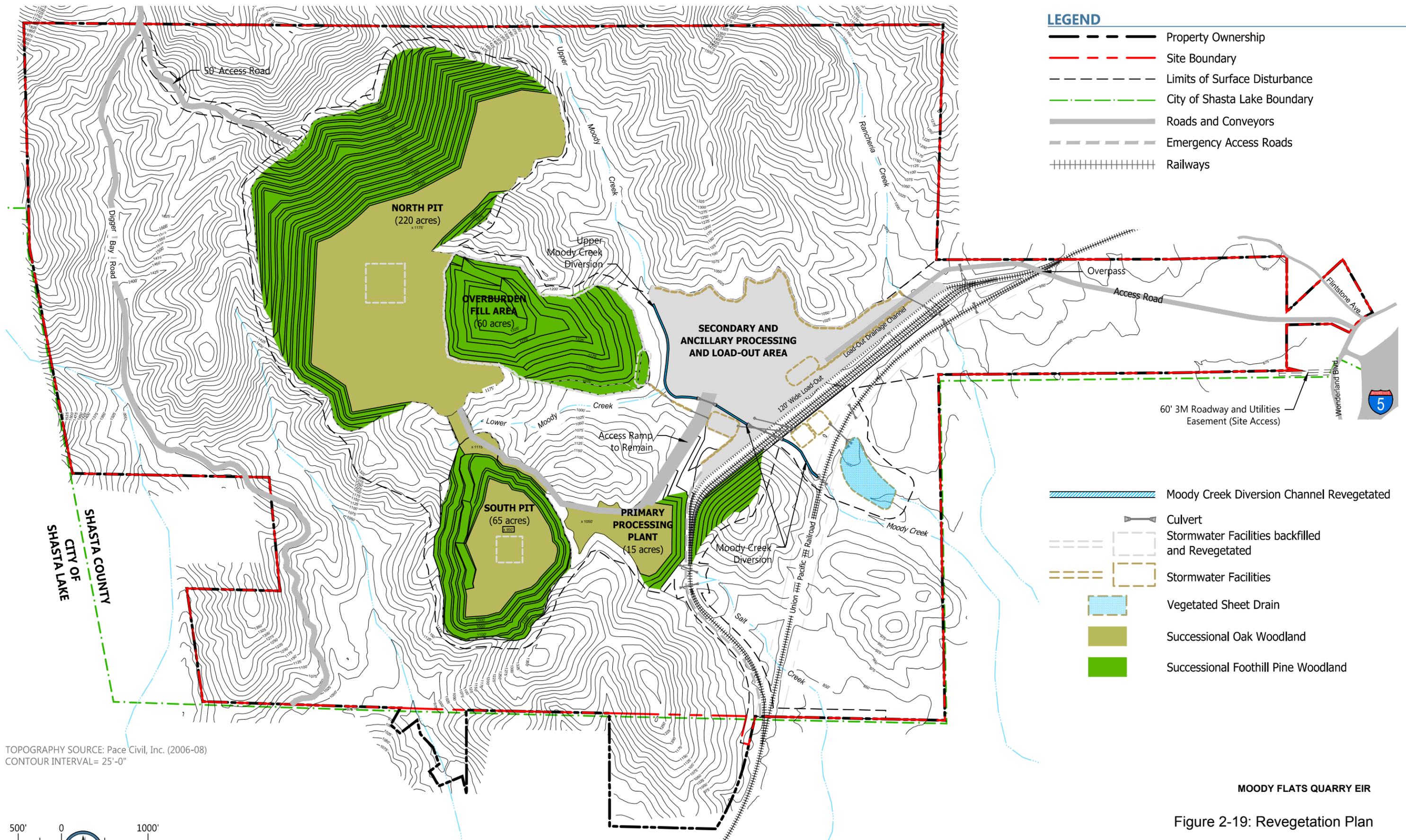
OVERBURDEN FILL AREA
CROSS-SECTION C-C'
 SCALE: 1" = 250'-0"



PRIMARY PROCESSING PLANT
CROSS-SECTION D-D'
 SCALE: 1" = 250'-0"



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LEGEND

- Property Ownership
- Site Boundary
- Limits of Surface Disturbance
- City of Shasta Lake Boundary
- Roads and Conveyors
- Emergency Access Roads
- Railways

- Moody Creek Diversion Channel Revegetated
- Culvert
- Stormwater Facilities backfilled and Revegetated
- Stormwater Facilities
- Vegetated Sheet Drain
- Successional Oak Woodland
- Successional Foothill Pine Woodland

TOPOGRAPHY SOURCE: Pace Civil, Inc. (2006-08)
 CONTOUR INTERVAL= 25'-0"

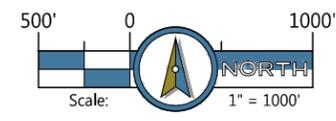
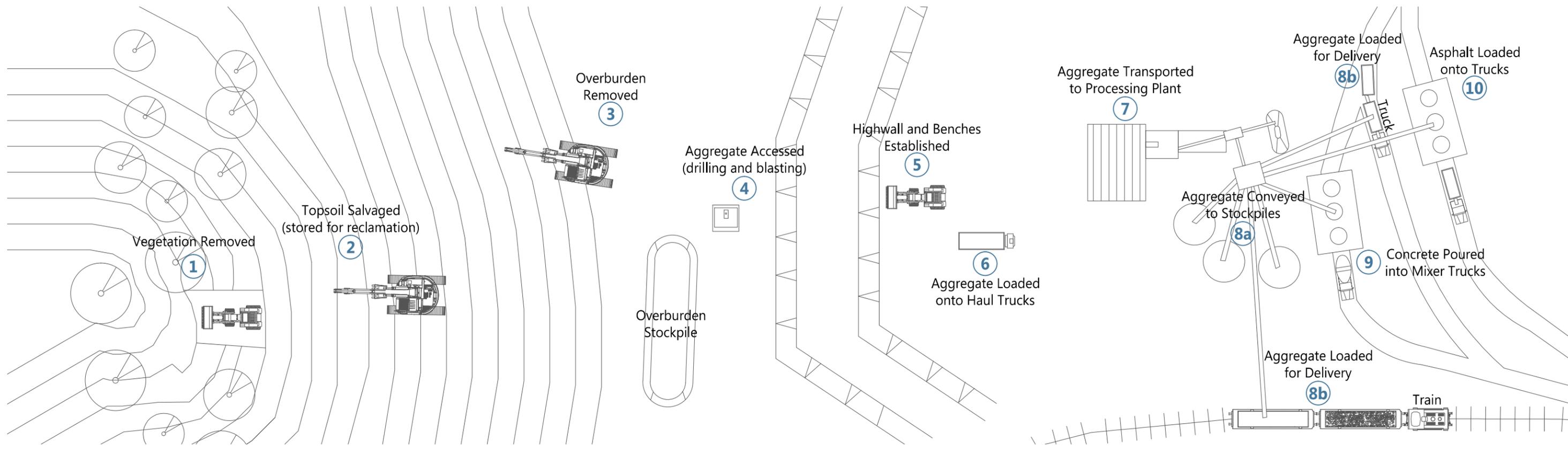
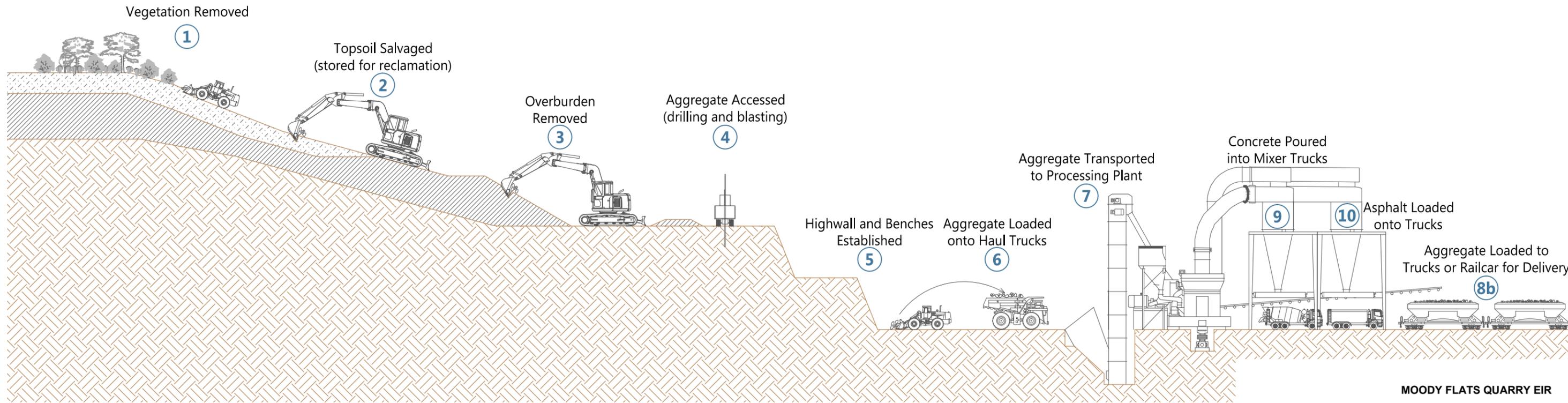


Figure 2-19: Revegetation Plan



Plan View



Section View

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Figure 2-20: Mining Process Diagram

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