

# KUNZLER TERRACE MINE PROJECT

Final Environmental Impact Report  
SCH No. 2008042108

Prepared for  
Mendocino County  
Department of Planning and Building Services

May 2010





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# Executive Summary





# EXECUTIVE SUMMARY

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## Introduction

The California Environmental Quality Act (CEQA) requires that all state and local government agencies consider the environmental consequences of programs and projects over which they have discretionary authority before taking action on them. The primary purpose of this Final Environmental Impact Report (FEIR) is to inform agencies and the public of any significant environmental effects associated with the Kunzler Terrace Mine Project.

## Project Description

Granite Construction Company (Granite) proposes to develop a sand & gravel quarry on an approximately 65-acre site in unincorporated Mendocino County, approximately one mile north of the City of Ukiah.

The project applicant, Granite Construction Company (Granite), has submitted an application to obtain approval of a use permit and mining and reclamation plan pursuant to the California Surface Mining and Reclamation Act (SMARA), and the Mendocino County Surface Mining and Reclamation Ordinance to excavate approximately 30.3 acres. The total amount of marketable material proposed for extraction is estimated at 3.37 million tons. Average yearly extraction would be 100,000 to 250,000 tons per year depending on market demand. The project proposes to extract aggregate from the mine to a maximum depth of 65 feet from ground surface in keeping with recommendations of the site-specific hydrogeologic assessment. The proposed project would operate year-round, Monday through Saturday, with normal operating hours of 5:00 AM to 7:00 PM. Rock and gravel screening would average 813 cubic yards per day and sand screening would average 438 cubic yards per day. A combination of wet and dry excavation would be used and the crushing operation will average 1000 cubic yards per day with a maximum of approximately 3500 cubic yards per day. The majority of the mined material would be hauled to either Granite's North State Street Plant for use in asphalt concrete or Granite's Talmage Processing Plant for Portland cement concrete production. Some aggregate may be shipped directly to local private and public construction sites, agricultural users, homeowners, and other customers.

Mining of site materials will be performed in a phased manner to allow for concurrent site reclamation. Mining would occur in three phases, with the fourth phase involving implementation of final reclamation and revegetation activities. The end use of the project will be open space (ponds), with the northwestern portion of the property available for future industrial uses. The

total life of the project is estimated to be 25 years, approximately twenty years for mining operations, with an additional five years to complete reclamation activities.

## Alternatives to the Proposed Project

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the project that could feasibly attain the objectives of the project, and to evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6(a)).

Additionally, CEQA Guidelines Section 15126.6(b) requires consideration of alternatives that could avoid or substantially lessen any significant adverse environmental effects of the proposed project, including alternatives that may be more costly or could otherwise impede the project's objectives. The range of alternatives considered must include those that offer substantial environmental advantages over the proposed project and may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors.

The following alternatives are discussed in Chapter 4, "Alternatives:"

- Alternative 1 – "No Project" Alternative
- Alternative 2 – Off-site Alternative
- Alternative 3 – On-site Alternative

## Summary of Environmental Impacts

Table ES-1 presents a summary of project impacts and proposed mitigation measures that would further avoid or minimize potential impacts. It also indicates the level of significance of each environmental impact both before and after the application of the recommended mitigation measure(s).

For detailed discussions of all project impacts and mitigation measures, see Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures."

**TABLE ES-1  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

<b>Environmental Impact</b>	<b>Level of Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance after Mitigation</b>
<b>3.1. Aesthetics</b>			
<b>3.1.1:</b> Implementation of the project would not adversely impact any scenic views.	Less than significant	None required	Less than significant
<b>3.1.2:</b> Implementation of the project has the potential to substantially degrade the existing visual character or quality of the site and its surroundings.	Less than significant	None required	Less than significant
<b>3.1.2:</b> Implementation of the project has the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less than significant	None required	Less than significant
<b>3.2. Agricultural Resources</b>			
<b>3.2.1:</b> Implementation of the proposed project would result in the permanent conversion of land designated by the Department of Conservation FMMP as <i>Prime Farmland, Farmland of Statewide Importance or Unique Farmland</i> .	Potentially significant	No feasible mitigation	Significant and unavoidable
<b>3.2.2:</b> Mining activities would not conflict with existing zoning for agricultural use or a Williamson Act contract.	No impact	None required	No impact
<b>3.2.3:</b> Mining activities could result in offsite impacts to adjacent agricultural lands.	Less than significant	None required	Less than significant
<b>3.3. Air Quality</b>			
<b>3.3.1:</b> Project operations, including the processing plant, off-road equipment, haul trucks, employee trips, and sources of fugitive dust (unpaved areas, storage piles, etc), would generate criteria pollutant emissions.	Potentially significant	<b>3.3.1:</b> Implement Mitigation Measure 3.3.3 and comply with MCAQMD fugitive dust control requirements (Rule 1-430).	Less than significant
<b>3.3.2:</b> Project operation would not create objectionable odors affecting a substantial number of people.	Less than significant	None required	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

<b>Environmental Impact</b>	<b>Level of Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance after Mitigation</b>
<b>3.3.3:</b> Implementation of the project may lead to increases in chronic exposure of nearby sensitive receptors to certain toxic air contaminants from various stationary and mobile sources	Potentially significant	<p><b>3.3.3:</b> The applicant shall implement one of the following:</p> <ul style="list-style-type: none"> <li>• Approximately 55 percent of off-road mining equipment with 50 horsepower or greater used in mining operations shall be equipped with CARB verified Level 3 emission control technologies. Such technology would reduce particulate matter emissions by 85 percent or greater or to a level of less than 0.01 g/bhp-hr; or</li> <li>• Utilize a conveyer belt system to transport aggregate from the mine to the processing area.</li> </ul>	Less than significant
<b>3.3.4:</b> The project could conflict with implementation of state goals for reducing greenhouse gas emissions and thereby have a negative effect on global climate change.	Less than significant	None required	Less than significant
<b>3.3.5:</b> Development and operation of the project would result in a cumulative increase of criteria pollutant emissions.	Less than significant	None required	Less than significant
<b>3.4. Biological Resources</b>			
<b>3.4.1:</b> Mining, reclamation, restoration, and floodplain benching has the potential to result in adverse impacts to raptors (including osprey) and other migratory or nesting birds.	Potentially significant	<p><b>3.4.1:</b> The following measures shall be implemented to reduce potential impacts on nesting osprey and other raptors:</p> <ol style="list-style-type: none"> <li>1. If project activities (construction including clearing and grubbing, and initial grading; mining; and reclamation) will begin between March 1 and September 30 (nesting season), a qualified biologist shall conduct a preconstruction survey of all potential nesting habitats within 30 days prior to the start of project activities within 500 feet of construction project activities on the west side of the Russian River. If project activities are delayed or suspended for more than 30 days after the pre-construction survey and during the nesting season, the site shall be resurveyed. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if special-status birds are documented) and/or Mendocino County. This memorandum shall be made available to MCWA and to other agencies upon request.</li> <li>2. If an active nest is found during the preconstruction survey, coordination with the California Department of Fish and Game will be required to determine the appropriate protective measures.</li> <li>3. If the preconstruction survey indicates that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by birds or that are located more than 500 feet from active nests may be removed (500 feet is the distance</li> </ol>	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
<p><b>3.4.2:</b> Mining, reclamation, restoration, and floodplain benching associated with the proposed project has the potential to result in adverse impacts to northwestern pond turtle.</p>	Potentially significant	<p>regularly recommended by DFG to prevent impacts to active raptor and other avian nests). This distance may be modified in consultation with DFG.</p> <p>4. If an active nest is located within 250 feet of project activities, a biologist shall monitor the nest weekly during project activities to evaluate potential nesting. The biological monitor will have the authority to stop work if work appears to be resulting in nest abandonment or forced fledging. No trees with active nests shall be removed until the nest is determined to be inactive. This monitoring requirement may be modified in consultation with DFG.</p> <p>5. The biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.</p> <p><b>3.4.2:</b> To reduce impacts to northwestern pond turtle, the following measures shall be implemented:</p> <ol style="list-style-type: none"> <li>1. No more than two weeks prior to the commencement of ground-disturbing activities within the aquatic or riparian areas, the applicant will retain a qualified biologist to perform surveys for northwestern pond turtle within affected suitable aquatic and riparian habitat on the project site. Surveys will include northwestern pond turtle nests as well as individuals. The biologist (with the appropriate agency permits) will temporarily relocate any identified northwestern pond turtles upstream of the construction site, and temporary barriers will be placed around the construction site to prevent ingress.</li> <li>2. Construction shall not proceed until the work area is determined to be free of northwestern pond turtles and their nests. A biologist will monitor all ground-disturbing project activities within the aquatic or riparian areas. The biologist will be responsible for relocating adult northwestern pond turtles that move into the construction zone after construction has begun. If a nest is located within a work area, the biologist (with the appropriate permits from the CDFG) may move the eggs to a suitable facility for incubation, and release hatchlings into the creek system in late fall.</li> <li>3. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if northwestern pond turtles are documented) and/or Mendocino County. This memorandum shall be made available to MCWA and other requesting agencies. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted</li> </ol>	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.	
<b>3.4.3:</b> Reclamation and floodplain benching has the potential to result in adverse impacts to special-status salmonids.	Potentially significant	<p><b>3.4.3:</b> The following measures will avoid or minimize potential construction-related impacts to special-status salmonids present in the vicinity of project site:</p> <ol style="list-style-type: none"> <li>1. All construction activities within the Russian River and Ackerman Creek will be restricted to low-flow periods of June 15 through October 15. Longer in-water work periods may be approved only in consultation with NOAA Fisheries.</li> <li>2. If construction activities within actively flowing channels are necessary, water from around the construction area will be diverted around the construction area using a sheet pile coffer dam or similar technique. Measures 3, 4 and 5 shall apply to the use of a cofferdam.</li> <li>3. Sediment curtains will be placed downstream of the construction zone to prevent sediment disturbed during coffer dam installation from being transported and deposited outside of the construction zone.</li> <li>4. Prior to construction of the placement of the sediment curtains and installation of the coffer dam, a qualified fisheries biologist will conduct fish relocation activities, and immediately release captured fish to a suitable habitat near the project site. Capture and relocation activities will be conducted in accordance with the Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act (NMFS, 2000).</li> <li>5. A qualified fisheries biologist shall monitor the construction site during placement and removal of the cofferdams, as well as during dewatering of the construction site, to ensure that adverse effects to special-status fish species are minimized and to capture and relocate, if necessary, any special-status fish stranded within the coffer dam.</li> <li>6. Silt fencing will be installed in all areas where construction occurs within 100 feet of the Ackerman Creek and the Russian River and where construction runoff may flow into the channel. Spoil sites will be located so they do not drain directly into the waterways. If a spoil site drains into a water body, catch basins will be constructed to intercept sediment before it reaches the channels.</li> <li>7. Spoil sites will be graded to reduce the potential for erosion.</li> <li>8. A spill prevention plan for potentially hazardous materials will be prepared and implemented. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching the creek channels. See also Mitigation Measure 3.7.1.</li> </ol>	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
3.4.4: Operation of the terrace mining project has the potential to result in stranding or entrapment of special-status salmonids.	Potentially significant	<p>9. Equipment and materials will be stored at least 50 feet from waterways. No debris such as trash and spoils will be deposited within 100 feet of waterways. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, will be located outside of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream will be positioned over drip pans. Any equipment or vehicles driven and/or operated within or adjacent to the stream will be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Vehicles will be moved away from the stream prior to refueling and lubrication.</p> <p>10. Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the creeks. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e., away from sensitive drainages).</p> <p>11. A qualified biological monitor will be on site during construction activities within actively flowing channels. The biological monitor will be authorized to halt construction if impacts to special-status salmonid species are evident.</p> <p>12. Current riparian vegetation will be retained to the extent feasible.</p> <p>13. Should floodplain benching be included in the approved project, a hydro-seeding mix that includes a mixture of annual and native perennial species (e.g., creeping wild rye or other deep-rooted species), will be applied to reduce the potential for erosion.</p> <p>14. A technical memorandum summarizing all fish relocation activities shall be submitted to NOAA Fisheries and/or Mendocino County. This memorandum shall be made available to MCWA and other requesting agencies. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.</p>	Less than significant
		<p><b>3.4.4:</b> The following measures will avoid or minimize potential mining-related impacts to special status salmonids present in the vicinity of the project site.</p> <p><b>Mining Phase</b></p> <p>For the duration of the estimated 20-year mining phase of the proposed project, Granite shall develop and implement a salmonid rescue and relocation program in consultation with NMFS and CDFG. The program shall be implemented subsequent to overtopping events. Mining activities shall be halted until salmonid rescues have been completed.</p>	

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>This measure will minimize entrapment of salmonids in the pit to greatest extent feasible.</p> <p><b>Reclamation Phase</b></p> <p>Option A. The applicant shall implement the river-pond connection described in Alternative 3 of the EIR; or</p> <p>Option B. Granite shall maintain a salmonid rescue and relocation program in consultation with NMFS and CDFG until it is determined by those agencies that such a program is no longer necessary.</p> <p><b>3.4.4-ALT 3:</b> The implementation of Alternative 3 shall require one of the following measures to reduce the potential for anoxic conditions in the reclaimed pond:</p> <ol style="list-style-type: none"> <li>a. Limit the reclaimed depth of the pit to 50 feet or less (below existing surface grade); or</li> <li>b. Prior to reclamation an assessment of water quality conditions throughout the year shall be performed to determine if anoxic conditions occur at depths greater than 50 feet. Depending on the findings of the water quality assessment, Granite will either limit the final pit depth to 35 feet below groundwater (50 feet below surface grade) or a greater depth if supported by the findings of the study, in consultation with NOAA.</li> </ol>	
<b>3.4.5:</b> Mining, reclamation, restoration, and floodplain benching associated with the proposed project would not affect potentially jurisdictional wetlands and would not adversely affect waters of the U.S.	Less than significant	None required	Less than significant
<b>3.4.6:</b> Mining, reclamation, restoration, and floodplain benching associated with the proposed project has the potential to result in adverse impacts to riparian habitat.	Potentially significant	<p><b>3.4.6:</b> The following measures will avoid or minimize potential construction-related impacts to riparian habitat:</p> <ol style="list-style-type: none"> <li>1. Prior to removal of any trees, an ISA Certified Arborist shall conduct a tree survey in areas that may be impacted by construction activities. This survey shall document tree resources that may be adversely impacted by implementation of the proposed project. The survey will follow standard professional practices. The survey shall be documented in a report which details the number of trees to be removed as well as the trees' species, DBH, and condition. This report shall be submitted to Mendocino County and shall be made available to MCWA and other agencies upon request.</li> <li>2. Current riparian vegetation will be retained to extent feasible. A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. The TPZ will be delineated by an ISA Certified Arborist. The TPZ shall be defined by the radius of the dripline of the tree(s) plus one foot. The TPZ of any protected trees shall be demarcated using fencing that will remain in place for the duration of construction activities.</li> </ol> <p>Construction-related activities shall be limited within the TPZ to those activities that can be done by hand. No heavy equipment or machinery shall be operated within the TPZ. Grading shall be prohibited within the TPZ. No</p>	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>construction materials, equipment, or heavy machinery shall be stored within the TPZ.</p> <p>3. To ensure that there is no net loss of riparian habitat, Granite shall create or restore riparian habitat that is of a like function and value to the habitats lost pursuant to the reclamation plan. The Kunzler Terrace Mine Reclamation Plan includes performance standards for revegetation that will ensure successful restoration of the riparian areas and other impacted habitats. Annual monitoring of the performance standards for revegetated areas shall be documented in a report which details the results of the monitoring. This report shall be submitted to Mendocino County and shall be made available to MCWA and other agencies upon request.</p>	
<b>3.4.7:</b> Reclamation, floodplain benching, and mining operations have the potential to result in adverse impacts to Foothill yellow-legged frog.	Potentially significant	<p><b>3.4.7:</b> The following measures will avoid or minimize potential construction-related impacts to Foothill yellow legged frog (FYLF) potentially present in the vicinity of project site:</p> <ol style="list-style-type: none"> <li>1. Construction activities within FYLF habitat (within the channel of the Russian River and Ackerman Creek) shall be conducted between April 1 and November 1 (FYLF active period). A qualified biologist, holding all pertinent permits or authorization for handling FYLF shall conduct a pre-construction survey (for any and all life stages) of the proposed project site two weeks prior to the onset of construction activities, shall provide construction crew training on minimization measures pertinent to the project, and shall monitor the construction site for compliance with minimization measures during construction. The results of pre-construction surveys shall be documented in a technical memorandum that shall be submitted to the USFWS, Mendocino County, and other agencies upon request.</li> <li>2. Silt fencing will be installed in all areas where construction occurs within 100 feet of Ackerman Creek and the Russian River and where construction runoff may flow into the channel (per Mitigation Measure 3.4.3).</li> <li>3. Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the Creek/River. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e. away from sensitive drainages).</li> <li>4. A qualified biological monitor will be on site during construction activities. The biological monitor will be authorized to halt construction if impacts to FYLF are evident. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the USFWS, Mendocino County and will be available for review by any other interested parties.</li> <li>5. Current riparian vegetation will be retained to extent feasible.</li> </ol>	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
<b>3.5. Cultural Resources</b>			
<p><b>3.5.1:</b> The proposed project could adversely impact known and unknown cultural resources, including unique archaeological resources and historic resources.</p>	Potentially significant	<p><b>3.5.1a:</b> CA-MEN-3111H (the rails, ties, and ballast of the NWPRR adjacent to the project site) shall be avoided during all project related ground-disturbing activities. If avoidance is not possible, an assessment should be completed by a qualified Architectural Historian to determine whether CA-MEN-3111H is eligible for inclusion on the California Register of Historical Resources or the National Register of Historic Places. Tasks necessary for the completion of such an evaluation may include, and are not limited to, further documentary research, resource site visit and condition assessment, the identification and recordation of any associated structural features such as historic-period culverts or bridges, and the completion of eligibility applications (if necessary). A technical report detailing the methodology and results, as well as significance and eligibility assessment shall be drafted for submission. Normal use of the road easement (Kunzler Ranch Road) by vehicles, including haul trucks, to access the project site is excluded from this mitigation measure.</p> <p><b>3.5.1b:</b> An archaeological monitoring plan for ground-disturbing activities within the setback areas of the Russian River and Ackerman Creek shall be developed and implemented by a qualified archaeologist who meets the Secretary of Interior's Standards, in consultation with the Lead Agency and local Native American representatives. Specific monitoring scheduling and protocols will be defined by the archaeological monitoring plan. The archaeological monitor is responsible for the completion of daily monitoring logs and will likewise document and photograph any cultural materials discovered during ground-disturbing activities. Should previously unknown archaeological or historical resources be encountered, Mitigation Measure 3.5.1c must be implemented. Should previously unknown human burials or remains be encountered during project activities, Mitigation Measure 3.5.2 must be implemented.</p> <p><b>3.5.1c:</b> Should prehistoric or historic subsurface cultural resources be discovered during project-related activities, all work within 50 feet of the find shall stop and a qualified archaeologist shall be contacted to document the discovery, evaluate the potential resource, and assess the significance of the find in accordance with CEQA Guidelines Section 15064.5. If any find is determined to be significant, the project proponent and the archaeologist shall develop, in consultation with local Native Tribes, a cultural resources recovery and treatment plan. This plan shall establish appropriate protocol and further action necessary in order to preserve the resource or otherwise establish appropriate mitigation that will minimize further adverse impact. Significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.</p>	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

<b>Environmental Impact</b>	<b>Level of Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance after Mitigation</b>
<b>3.5.2:</b> The proposed project could potentially impact previously unidentified human remains.	Potentially significant	<b>3.5.2:</b> If human skeletal remains are uncovered during project construction, work in the vicinity of the find shall cease and the Mendocino County coroner will be contacted to evaluate the remains, following the procedures and protocols set forth in Section 15064.5 (e)(1) of the <i>CEQA Guidelines</i> . If the County coroner determines that the remains are Native American, the project proponent will contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641), who will identify a Most Likely Descendent, who will make recommendations for the treatment of any human remains.	Less than significant
<b>3.5.3:</b> The proposed project could potentially impact a unique paleontological resource, or site, or unique geologic feature.	Potentially significant	<b>3.5.3:</b> In the event that paleontological resources are discovered, the project proponent will retain a qualified paleontologist. The paleontologist will document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. If fossil or fossil bearing deposits are discovered during construction, excavations within 50 feet of the find will be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (in accordance with Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology, 1995). The paleontologist will notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist will prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important. The plan will be submitted to the project proponent for review and approval prior to implementation.	Less than significant
<b>3.6. Geology, Soils &amp; Seismicity</b>			
<b>3.6.1:</b> Temporary and permanent excavation slopes could be subject to failure due to earthquake induced landslides. Failure of temporary slopes in an active mining environment could injure workers, disrupt mining activities, and potentially result in increased erosion.	Less than significant	None required	Less than significant
<b>3.6.2:</b> Activities associated with mining operations that cause disturbance of surface soils, native, non-native, and non-engineered material could contribute to localized erosion. Erosion processes which could occur include, but are not limited to, concentrated short-term and/or long-term erosion, debris flows, slow soil creep, and/or localized slumping.	Less than significant	None required	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

<b>Environmental Impact</b>	<b>Level of Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance after Mitigation</b>
<b>3.6.3:</b> The proposed project in combination with other projects in the past, present or foreseeable future would have a cumulative impact related to Geology, Soils, and Seismicity.	Less than significant	None required	Less than significant
<b>3.7. Hazards and Hazardous Materials</b>			
<b>3.7.1:</b> The proposed project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	<b>3.7.1:</b> The project applicant shall ensure, through the enforcement of contractual obligations, that all contractors transport, store, and handle construction related hazardous materials on the project site in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the California Department of Transportation, Regional Water Quality Control Board, and MCEHD, such as the Storage Statement and a Spill Prevention Control and Countermeasure Plan (SPCCD) and the Hazardous Materials Management Plan prepared as part of the proposed project. The project applicant shall also ensure that all contractors immediately control the source of any leak and immediately contain any spill utilizing appropriate spill containment and countermeasures as outlined in the Spill Prevention Plan. If required by any regulatory agency, contaminated media shall be collected and disposed of at an offsite facility approved to accept such media. In addition, all precautions required by the RWQCB-issued NPDES construction activity storm water permits will be taken to ensure that no hazardous materials enter any nearby waterways.	Less than significant
<b>3.7.2:</b> Implementation of the proposed project has the potential for existing and/or previously unidentified contamination to be encountered during proposed project site preparation, construction activities, and mining activities.	Potentially significant	<b>3.7.2:</b> If contaminated soil and/or groundwater are encountered or suspected contamination is encountered during project construction or mining activities on the proposed project site, work shall be halted in the area, and the type and extent of the contamination shall be identified. A qualified professional, in consultation with the overseeing regulatory agency (RWQCB, DTSC, and/or MCEHD) shall then develop an appropriate method to remediate the contamination, and determine the appropriate handling and disposal method of any contaminated soil and/or groundwater. If required, a remediation plan shall be implemented in conjunction with continued project construction or operations.	Less than significant
<b>3.7.3:</b> The proposed project site is listed on a database for hazardous materials and hazardous wastes, but a review of the information indicates that development of the proposed project would not create a significant hazard to the public or the environment.	Less than significant	None required	Less than significant
<b>3.7.4:</b> The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant	None required	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

<b>Environmental Impact</b>	<b>Level of Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance after Mitigation</b>
<b>3.8. Hydrology and Water Quality</b>			
<b>3.8.1:</b> Construction and operation activities associated with the proposed project, including grading and excavation as well as the stockpiling of soils, have the potential to increase surface erosion and subsequently violate surface water quality standards pertaining to turbidity and sedimentation.	Less than significant	None required	Less than significant
<b>3.8.2:</b> Spills or leakage of oil and gas products (i.e., petroleum hydrocarbons) could result in the contamination of surface water and/or groundwater resources and violation of water quality standards pertaining to such contaminants	Potentially significant	<p><b>3.8.2:</b> The following requirements and provisions shall be incorporated in the SPCCP for the proposed project:</p> <ul style="list-style-type: none"> <li>• Fuels and lubricants would be stored in approved double-walled containers.</li> <li>• Waste oils and lubricants would be stored in approved containers and secondary containments. Waste oils would be removed from the site as needed by a licensed petroleum products recycling contractor.</li> <li>• Refueling and maintenance activities involving the fuel and lubrication truck shall take place no closer than 100-feet from the top of the pit slope.</li> <li>• The above ground diesel fuel tank shall be placed no closer than 100-feet from the top of the pit slope.</li> </ul>	Less than significant
<b>3.8.3:</b> The water demand for the proposed project, including consumptive uses and evaporative losses from the pits during the operation and reclamation phases, could result in the depletion of the shallow aquifer volume and a lowering of local water table elevations.	Less than significant	None required	Less than significant
<b>3.8.4:</b> The proposed project would alter the gradient of the local groundwater table and, as a result, change the static groundwater elevations within the immediate vicinity of the project site. This could result in physical damage to nearby wells caused by depressed static water levels below the top of the well screen or a loss of yield such that there is an appreciable diminution in the quantity or quality of water.	Less than significant	None required	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
<b>3.8.5:</b> The quality of the water within the pit, during both the operation and reclamation phases, could directly and negatively impact the quality of groundwater in the shallow aquifer, and/or within the Russian River or Ackerman Creek, in such a manner as to violate existing water quality standards or otherwise degrade water quality.	Less than significant	None required	Less than significant
<b>3.8.6:</b> The proposed project would alter the drainage pattern of both the floodplain and the active stream channels (Ackerman Creek and the Russian River), this could result in substantial erosion and/or sedimentation during flood events (e.g., pit capture, or release of stored sediments).	Potentially significant	<b>3.8.6:</b> The condition of the weir shall be inspected annually (in the spring, prior to May 1st) for stability. The inspection shall be performed by a professional engineer licensed in the State of California. Any erosion or undercutting of the weir base or perimeter, or other factors that could impact weir stability, shall be noted and repaired immediately. An inspection of the setback areas shall also be performed annually (at the same time as weir inspection), with emphasis upon the topographic low points (such as the location near the southeast corner of the project site where the pit would begin draining to the Russian River when full). Any substantial erosion shall be noted (i.e., evidence of gulying or head-cutting across the ground surface) and repaired immediately (e.g., using turf reinforcement mats [TRM], rock, or other similar approaches). All repairs or maintenance activities shall be completed by October 1st of the same year. Granite shall submit an inspection report to Mendocino County staff each year documenting the results of the inspection and, if repairs or maintenance are necessary, providing a work plan for addressing all noted issues. Granite shall incur all responsibilities and costs for inspection, maintenance, and repair for the life of the proposed project. Prior to completion of the proposed project, a deed restriction (in form and substance acceptable to the County Counsel) shall be recorded against the property such that this mitigation measure is made a condition of property ownership and would be applicable in perpetuity.  Should the applicant construct a river-pond connection as described in Alternative 3 of the EIR, annual weir inspections and deed restrictions shall no longer be necessary and this mitigation shall be deemed complete.	Less than significant
<b>3.8.7:</b> The proposed project would alter the drainage pattern of both the floodplain and the active stream channels (Ackerman Creek and the Russian River) within the project area, this could impact surface water elevations during flood events such that the extent of on- or off-site flooding would increase.	Less than significant	None required	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

<b>Environmental Impact</b>	<b>Level of Significance before Mitigation</b>	<b>Mitigation Measures</b>	<b>Level of Significance after Mitigation</b>
<b>3.9. Land Use</b>			
<b>3.9.1:</b> The proposed project will not physically divide an established community.	Less than significant	None required	Less than significant
<b>3.9.2:</b> The proposed project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.	Less than significant	None required	Less than significant
<b>3.10 Noise</b>			
<b>3.10.1:</b> Construction, operation, and reclamation activities associated with the proposed project would not generate noise levels in excess of standards established in the local general plans or noise ordinances.	Less than significant	None required	Less than significant
<b>3.10.2:</b> Traffic associated with operation of the project could result in an increase in ambient noise levels on nearby roadways used to access the mine.	Less than significant	None required	Less than significant
<b>3.10.3:</b> Increases in traffic from the project in combination with other development could result in cumulative noise increases.	Less than significant	None required	Less than significant
<b>3.11. Public Services, Utilities &amp; Recreation</b>			
<b>3.11.1:</b> Implementation of the project may increase the need for additional law enforcement and fire protection services from the local police and fire departments.	Less than significant	None required	Less than significant
<b>3.11.2:</b> Implementation of the proposed project would not result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	No impact	None required	No impact
<b>3.11.3:</b> Implementation of the proposed project may impact water supplies.	Less than significant	None required	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
<b>3.11.4:</b> The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs.	Less than significant	None required	Less than significant
<b>3.11.5:</b> Implementation of the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.	No impact	None required	No impact
<b>3.11.6:</b> Implementation of the proposed project may impact electric power lines on the proposed project site.	Less than significant	None required	Less than significant
<b>3.12. Traffic and Transportation</b>			
<b>3.12.1:</b> Under Existing with Project conditions study area intersections could operate at a deficient LOS.	Potentially significant	<p><b>3.12.1:</b> There are a number of options that would improve or maintain current levels of peak hour LOS operations at this intersection. The applicant and County shall implement one of the following measures:</p> <ul style="list-style-type: none"> <li>a. Prohibit project haul truck traffic during the weekday PM peak hour (4:30 to 5:30). This measure could be implemented as a condition of project approval. Without project truck traffic PM peak hour approach movements would continue to operate as they do currently.</li> <li>b. Require all outbound haul truck traffic to turn right onto North State Street during the AM (7:30 to 8:30) and PM (4:30 to 5:30) peak hours. This measure would require southbound trucks to travel north on North State Street and access the U.S. 101 southbound ramp at Lake Mendocino Drive. This measure also could be implemented as a condition of project approval and would result in LOS E operations at the westbound approach during the PM peak hour. This option (Alternative Route A) is analyzed in the Alternatives section of this report.</li> <li>c. Provide an alternative route for southbound project haul trucks. This option (Alternative Route B) would provide a roadway link from the project site on existing private roads south to the signalized Ford Road / North State Street intersection where project trucks would turn right onto North State Street and access the nearby U.S. 101 southbound ramp. This measure would result in LOS E operations at the westbound approach of North State Street / Kunzler Ranch Road intersection during the PM peak hour. This option would require use agreements between the project sponsors and private property owners. The private roadways would require survey testing and possible upgrading prior to use as haul routes. This option (Alternative Route B) is analyzed below.</li> </ul>	Less than significant

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>d. Signalization. Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.</p> <p><b>North State Street / Kunzler Ranch Road (#6).</b> Installation of a traffic signal would result in acceptable LOS B or better conditions during the AM and PM peak hour at all approaches of this intersection. A traffic signal at this location would improve safety by insuring that westbound left-turns would receive sufficient green time during a cycle to maneuver from Kunzler Ranch Road to southbound North State Street. As noted, current traffic levels at this intersection do not meet the peak hour volume signal warrant.</p> <p><b>North State Street / Northbound U.S. 101 Ramps (#8).</b> The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours. As under existing conditions the peak hour traffic volume signal warrant would be met at this location.</p> <p>The Route 101 Corridor Interchange Study documented a higher than average collision rate at this intersection at the off-ramp, on ramp and freeway mainline in the vicinity of ramp merge. The excess collision rate is due primarily to inadequate merge length and substandard radius at the on-ramp and inadequate merge capacity (on-ramp) and congestion at the intersection. The Route 101 study recommends signalization at both the northbound and southbound ramps in conjunction with optimization and coordination with the North State Street /Kuki Lane signalized intersection to the south to address near-term operational problems.</p> <p>The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The Ukiah Valley Area Transportation Impact Fee Nexus Study, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.</p>	

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
<p><b>3.12.2:</b> Under the 2015 with Project condition study area intersections could operate at a deficient LOS.</p>	<p>Potentially significant</p>	<p><b>Measure 3.12.2:</b> The applicant and County shall implement one of the following measures:</p> <ol style="list-style-type: none"> <li>a. Prohibit project haul truck traffic during the weekday PM peak hour (4:30 to 5:30). This measure could be implemented as a condition of project approval. Without project truck traffic PM peak hour approach movements would continue to operate as they do currently.</li> <li>b. <b>Signalization.</b> Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.</li> </ol> <p><b>North State Street / Hensley Creek Road (#5).</b> The delays at this intersection would primarily be due to traffic generated by the community college exiting at the eastbound approach left-turn movement. Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>North State Street / Kunzler Ranch Road (#6).</b> The delays at this intersection would be at the westbound approach left-turn movement during the PM peak hour under conditions without and with project traffic. Other than the installation of a traffic signal the improvement measures described for the Existing with Project scenario at this intersection would not mitigate the LOS F conditions. The previous measures include prohibiting project haul traffic during the PM peak hour or, require all project outbound haul truck traffic to turn right onto North State Street during the PM peak hour (Alternative A) or, provide an alternative route for southbound project haul trucks (Alternative B). While these measures would not restore acceptable PM peak hour LOS operations at the westbound approach, implementation of one or more of these measures would remove westbound and southbound left-turn large haul trucks from the intersection during peak hour conditions. A reduction of heavy truck traffic would contribute to overall safer operations on North State Street at this intersection.</p> <p>Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met only under PM peak hour with project conditions at this intersection.</p> <p><b>North State Street / Orr Springs Road (#7).</b> The delays at this intersection would primarily be due to traffic at the eastbound approach left-turn movement</p>	<p>Less than significant</p>

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>in the PM peak hour. Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>North State Street / Northbound U.S. 101 Ramps (#8).</b> The delays at this intersection would primarily be due to traffic exiting U.S. 101 at the northbound off-ramp (westbound approach) during the PM peak hour. The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>As noted, this intersection experiences a higher than average number of collisions due to inadequate merge lengths and capacities at the on-ramp and congestion at the off-ramp intersection. The near-term improvement of a signal at this intersection would include signalization at the southbound off-ramp and coordination with the existing signalized intersection at Kuki Lane/North State Street.</p> <p><b>North State Street / Southbound U.S. 101 Ramps (#9).</b> The installation of a traffic signal at this intersection would improve overall operations to LOS D or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The near-term improvements developed for this intersection (Route 101 Corridor Interchange Study) include a signal at the southbound off-ramps that would be coordinated with the existing signal at Kuki Lane. Other near-term improvements include a signal at the northbound ramps and an increased acceleration lane on the U.S. 101 overcrossing.</p> <p><b>SR 222 / U.S. 101 Southbound Ramps (#12).</b> The unacceptable delays at this intersection would primarily be due to southbound and northbound approach (off-ramps) right-turn movements during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS B or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>Future improvements proposed for this interchange (Route 101 Corridor Interchange Study) include modifications to the current configuration the installation of signals at both northbound and southbound ramp intersections and the optimization and coordination of the existing signal at Airport Park Boulevard with the newly installed ramp signals.</p> <p><b>SR 222 / U.S. 101 Northbound Ramps (#13).</b> The northbound approach at this intersection would operate at unacceptable delay levels due to PM peak hour left-turn movements. Installation of a traffic signal at this intersection</p>	

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
<p><b>3.12.3:</b> Under the 2030 with Project condition study area intersections could operate at a deficient LOS.</p>	<p>Potentially significant</p>	<p>would improve overall PM peak hour operations to LOS B or better. The peak hour traffic volume signal warrant would be met at this location under PM peak hour conditions.</p> <p>The installation of a traffic signal at this intersection would likely be part of the overall future proposed improvements for the SR 222 interchange as described above (see intersection #12).</p> <p>The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The <i>Ukiah Valley Area Transportation Impact Fee Nexus Study</i>, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.</p> <p><b>3.12.3 :</b> The applicant and County shall implement the following measure:</p> <p><b>Signalization.</b> Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.</p> <p><b>North State Street / Hensley Creek Road (#5).</b> The delays at this intersection would primarily be due to traffic generated by the community college exiting at the eastbound approach left-turn movement. Installation of a traffic signal at this intersection would result in AM and PM peak hour LOS B or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>North State Street / Kunzler Ranch Road (#6).</b> The delays at this intersection would be at the westbound approach left-turn movement during the AM and PM peak hour under conditions without and with project traffic. Installation of a traffic signal at this intersection would result in AM and PM peak hour LOS B or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The previous measures recommending prohibiting project haul traffic during</p>	<p>Significant and unavoidable</p>

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>the peak hours or, requiring all project outbound haul truck traffic to turn right onto North State Street during the peak hours (Alternative A) or, providing an alternative route for southbound project haul trucks (Alternative B) would contribute to safe operations at this intersection. While these measures would not restore acceptable peak hour LOS operations at the westbound approach, implementation of one or more of these measures would remove westbound and southbound left-turn large haul trucks from the intersection during peak hour conditions. A reduction of heavy truck traffic would contribute to overall safer operations on North Main Street at this intersection.</p> <p>Installation of a traffic signal at this intersection would result in peak hour LOS B or better operations during the AM and PM peak hour for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>North State Street / Orr Springs Road (#7).</b> The delays at this intersection would primarily be due to traffic at the eastbound approach left-turn movement in the PM peak hour. Installation of a traffic signal at this intersection would result in PM peak hour LOS D or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The distance between this intersection and Kunzler Ranch Road / North State Street to the north is approximately 500 feet. The relatively close proximity of these two signals would require that they are coordinated so that queuing traffic has sufficient time to clear and avoid operational problems between the two intersections.</p> <p><b>North State Street / Northbound U.S. 101 Ramps (#8).</b> The delays at this intersection would be primarily due to traffic exiting U.S. 101 at the northbound off-ramp (westbound approach) during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS B or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The proposed future improvements at this intersection would include a coordinated signal, increases in acceleration length for on-ramps and mainline merges. These improvements would be implemented in conjunction to improvements to the southbound interchange intersection.</p> <p><b>North State Street / Southbound U.S. 101 Ramps (#9).</b> Proposed future improvements (Route 101 Corridor Interchange Study) at this intersection would include a realignment of the on and off-ramps to form a signalized four legged intersection. This newly configured intersection would be coordinated with the signalized intersection at North State Street / Kuki Lane. The</p>	

**TABLE ES-1 (cont.)  
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>implementation of the proposed measures would improve overall operations to LOS D or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>SR 222 / U.S. 101 Southbound Ramps (#12).</b> The unacceptable delays at this intersection would primarily be due to southbound and northbound approach (off-ramps) right-turn movements during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The proposed future improvements at this intersection would include a reconfiguring of the current interchange design and a signal at the northbound ramps. The interchange signals would be coordinated with the existing signal at Airport Park Boulevard / Talmage Road.</p> <p><b>SR 222 / U.S. 101 Northbound Ramps (#13).</b> The northbound approach at this intersection would operate at unacceptable delay levels due to peak hour left-turn movements. Installation of a traffic signal at this intersection would improve overall peak hour operations to LOS C or better. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>As noted (see intersection #12 above), the installation of a traffic signal at this intersection would be part of a comprehensive future improvement plan for this interchange.</p> <p>The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The <i>Ukiah Valley Area Transportation Impact Fee Nexus Study</i>, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFF) capital project list. The TIFF list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.</p>	
<b>3.12.4:</b> Project operation would contribute to the degradation of pavement on public roads.	Potentially significant	<b>3.12.4:</b> Traffic-related repairs on Kunzler Ranch Road shall be initiated when the owners of the road and users of the easement reach a decision that such repairs are necessary. Granite's fair share shall be calculated based on the proportion of applicant's heavy truck trips to the total number of heavy truck trips on the road that year. Consistent with Civil Code Section 845, in the absence of a road maintenance agreement, applicant shall be required to pay its fair share of the cost and expense incurred for traffic-related repairs of Kunzler Ranch Road.	Less than significant

# Chapter 1

## Introduction





# CHAPTER 1

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## Introduction

### 1.1 Overview

This Environmental Impact Report (EIR) for the Kunzler Terrace Mine Project (proposed project) (SCH#2008042108) was prepared in compliance with the California Environmental Quality Act (CEQA) and CEQA Guidelines (California Code of Regulations, Title 14). Mendocino County is the lead agency for the environmental review of the proposed project and has the principal responsibility for approving the project. As described in the CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses potential environmental effects of a proposed project, as well as identifies mitigation measures and alternatives to the project that could reduce or avoid adverse environmental impacts. CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority. The EIR is an informational document used in the planning and decision-making process. It is not the purpose of an EIR to recommend either approval or denial of a project.

The procedures required by CEQA “are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects (Public Resources Code Section 21002).” As a general rule, “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.” However, “in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof (*ibid.*)”

Stated differently, under CEQA, a lead agency must make certain determinations before it can approve or carry out a project if the EIR reveals that the project will result in one or more significant environmental impacts.

The lead agency must “certify” the Final EIR. According to the “CEQA Guidelines,” “certification” consists of three separate steps. Prior to approving a project, the lead agency shall certify that (1) the Final EIR has been completed in compliance with CEQA; (2) the Final EIR was presented to the decision-making body of the lead agency and that the body has reviewed and considered the information contained in the Final EIR prior to approving the project; and (3) the Final EIR reflects the lead agency’s independent judgment and analysis (CEQA Guidelines, Section 15090(a); see also Public Resources Code, Section 21082.1(c)(3)).

Before approving a project for which a certified Final EIR has identified significant environmental effects, the lead agency must make one or more specific written findings for each of the identified significant impacts. These findings include and are limited to the following:

1. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
2. Such changes or alternations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR (CEQA Guidelines, Section 15091(a)).

If there remain significant environmental effects even with the adoption of all feasible mitigation measures or alternatives, the agency must adopt a “statement of overriding considerations” before it can proceed with the project. The statement of overriding consideration must be supported by substantial evidence in the record (CEQA Guidelines, Sections 15092 and 15093).

These overriding considerations include the economic, legal, social, technological, or other benefits of the proposed project. The lead agency must balance these potential benefits against the project’s unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the lead agency may consider the adverse environmental impacts to be “acceptable” (CEQA Guidelines, Section 15093(a)). These benefits should be set forth in the statement of overriding considerations, and may be based on the Final EIR and/or other information in the record of proceedings (CEQA Guidelines, Section 15093(b)).

Notably, the California Supreme Court, reflecting on this multi-step process for considering project impacts and benefits, has stated that, “[t]he wisdom of approving any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as we interpret and apply it simply requires that those decisions be informed, and therefore balanced” (see *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 576).

## **1.2 CEQA Final EIR Process**

Prior to the release of the Draft EIR, Mendocino County (Lead Agency) issued a Notice of Preparation (NOP) for a 30-day comment period between October 27, 2008 and November 26, 2008. The environmental issues raised during the scoping process were considered in the Draft EIR.

The Draft EIR for the Kunzler Terrace Mine Project was submitted to the State Clearinghouse (SCH#2008042108) and released for public and agency review on September 23, 2009. This public review and comment period concluded on November 6, 2009. A public hearing on the Draft EIR was held by the Planning Commission on October 15. Twenty-seven (27) comment letters were received, and are included in this document along with responses to environmental issues raised in the comment letters.

The CEQA Guidelines (Section 15132) specify that the Final EIR shall consist of:

- a. The Draft EIR or a revision of the draft.
- b. Comments and recommendations received on the Draft EIR either verbatim or in summary.
- c. A list of persons, organizations, and public agencies commenting on the Draft EIR.
- d. The responses of the lead agency to significant environmental points raised in the review and consultation process.
- e. Any other information added by the lead agency.

After review of the project and the Final EIR, the Mendocino County Department of Planning and Building Services, at a public hearing, will recommend to the County Planning Commission whether to approve or deny the proposed project. The County Planning Commission will then review the project, the Final EIR, the Department of Planning and Building Services recommendations, and public testimony, and consider certification of the EIR and approval or denial of the project.

### **1.3 Organization of the Document**

The Final EIR is organized into six chapters. Chapter 1 provides an overview of the CEQA process and the Final EIR. Chapter 2 provides the written and verbal comments on the Draft EIR received during the review period. Chapter 3 provides the Lead Agency's responses to the comments in Chapter 2. Chapter 4 includes corrections and additions to the Draft EIR text as a result of comments made on the Draft EIR. Chapter 5 includes the Mitigation and Monitoring Reporting Plan for the project. Chapters 6 and 7 contain a list of preparers of the Final EIR and any additional reference materials used in the preparation of the document, respectively. The revised reclamation plan is included as Appendix A. The Draft EIR (September 2009) is considered part of the Final EIR, as amended in Chapter 4 of this document.



# Chapter 2

## Comments on the Draft Environmental Impact Report



## CHAPTER 2

# Comments on the Draft Environmental Impact Report

This chapter includes comments on the Draft EIR received during the public comment period (see Chapter 1 for more detail).

## 2.1 List of Commenters

Table 2-1 provides a list of comments received. Comment letters received as well as transcribed verbal comments from the October 15, 2009 Planning Commission Hearing are reproduced in Section 2.2 below and are identified by the number code shown in the table below.

**TABLE 2-1  
PERSONS AND AGENCIES COMMENTING ON THE DRAFT EIR**

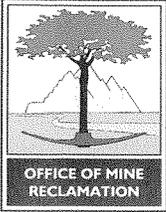
<b>Commenter</b>	<b>Date Received</b>	<b>Letter Code</b>
DOC - Office of Mine Reclamation	10-26-09	A
Public Utilities Commission	10-02-09	B
Mendocino County Farm Bureau	10-12-09	C
Native American Heritage Commission	9-29-09	D
Mendocino County Water Agency	10-27-09	E
Mendocino County Department of Agriculture	11-02-09	F
Pinoleville Pomo Nation	11-02-09	G
National Oceanic and Atmospheric Administration	11-05-09	H
City of Ukiah	11-05-09	I
Mendocino County Dept. of Transportation	11-06-09	J
Millview County Water District	11-06-09	K
Mendocino County Health & Human Services	11-06-09	L
Caltrans	11-09-09	M
DOC - Division of Land Resource Protection	11-09-09	N
Regional Water Quality Control Board	11-09-09	O
Mendocino County Archaeological Commission	11-06-09	P
Mendocino County Fair and Apple Show	11-06-09	Q
Russian Riverkeeper	11-09-09	R
University of California Cooperative Extension	10-06-09	S
University of California Cooperative Extension	10-06-09	T
Granite Construction Company	11-06-09	U
Douglas Parkinson and Associates	11-04-09	V
SCS Engineers	11-05-09	W

**TABLE 2-1 (cont.)  
PERSONS AND AGENCIES COMMENTING ON THE DRAFT EIR**

<b>Commenter</b>	<b>Date Received</b>	<b>Letter Code</b>
Beckstoffer Vineyards	11-06-09	X
Pinky Kushner	11-09-09	Y
SCS Engineers	9-28-09	Z
California Department of Fish and Game	11-12-09	AA
DEIR Public Hearing	10-15-09	BB

## 2.2 Comments

Comments received on the DEIR are presented on the following pages. Each letter is presented in its original format and listed with a letter to identify individual comments. Responses to comments are provided in Chapter 3.



# DEPARTMENT OF CONSERVATION

## OFFICE OF MINE RECLAMATION

801 K STREET • MS 09-06 • SACRAMENTO, CALIFORNIA 95814

PHONE 916 / 323-9198 • FAX 916 / 445-6066 • TDD 916 / 324-2555 • WEBSITE conservation.ca.gov

October 26, 2009

**VIA EMAIL: [spekaj@co.mendocino.ca.us](mailto:spekaj@co.mendocino.ca.us)**  
**ORIGINAL SENT BY MAIL**

John Speka  
 Mendocino County Planning Department  
 501 Low Gap Road, Room 1440  
 Ukiah, CA 95482

Dear Mr. Speka:

**DRAFT ENVIRONMENTAL IMPACT REPORT FOR KUNZLER TERRACE MINE PROJECT  
 SCH 2008042108**

The Department of Conservation's Office of Mine Reclamation (OMR) has reviewed the Draft Environmental Impact Report (DEIR) for the proposed Kunzler Terrace Mine Project, dated September 2009. The proposed project site is southwest of the confluence of the Russian River and Ackerman Creek, one mile north of Ukiah. OMR staff conducted a site visit on October 15, 2007 to discuss reclamation issues and prepared comments on the reclamation plan in a letter dated June 25, 2008.

A-1

The applicant, Granite Construction Company, is proposing to mine aggregate from an alluvial terrace on a 65.3-acre project site for a period of 25 years. The applicant estimates that a maximum of approximately 250,000 tons of material will be removed annually, with a total of approximately 3.37 million tons produced over the life of the project. The end uses for the site will be open space and ponds, with a small portion of the site suitable for industrial uses.

The following comments are provided in regard to the DEIR.

The spatial dimensions of the maps in the DEIR are inconsistent with numerical values of setbacks given in the text. The scale of DEIR maps in Figure 2-3a, 2-3b, and 2-3c is shown to be approximately one-inch equals 2550 feet. Accordingly, the DEIR maps show the setback of the mining pit from the top of the bank of the Russian River to be nearly 2400 feet, but the text of the DEIR describes the setback to be 250 feet. OMR staff suspects that the scales on the DEIR maps are erroneous, and as such, the maps portray a misleading representation of mine development. The maps should be reviewed for accuracy and revised as appropriate. The

A-2

maps and/or discussions of setbacks and other spatial descriptions should be consistent within the DEIR and with the reclamation plan.

A-2  
CONT.

Section 3.8, "Hydrology/Water Quality," of the DEIR describes floodplain enhancement, earthwork, and construction of a flood-control weir and fuse plug, which will be completed during Phase 1 of the mining operation, in order to provide isolation from the river to reduce the potential of pit capture and reduce the likelihood of fish entrapment. Section 4.2.3, "Alternative 3 – On-site Alternative," of the DEIR has the same goals to inhibit pit capture and reduce fish entrapment through floodplain enhancement work and by providing direct connectivity with the Russian River for at least 100 days per year, eliminating the need of the weir and fuse plug. Hydrologic and hydraulic analysis and a feasibility-level design of this alternative are outlined in Appendix F, "Addendum to Hydrologic and Hydraulic Analysis of Kunzler Ranch Gravel Extraction Project." However, no advanced design-level documents are provided for either of the options, making it difficult to evaluate potential environmental consequences. The reclamation plan previously reviewed by OMR included 60% design-level documents of the option that includes the weir and fuse plug; Alternative 3 was not described in the reclamation plan. Advanced design-level documents for both options should be included in the DEIR in order to ensure full environmental review. Additionally, if an alternative to the weir and fuse plug is proposed, the reclamation plan must be revised and re-submitted to OMR for review.

A-3

The DEIR describes regulatory approvals, plans, and permits that will be obtained for the proposed Kunzler Terrace Mining Project. Requirements of some of the permits may influence the manner in which reclamation is completed for the mining operation. Permit requirements that affect reclamation should be incorporated into the mining and reclamation plan prior to its approval.

A-4

Related to the previous comment, the DEIR is unclear whether or not a California Department of Fish and Game (DFG) Streambed Alteration Agreement (SAA) will be required for floodplain enhancement work and construction of a flood control weir (or excavation of hydrologic connection with the river if alternative mitigation is chosen). Given that this work will occur during Phase 1 of the mining operation, it seems prudent that the applicant contact the DFG immediately in order to determine whether or not the SAA will be required for the work and, if required, what the requirements of the SAA would be. If the SAA contains any requirements or conditions that affect reclamation, the DEIR and the mining and reclamation plan should be revised accordingly.

A-5

Appendix E of the DEIR is titled "Reclamation Plan," but the document presented is not a complete reclamation plan. It resembles neither the reclamation plan reviewed by OMR nor a revised draft of that plan incorporating OMR's comments. The appendix should be supplemented with the current version of the reclamation plan for the mining operation.

A-6

Given that the project is in the early stage of environmental review under CEQA, it is recommended that the reclamation plan not be finalized or approved until mitigation is determined. Mitigation measures recommended under CEQA may substantially change the manner in which mining and reclamation are accomplished. Any such measures should be appropriately incorporated into the mining and reclamation plan and submitted for OMR's review.

A-7

If you have any questions on these comments or require any assistance with other mine reclamation issues, please contact me at (916) 445-6175.

A-8

Sincerely,

A handwritten signature in black ink, appearing to read "Beth Hendrickson". The signature is fluid and cursive, with the first name "Beth" being more prominent than the last name "Hendrickson".

Beth Hendrickson, Acting Manager  
Reclamation Unit



PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



October 2, 2009

John Speka  
Mendocino County  
501 Low Gap Road, Room 1440  
Mendocino, CA 95482

Re: Draft Environmental Impact Report (DEIR)  
Kunzler Terrace Mine Project  
SCH# 2008042108

Dear Mr. Speka:

As the state agency responsible for rail safety within California, the California Public Utilities Commission (CPUC or Commission) recommends that development projects proposed near rail corridors be planned with the safety of these corridors in mind. New developments and improvements to existing facilities may increase vehicular traffic volumes, not only on streets and at intersections, but also at at-grade highway-rail crossings. In addition, projects may increase pedestrian movement at crossings, and elsewhere along rail corridor rights-of-way. Working with CPUC staff early in project planning will help project proponents, agency staff, and other reviewers to identify potential project impacts and appropriate mitigation measures, and thereby improve the safety of motorists, pedestrians, railroad personnel, and railroad passengers.

B-1

The project would generate a substantial amount of traffic: a maximum of 176 truck trips/day (24 trips AM peak hour, 18 for the PM peak hour), plus 20 employee trips/day. The existing level of service at the North State Street/Kunzler Ranch Road intersection is LOS E for the PM peak hour.

B-2

The DEIR states:

**Railroad Operations**

There is an existing north-south rail corridor (Northwestern Pacific Railroad tracks) in close proximity to the project site. Traffic traveling to and from the proposed project site would cross these tracks at an at-grade-rail crossing located on Kunzler Ranch Road. There currently is no rail service on this line. (p. 3.12-9)

B-3

The DEIR does not address potential safety issues at the Kunzler Ranch Road at-grade crossing. Although there currently is no rail service on this North Coast Railroad Authority line, rail service is expected to resume in the near future. Especially given the amount of traffic that would be generated by the project, and the existing LOS E for the PM peak hour, the Commission recommends that the project proponent schedule a diagnostic review with North Coast Railroad Authority and CPUC to determine appropriate protective measures at this crossing.

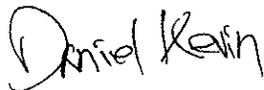
RECEIVED  
OCT 05 2009

BY  
PLANNING & BUILDING SERVICES  
Ukiah, CA 95482

Thank you for your consideration of these comments. If you have any questions in this matter, please call David Stewart, CPUC Rail Crossings Engineering Section, at (916) 324-7134.

B-4

Sincerely,

A handwritten signature in black ink that reads "Daniel Kevin". The signature is written in a cursive, slightly slanted style.

Daniel Kevin  
Regulatory Analyst  
Consumer Protection and Safety Division  
California Public Utilities Commission

cc:

Mitch Stogner  
Executive Director  
North Coast Railroad Authority  
419 Talmage Road, Suite M  
Ukiah, CA 95482



# Mendocino County Farm Bureau

Affiliated with the California Farm Bureau Federation and the American Farm Bureau Federation

COPY

October 12, 2009

Department of Planning and Building Services  
 Attn: John Speka  
 501 Low Gap Road, Room 1440  
 Ukiah, CA 95482

RE: CASE#: U 4-2008 (Kunzler Terrace Mine)

Dear Mr. Speka,

Mendocino County Farm Bureau (MCFB) has reviewed the Draft Environmental Impact Report (DEIR) in relation to Granite Construction Companies proposed mining operation located at 2175 Kunzler Ranch Road. The MCFB Board of Directors discussed this project at the October Board meeting and with consideration given to the conversion of the existing vineyard into a local aggregate source, MCFB has decided to take a No Position (neutral) in relation to the Kunzler project.

C-1

Sincerely,

Mike Anderson, President

CC: Supervisor Carre Brown  
 Planning Commissioner Greg Nelson  
 Tony Shaw, Granite Construction Company



STATE OF CALIFORNIA

## NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364  
 SACRAMENTO, CA 95814  
 (916) 653-4082  
 (916) 657-5390 - Fax



September 29, 2009

John Speka  
 Mendocino County  
 501 Low Gap Road, Room 1440  
 Ukiah, CA 95482

RE: SCH#2008042108 Kunzler Terrace Mine Project; Mendocino County.

Dear Mr. Speka:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Completion (NOC) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present. **There is a known archaeological site: CA-MEN-3111H in the area.**
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **USGS 7.5 minute quadrangle name, township, range and section required.**
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached.**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

*Katy Sanchez*  
 Katy Sanchez  
 Program Analyst  
 (916) 653-4040

RECEIVED  
 OCT 05 2009

CC: State Clearinghouse

BY  
 PLANNING & BUILDING SERVICES  
 Ukiah, CA 95482

**Native American Contact**  
Mendocino County  
September 29, 2009

Coyote Valley Band of Pomo Indians  
John Feliz Jr., Chairperson  
P.O. Box 39/ 7901 Hwy 10, Pomo  
Redwood , CA 95470  
(707) 485-8723  
(707) 485-1247 Fax

Redwood Valley Rancheria of Pomo  
Elizabeth Hansen, Chairperson  
3250 Road I Pomo  
Redwood , CA 95470  
redwoodres@pacific.net  
(707)485-0361  
(707) 485-5726 - Fax

Guidiville Band of Pomo Indians  
Merline Sanchez, Chairperson  
P.O. Box 339 Pomo  
Talmage , CA 95481  
admin@sonic.net  
(707) 462-3682  
(707) 462-9183 - Fax

Round Valley Reservation/Covelo Indian Community  
Eugene Jamison, Jr., President  
P.O. Box 448 Yuki ; Nomlaki  
Covelo , CA 95428 Pit River  
Pomo  
(707) 983-6126  
(707) 983-6128 - Fax Concow  
Wailaki; Wintun

Pinoleville Pomo Nation  
Leona Willams, Chairperson  
500 B Pinoleville Drive Pomo  
Ukiah , CA 95482  
(707) 463-1454  
(707) 463-6601 FAX

Yokayo Tribe  
Romaine Daniels, Chairperson  
P.O. Box 362 Pomo  
Talmadge , CA 95481

Potter Valley Tribe  
Salvador Rosales, Chairperson  
2251 South State Street Pomo  
Ukiah , CA 95482  
(707) 462-1213  
(707) 462-1240 - Fax

Suki Waters  
P.O. Box 53 Coast Miwok  
Jenner , CA 95450 Pomo  
(707) 865-2248

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2008042108 KunzlerTerrace Mine Project; Mendocino County.

**Native American Contact**  
Mendocino County  
September 29, 2009

Potter Valley Tribe  
Darlene Kammyer, Tribal Administrator  
2251 South State Street Pomo  
Ukiah , CA 95482  
michael\_holman@sbcglobal.  
(707) 462-1213  
(707) 462-1240 FAX

Pinoleville Pomo Nation  
Erika Williams, Section 106 Coordinator  
500 B Pinoleville Drive Pomo  
Ukiah , CA 95482  
(707) 463-1454  
(707) 463-6601 FAX

Potter Valley Tribe  
Greg Young, Environmental Coordinator  
2251 South State Street Pomo  
Ukiah , CA 95482  
(707) 462-1213  
(707) 462-1240 FAX

Redwood Valley Rancheria of Pomo  
Lois Lockart, Tribal Administrator  
3250 Road I Pomo  
Redwood , CA 95470  
redwoodres@pacific.net  
(707)485-0361  
Fax:(707) 485-5726

Pinoleville Pomo Nation  
Angela James, THPO  
500 B Pinoleville Drive Pomo  
Ukiah , CA 95482  
(707) 463-1454  
(707) 463-6601 FAX

Redwood Valley Rancheria of Pomo  
Zhao Qui, Cultural Resources Coordinator  
3250 Road I Pomo  
Redwood , CA 95470  
redwoodres@pacific.net  
(707)485-0361  
Fax:(707) 485-5726

Pinoleville Pomo Nation  
Dave Edmunds, Environmental Director  
500 B Pinoleville Drive Pomo  
Ukiah , CA 95482  
(707) 463-1454  
(707) 463-6601 FAX

Redwood Valley Rancheria of Pomo  
Steve Nevarez Jr., Environmental Coordinator  
3250 Road I Pomo  
Redwood , CA 95470  
redwoodres@pacific.net  
(707)485-0361  
Fax:(707) 485-5726

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2008042108 KunzlerTerrace Mine Project; Mendocino County.





MEMORANDUM

DATE: October 27, 2009

TO: John Speka, PBS

FROM: Dennis Slota, MCWA

SUBJECT: Draft EIR for Kunzler Ranch Terrace Mine Project

Staff has reviewed the subject document and submits the following comments. This project conforms to the recently adopted County General Plan which encourages off-stream terrace mining or hard rock quarries over in-stream gravel mining (Action Item RM-65.4). We concur with the EIR that Alternative 3 (on-site river connection alternative) is the environmentally superior alternative and this is the only alternative we can support. Utilizing the river connection alternative avoids the need for a perpetual maintenance agreement for the fuse plug and weir.

E-1

In my opinion, this EIR does a very good job detailing existing laws, regulations and County policies. However, that level of detail does not extend into specific mitigation measures for this specific project. The water quality section, in particular, needs further attention. Following are specific comments.

E-2

**Impact 3.4.1, 3.4.2 and .3.4.3: Biological Impacts:**

The primary mechanism in this EIR to minimize biological impacts is to have an on-site observer during construction activities. However, the EIR does not include any reporting mechanism except in the case of turtle or bird re-location, when the EIR states “The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish & Game (if turtles are documented) and/or Mendocino County.” The Mendocino County Water Agency requests copies of all pre-construction surveys for all biological and riparian resources, regardless of whether or not biological resources were re-located. Water Agency also requests a log of the on-site biological monitoring activities, including dates and times of on-site presence and confirmation of “stop work” authority, as referenced in the EIR.

E-3

Similarly, this EIR states “Oak species shall be replaced at a 3:1 ratio. All other species shall be replaced at a 2:1 ratio”. However, this EIR does not provide any reporting mechanism to document the number and species of trees removed or replanted to ensure that this mitigation occurs. Therefore, the Water Agency requests a copy of the arborist survey and documentation of the vegetation removed and replanted.

E-4

**Impact 3.8.1: Hydrology/Water Quality**

The Russian River is listed as impaired under the Clean Water Act for temperature and sediment. The EIR refers to Appendix G of the CEQA Guidelines, which states that a project would have a significant water quality-related impact if it would “violate any water quality standards or waste discharge requirements.” The EIR states (page 3.8-24) “increased erosion rates would likely lead to increased sediment concentrations and turbidity levels in the receiving stream channels and have a potentially adverse impact on the beneficial uses identified by the NCRWQCB (2007)” and “the existing regulatory and permit requirements would not specifically address potential erosion and turbidity impacts associated with the floodplain bench”. Based on the information above, it is surprising that the EIR concludes this impact is “less than significant.” The impact appears to clearly be “potentially significant”, as defined by CEQA, requiring special care due to operating heavy equipment within the riparian zone and close to, or within, the watercourse. Rather than detailing the special care that will occur during construction, the EIR

E-5

refers to existing laws, such as preparation of a SWPPP. The SWPPP is a self-prepared, self-monitoring document related to storm water discharges. While the RWQCB General Construction Permit standards have been recently significantly improved, the new standards will not be required until 2011, and this project will be exempt. This project will be operating under the old General Construction Permit standards that have determined to be inadequate and ineffective. The EIR does not discuss the need for any turbidity or temperature monitoring for a project with the potential to affect both parameters.

E-5  
cont.

Further, the EIR states that Granite Construction Company will control erosion in the floodplain bench area during the first “two years” of project implementation by hydro seeding, although the revegetation may take a “few years” to become established. What measures will be taken if after two years, the vegetation hasn’t re-established and the hydro seeding condition has terminated? Is hydro seeding an effective erosion control measure under inundation conditions? How does hydro seeding perform under bankfull shear stress conditions? If hydro seeding proves ineffective under inundation conditions, what is the back-up erosion control measure?

E-6

The EIR does not discuss the fate and disposition of mined spoils. What volume of spoils is anticipated and where will the spoils be stored? How will spoils be protected for erosion and what is the end use of the spoils material?

E-7

The EIR does not discuss the consequences of creating an anoxic zone in the pit, or ways to avoid creating an anoxic zone. Further, the EIR does not discuss the potential problem of mercury sequestration in the pit. My understanding is that under anoxic conditions, naturally occurring mercury can be transformed into the toxic methyl mercury. The potential accumulation of methyl mercury in the pit should be examined in the EIR.

E-8

### Recommendations

Due to concerns over sedimentation and Water Agency responsibility for NPDES Phase II, staff recommends that construction and post-construction turbidity monitoring be required, ideally by continuous recording turbidity sensors, both upstream and downstream of the project. Monitoring should be required until the revegetation of the floodplain bench is established or when there is no difference in the upstream and downstream turbidity readings for a reasonable period of time. Consultation with the Water Agency will be required prior to discontinuing turbidity monitoring. The Water Agency will require copies of all turbidity monitoring data. Other effective turbidity monitoring protocols may be discussed as an alternative to the continuous data recorders, in consultation with the Regional Water Quality Control Board and Water Agency.

E-9

As this project will affect the geomorphology of both Ackerman Creek and a portion of the Russian River and will likely affect air and water temperatures, staff strongly recommends establishing a monitoring program that is designed to detect if the desired habitat and geomorphic changes are occurring. The monitoring program must be established in consultation with NOAA Fisheries, the Department of Fish & Game, the Regional Water Quality Control Board and the Mendocino County Water Agency.

E-10

In conclusion, the water quality and biological resources sections of the EIR need to be revised to specifically state measures that will be taken to minimize impacts on biological resources and/or water quality from floodplain bench construction, spoils storage, creation of an anoxic zone and methyl mercury accumulation. Finally, the EIR must be revised to include a monitoring component for the project. The recommended monitoring should include turbidity, temperature (in-stream and in-pit), and geomorphology and be designed in consultation with the RWQCB, NOAA Fisheries and the Water Agency.

E-11

cc: Roland Sanford, MCWA General Manager  
Brian Cluer, NOAA Fisheries  
Paul Keiran, RWQCB  
Rick Macedo, California Department of Fish & Game  
S:\Dennis\_Data\wp\gravel\permits\Kunzler Terrace Draft EIR.doc



**TONY LINEGAR**  
AGRICULTURAL COMMISSIONER  
SEALER OF WEIGHTS AND MEASURES

E-MAIL  
[linegar@co.mendocino.ca.us](mailto:linegar@co.mendocino.ca.us)

TELEPHONE  
(707) 463-4208

FAX  
(707) 463-0240

**COUNTY OF MENDOCINO**  
DEPARTMENT OF AGRICULTURE  
890 N. BUSH STREET  
UKIAH, CALIFORNIA 95482

**Comments re: Kunzler Terrace Mine Project**

After careful consideration, and taking into account the concerns of the agricultural interests in the vicinity, I have determined that the potential impacts to agriculture from this project are negative. The soils in the project area are primarily Class 1 & 2 which are excellent for agriculture. In addition to taking prime farmland out of production forever, there are many concerns regarding the effect of this project on the water resources in the area. Farmers in the area rely on wells and underflow from the river to irrigate and frost protect their crops. The impact of the project on the aquifer is uncertain. There is no guarantee that the underflow of the river and the wells in the area won't be negatively impacted. Although I think the project has been well designed, and Granite Construction has gone out of their way to lessen the impacts, it is still a net negative for agriculture and therefore I cannot lend my support.

F-1  
F-2  
F-3

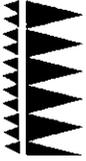
Sincerely,

Tony Linegar  
Agricultural Commissioner  
County of Mendocino

**RECEIVED**  
NOV 02 2009

BY  
PLANNING & BUILDING SERVICES  
Ukiah, CA 95482





# PINOLEVILLE POMO NATION

500 B. Pinoleville Ukiah, CA 95482 Ph: 707-463-1454 FAX: 707-463-6601



November 2, 2009

John Speka  
Project Coordinator  
Mendocino County  
Planning & Building Services  
501 Low Gap Road, Rm. 1440  
Ukiah, CA 95482



## PINOLEVILLE POMO NATION

*Erika Williams*

Section 106 Coordinator

500 B Pinoleville Drive  
Ukiah, CA 95482

Phone: 707-463-1454  
Fax: 707-463-6601  
Email: [pomoerka707@yahoo.com](mailto:pomoerka707@yahoo.com)



Dear Mr. Speka:

The Pinoleville Pomo Nation (PPN) claims standing to comment on the proposed Kunzler Terrace Mining project because the project's location is within one mile of the PPN reservation, and is within the PPN area of cultural interest. In addition, the PPN's Tribal Historic Preservation Officer has been approved by the U.S. National Park Service to review projects and make recommendations on how to protect cultural resources.

G-1

The PPN is deeply concerned about the proposed project for three reasons. First, the project's location is in an especially sensitive area. It is an area of known village sites, as reported by Barrett (1908). The ethnographic village of ciyo'l, in particular, is found nearby. This village has the potential to shed light on questions of critical importance to both the PPN and the scientific community. The site was inhabited both pre- and post-contact, and could help us better understand changes in diet, health, and social life, arts and livelihoods, settlement patterns and trade routes during early colonization.

G-2

The project site is also at the confluence of two waterways vital to PPN's ancestors: Ackerman Creek and the Russian River. Important archeological and ethnographic resources, protected by state and federal statutes, are highly likely to be found there, whether associated with the village of ciyo'l, or with Pomo peoples passing through. Second, the area has been subject to deposition and erosion that make predicting where materials may be found very difficult. This is especially true given that

G-3

G-4

historical confluences (prior to engineering of the waterways) may not map perfectly onto today's confluence.

G-4  
cont.

Third, the surface investigations conducted to date are inadequate given the sensitivity of the area and the uncertainty of where materials will be found. Subsurface investigations should be required under these circumstances.

G-5

With this in mind, the PPN Tribal Historic Preservation Officer makes the following recommendations:

1) That no action be taken until a peer review of the archeological investigation can be conducted. Professor K. Lightfoot, a leading expert in Pomo cultural history at the University of California, Berkeley has recommended the peer review and may be willing to participate. Please see his letter message indicating as much.

G-6

2) That a subsurface investigation be conducted prior to project approval. We are happy to recommend Mike Newland, M.A., of Sonoma State University as an investigator. Mr. Newland has conducted surveys of PPN lands and is familiar with PPN history and culture.

G-7

3) That any staging areas for the project be included in the subsurface investigation to assure that movements of the waterways (and their confluence) prior to engineering are accounted for.

G-8

4) That a subsurface investigation and an archival review be conducted for the ciyo'l village site to determine its historical role, geographic extent and potential influence over the project area.

G-9

5) That should the project be approved and still no discreet feature is found during preliminary investigations, that a Native American cultural monitor from the PPN and/or other area tribes be present at key points in the excavation of the area. We recommend that the schedule for monitoring be worked out through discussions with the PPN's Tribal Historic Preservation Officer, the county's Archeological Commission, and any consulting archeologists.

G-10

6) That the PPN Tribal Historic Preservation Officer be included in any planning or mitigation discussion related to cultural and archaeological resources associated with the project.

G-11

Please contact my office at your earliest convenience to discuss our recommendations. We are anxious to work with you to protect important cultural resources from any damage or loss.

G-12

Sincerely,

*Leona L. Williams*

Leona L. Williams, Chairperson

Pinoleville Pomo Nation

CC:

PPN Tribal Historic Preservation Office

State Historic Preservation Office

National Historic Preservation Office

# UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY DAVIS IRVINE LOS ANGELES RIVERSIDE SAN DIEGO SAN FRANCISCO  
SANTA CRUZ MERCED



SANTA BARBARA

DEPARTMENT OF ANTHROPOLOGY  
510/642-3391

BERKELEY, CALIFORNIA 94720-3710  
FAX: 510/643-8557  
510 643-9637

Leona Williams  
Chairperson  
Pinoleville Pomo Nation

11/2/09

Dear Chairperson Williams:

This letter concerns the proposed Kunzler Terrace Mining project that is located within one mile of your reservation. I am very concerned that this area may contain significant archaeological remains. In his pioneering 1908 publication, Samuel Barrett, an anthropologist at the University of California at Berkley, reported that one or more villages or archaeological sites may be found in this area. Since Barrett tended to record primarily large and important sites, I feel that a thorough archaeological investigation of this area should take place to evaluate whether these sites are situated in the Kunzler Terrace Mining area of impact. Otherwise, significant archaeological remains may be at risk of being destroyed in future mining operations.

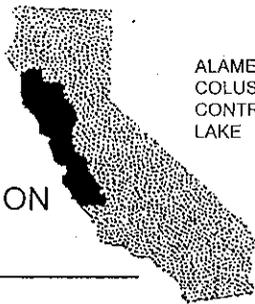
My recommendations are twofold. One is to undertake a rigorous peer review of previous archaeological work. This review should evaluate whether sufficient field and documentary work has been done to detect archaeological remains in the potential area of impact. My second recommendation is that, if necessary, additional archaeological work be undertaken in this area to make sure that proper methods have been employed to locate the boundaries and spatial distribution of potential archaeological remains. Given the location of this area near the Russian River, it is highly likely that subsurface testing methods will need to be employed to detect buried archaeological materials. This two part process should be completed to insure that no adverse impacts take place to cultural remains that may be highly significant to both the archaeological community and the Pinoleville Pomo Nation.

Please let me know if you have any questions or if I can be of any assistance to you.

Sincerely

Kent G. Lightfoot  
Professor of Anthropology  
Curator of North American Archaeology

CALIFORNIA  
HISTORICAL  
RESOURCES  
INFORMATION  
SYSTEM



ALAMEDA  
COLUSA  
CONTRA COSTA  
LAKE

MARIN  
MENDOCINO  
MONTEREY  
NAPA  
SAN BENITO  
SAN FRANCISCO

SAN MATEO  
SANTA CLARA  
SANTA CRUZ  
SOLANO  
SONOMA  
YOLO

**Northwest Information Center**  
Sonoma State University  
1303 Maurice Avenue  
Rohnert Park, California 94928-3609  
Tel: 707.664.0880 • Fax: 707.664.0890  
Email: leigh.jordan@sonoma.edu  
<http://www.sonoma.edu/nwic>

2 November 2009

NWIC File No. 09-0553

Angela James, Tribal Historic Preservation Officer  
Pinoleville Pomo Nation  
500 B Pinoleville Drive  
Ukiah, CA 95482

Re: Kunzler Terrace Mining Project

Dear Ms. James;

I am writing a brief archaeological sensitivity assessment of the above referenced project area. There are two aspects to my assessment. First, at this time, the Kunzler Terrace Mining project area is situated on the south terrace forming the confluence of Ackerman Creek and the Russian River, and confluences, particularly perennial watercourses such as these are, have been a favored location for thousands of years for both seasonal camps and more permanent village sites, many of which contain human remains. At any given location, archaeological materials usually represent hundreds if not thousands of years of occupation, maybe by more than one group of people. The archaeology in the general vicinity demonstrates that this area has been settled for at least 10,000 years. During that epoch, many climatic changes have influenced the hydrologic pattern now present in the project area. It is not likely, therefore, that the present location of the highly archaeologically sensitive confluence area represents the only location for the confluence, and, therefore, for a village or camp site. Therefore, since environmental factors shifted the watercourses and their related confluence, any effort to identify archaeological resources needs to consider the areas north and south of the present location of the confluence.

The second aspect concerns the effects of periodic inundation on archaeological resources: one, burial of materials; and, two, erosions of materials. During heavy rains, a confluence is the place where water movement is slowed and deposition occurs. This factor greatly increases the likelihood that, over time, archaeological materials on adjacent terraces would become buried, and, therefore, not susceptible to surface identification methods. Erosion has probably also played a part in this dynamic environmental setting. Portions of one or more occupational periods may have been removed, but most likely not evidence from all occupations.

I hope this information helps you and the Tribe in your efforts to preserve your cultural heritage. If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script, reading "Leigh Jordan".

Leigh Jordan, Coordinator



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404-4731

November 4, 2009

In response refer to:
2009/06030

Mendocino County Planning and Building Services
Attn: John Speka, Planner
501 Low Gap Road, Room 1440
Ukiah, CA 95482

RECEIVED
NOV 05 2009
BY
PLANNING & BUILDING SERVICES
Ukiah, CA 95482

Dear Mr. Speka:

Thank you for the opportunity to provide comments on the Kunzler Terrace Mine Project Draft Environmental Impact Report, September 2009 (DEIR). The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) has been working cooperatively with Granite Construction Company (Granite) over the last two years to develop a gravel mining project that meets project objectives and minimizes direct and indirect project impacts to Federal Endangered Species Act (ESA) listed salmonids.

H-1

Granite proposes to develop a sand and gravel quarry on a 65-acre site near the city of Ukiah, in Mendocino County, California. The applicant has applied for a use permit and mining and reclamation plan pursuant to the California Surface Mining and Reclamation Act (SMARA), and the Mendocino County Surface Mining and reclamation Ordinance to excavate approximately 30.3 acres. Granite estimates that 3.37 million tons of marketable material will be extracted from the site, with an annual extraction of 100,000 to 250,000 tons per year. The proposed project would be conducted in three phases over twenty-five years. An additional five years would be needed for reclamation of the site.

H-2

We thank Granite for conducting early project development meetings and site visits to cooperatively develop specific project elements that minimize impacts to salmonids. The on-site alternative (Alternative 3) includes specific actions to minimize stranding of salmonids and provide low velocity winter rearing habitat during the operational period of the project. To insure the suitability of these low velocity winter refuge rearing areas as habitat for threatened and endangered salmonids, and to insure the persistence of these geomorphic features, NMFS recommends that large wood elements of engineered log jams (ELJs) be incorporated into the design.

H-3

During the reclamation phase of the project Granite proposes to provide a connection between the pond and the mainstem Russian River during winter high flow events and allow access for salmonids in a planned and predictable manner. However, NMFS remains concerned that pit mine depths that result in standing groundwater depths greater

H-4



than 35 feet will create conditions detrimental to any salmonids that become trapped temporarily in the ponds. Recent monitoring of existing gravel pit mine ponds in Sonoma County show that during the summer period, standing groundwater depths in excess of 35 feet result in temperature stratification in which lower depths become anoxic. These anoxic conditions preclude benthic production of macroinvertebrates, the main prey base of juvenile salmonids rearing in freshwater. These low dissolved oxygen and anaerobic conditions are expected to persist for years and preclude the pond from becoming productive habitat suitable for salmonid rearing. Additionally, there is heightened local area awareness and concern that excessive water depths creating anaerobic conditions facilitate methylation of background levels of mineral mercury by anaerobic bacteria.

H-4  
cont.

By limiting the reclaimed maximum standing groundwater depths of the pond and adding specific habitat features during the reclamation phase such as riparian and submerged cover, we believe the pond has the potential to be used as productive off-channel rearing habitat by ESA listed salmonids after the project has been reclaimed. It will be important for the project to be implemented so that the reclaimed ponds do not result in anaerobic conditions that create a biologically unproductive benthic zone and the methylation of mercury. The precise depths of the reclaimed ponds will need to be determined based on site specific conditions including wind aspect, direction of the prevailing wind, area of the pond, surface to volume ratio, etc.

H-5

Following are the off-channel habitat attributes that contribute to salmonid productivity that were identified in a recent NMFS and industry sponsored symposium regarding reclamation of gravel pit mining ponds:

- Extensive shoals and shallows less than 4 meters deep;
- Complexity of morphologic features (coves, peninsulas, sloughs and varied bottom topography; *i.e.*, complex and extensive “edge” habitat);
- Areas of emergent vegetation along the margins, and submerged (native) aquatic vegetation (SAV) to 4m depths;
- Broad multi-story riparian zone with inundation-tolerant fringe of overhanging and/or trailing vegetation, pro-grading to gallery forest;
- Submerged large and small woody structure; (with all of the above contributing to the “heterogeneity” of habitat)
- Seasonal flooding;
- Access to adjacent floodplain;
- Return access to perennial water as floodwaters recede;
- Perennial and stable temperature inflows provided by groundwater;
- Seasonally appropriate extended-period of connection of the off-channel habitat with the main channel, or perennial connections to the main river channel.

H-6

Some of these attributes have been incorporated into Alternative 3, such as, access to the floodplain, seasonal flooding, and seasonal connection to the main stem river. NMFS requests that Granite also incorporate the above habitat attributes into the DEIR for their preferred alternative. This would require either reducing the initial depth of excavation

H-7

or stockpiling sufficient overburden material to place into the pond during the reclamation phase to achieve suitable depths and productive habitat conditions for salmonids using the pit mine pond in post-reclamation years.

H-7  
cont .

NMFS is committed to working cooperatively with the applicant to develop a plan that meets project objectives, minimizes impacts to salmonids during project implementation, and aids in the future recovery of salmonids in the upper Russian River watershed. We believe a well designed project incorporating these recommendations can restore and recreate floodplain and off-channel habitats that will enhance and improve production and survival of salmonids in the upper Russian River watershed and minimize direct and indirect future project impacts to salmonid survival.

H-8

If you have any questions regarding these comments, please contact Tom Daugherty at 707 468-4057, or Bill Hearn at 707-575-6062.

H-9

Sincerely,

A handwritten signature in black ink, appearing to read "Dick Butler", with a long horizontal line extending to the right.

Dick Butler  
Santa Rosa Area Office Supervisor  
Protected Resources Division





November 5, 2009

Mr. John Speka, Planner  
Mendocino County Planning & Building  
501 Low Gap Road, Room 1440  
Ukiah, CA 94582

RE: Draft Environmental Impact Report – Kunzler Terrace Mine Project

Dear Mr. Speka:

The City of Ukiah thanks you for the opportunity to review and comment on the Draft Environmental Impact Report for the Kunzler Terrace Mine project. The Department of Public Works - Water/Wastewater Division has reviewed the document and has formulated comments pertaining to the Setting, Regulatory Context, and Impact/Mitigation components of Section 3.8 – Hydrology/Water Quality.

I-1

1. Page 3.8-6 – Second Paragraph: Flooding

Comment: The fourth sentence indicates that “most of the proposed project site lies within the 100-year floodplain boundary...”

I-2

How much of the site is within the Floodway? If any part of the site is within the Floodway, it should be shown on a map. If no part of the site is located within the Floodway, it should be stated clearly in the above paragraph.

2. Page 3.8-12 - Figure 3.8-5 Area Groundwater Wells

The main water supply (Ranney Collector) for the City of Ukiah (16,000 population) is located approximately 1 mile from the proposed project site, yet is not shown on the map (Figure 3.8-12). The location of the Ranney Collector should be shown on the map.

I-3

3. Page 3.8-13 – Second Paragraph: Groundwater Quality

This paragraph indicates that groundwater quality at and adjacent to the project site was previously studied. Water samples from a shallow monitoring well were collected and analyzed for general mineral constituents and nitrogen in 2005.

Comment: Why didn't the assessment include an analysis for Volatile Organic Compounds VOC's? The City's primary water source is located 1-mile downstream, and the City is concerned about both the existing VOC content in the monitoring wells, as well as the potential for added VOC's resulting from the operation of the terrace mine.

I-4

The EIR should generate additional technical information concerning the existing conditions on the site including the possible presence of VOC's and other pollutants found in farming and vineyard uses, as well as those typically associated with the truck maintenance and repair facility on the site.

Page 3.8-25 – Third Paragraph

This paragraph indicates that the revegetation program requires the planting of a mixture of “floodplain and mixed riparian vegetation collections...”

I-5

Comment: We recommend that the sentence be revised to read: “...a mixture of “floodplain and mixed *native* riparian vegetation collections...”

Page 3.8-26 – Impact 3.8.2

Comment: We agree that the mining operation, particularly the wet mining component could become a conduit for groundwater contamination and that this represents a potentially significant adverse impact. The City is concerned above the inadvertent releases of substances such as hydrologic fluids from equipment. Given the 15-foot to 25-foot distance to groundwater, the City is concerned that these pollutants could migrate rapidly and infiltrate the City’s primary water supply 1-mile downstream.

I-6

The statement that “The majority of inadvertent spills to the surface would be absorbed into surface soils, degrade over time, and not represent a threat to the environment...” is unsupported. There is no technical information or explanation as to how this conclusion was reached.

I-7

The Mitigation Measure for Impact 3.8.2 falls short in addressing inadvertent spills. Accordingly, we have concluded that this impact remains significant unless the Mitigation Measure is expanded to include reasonable and feasible procedures to minimize the threat of inadvertent spills from equipment. Such measures could include mandatory routine maintenance of equipment and detailed reporting of such maintenance, procedures to immediately stop work and contain and clean-up inadvertent spills, and other measures.

I-8

Page 3.8-27 - Impact 3.8.3

Comment: This discussion indicates that for the existing conditions on the site, there is a net estimated loss of groundwater equivalent to 30 acre feet/year, and that there would be no net change as a result of the proposed project.

I-9

Even though there would be no net change, and technically no significant impact as a result of the project, the City recommends the installation of groundwater recharge fields to replace the on-going loss of 30 acre feet per/year of groundwater.

Page 3.8-31 – Impact 3.8.5

Comment: This discussion only addresses sediment and temperature – it is devoid of any analysis of contamination from chemicals draining into the pit as a result of runoff and routine operations. The discussion should be expanded to include these topics, and should be based on technical information.

I-10

On page 3.8-33, it is concluded that the nearby groundwater wells would not impacted by turbidity because the well screens are situated below the clay layer and essentially sealed off from the upper alluvial zone where the turbidity would migrate. This discussion does not address the potential turbidity impacts to the City’s Ranney

I-11

Collector which is only 50-feet deep and situated within the upper alluvial layer. The discussion should be expanded to address potentially significant turbidity impacts to the City's Ranney Collector, and reasonable and feasible mitigation measures recommended if significant impacts are identified.

I-11  
cont.

Page 3.8-34 – Total Dissolved Solids

Comment: The fourth bullet indicates that "Subsurface inflow (recharge) and precipitation were assumed to be null." There is no explanation as to how this assumption was reached. A statement should be added to explain this assumption and conclusion.

I-12

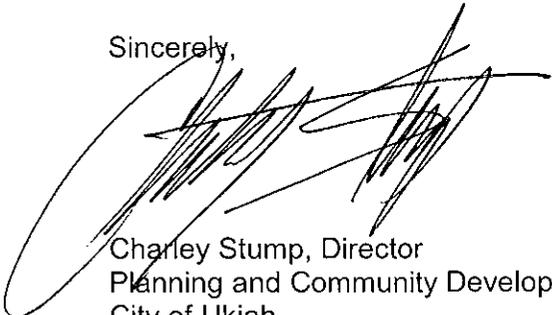
Questions regarding the above comments should be directed to:

Mr. Tim Eriksen, Director of Public Works  
[teriksen@cityofukiah.com](mailto:teriksen@cityofukiah.com)  
(707) 463-6280

I-13

Ann Burck, Deputy Director of Public Works – Water/Wastewater Division  
[aburck@cityofukiah.com](mailto:aburck@cityofukiah.com)  
(707) 463-6286

Sincerely,



Charley Stump, Director  
Planning and Community Development  
City of Ukiah



Howard. N. Dashiell  
DIRECTOR OF TRANSPORTATION

Ex Officio  
Road Commissioner  
County Engineer



**FUNCTIONS**

Administration & Business Services  
Airports  
County Surveyor  
Engineering  
Land Improvement  
Roads and Bridges  
Solid Waste

**COUNTY OF MENDOCINO  
DEPARTMENT OF TRANSPORTATION**

340 LAKE MENDOCINO DRIVE  
UKIAH, CALIFORNIA 95482-9432  
VOICE (707) 463-4363 FAX (707) 463-5474

6 November 2009

TO: Frank Lynch, Chief Planner  
Department of Planning and Building Services

FROM: Tom Peters, Deputy Director  
Department of Transportation

SUBJECT: USE PERMIT NO. U 4-08 (GRANITE CONSTRUCTION COMPANY) DRAFT  
EIR COMMENTS  
PROJECT COORDINATOR – JOHN SPEKA

Steve Ford, Traffic Engineer for this department, addressed the Planning Commission at the public hearing on 15 October 2009 to express two concerns on behalf of the Mendocino County Department of Transportation (MDOT). This memo is intended to memorialize his comments in writing (Items 1 and 2 below) as well as additional comments on mitigation measures. Our comments are as follows:

J-1

1. The final draft needs to make it clear that Kunzler Ranch Road is not a County maintained road and that MDOT has no involvement in its operation, maintenance, or upkeep. Arriving at a cost sharing arrangement is the responsibility of the applicant, the road's owner(s) and those property owners having rights to its use.

J-2

2. Roundabouts should be included as an alternative mitigation measure at all intersections on the County Maintained Road System where potential traffic impacts might justify signals now or in the future. The applicant's fair share costs of their construction need to be stated as well as the assumptions behind them. The ongoing maintenance requirements of signals are one of the reasons roundabouts an attractive alternative even if it is determined that their upfront costs are higher.

J-3

3. Regarding Mitigation Measure 3.12.4: As stated above, Kunzler Ranch is privately owned and maintained road not a County Maintained Road. Therefore there is no need for the applicant to enter into a Road Maintenance Agreement with the County for maintenance of Kunzler Ranch Road. Ideally, all the users of Kunzler Ranch Road would voluntarily form a Road Maintenance Organization for the improvement and maintenance of the road. Since no party can unilaterally make this happen, DOT recommends that Mitigation Measure 3.12.4 be revised to read:

J-4

**Consistent with Civil Code Section 845, in the absence of a road maintenance agreement, Granite shall be required to pay its fair share of the cost and expense incurred for traffic-related repairs of Kunzler Ranch Road. Traffic-related repairs on Kunzler Ranch Road shall be initiated when the owners of the road and users of the easement reach a decision that such repairs are necessary. Granite’s fair share shall be calculated based on the proportion of Granite’s heavy truck trips to the total number of heavy truck trips on the road that year.**

J-4  
cont.

Based on the current improvement project underway on North State Street, DOT believes that increased truck traffic generated by this project will not have a significant effect on maintenance of County Maintained Roads during the term of this project, therefore no road maintenance agreement with the County is required.

J-5

4. Regarding Mitigation Measure 3.12.2b: #6, DOT recommends that Alternative A – Requiring all outbound haul trucks to turn right onto North State Street during all hours of operation rather than just the PM Peak hour be implemented until a roundabout or traffic signal is installed at the intersection of North State/Kunzler Ranch Road.

J-6

5. In general, DOT supports the development of new aggregate sources within the County however, per County policy we cannot advocate for specific projects. Enclosed is a paper prepared by Caltrans titled Construction Aggregate Supply Limitations. In most cases, there are environmental benefits as well as economic benefits.

J-7

If you have any questions regarding this, please contact me at your convenience.

J-8

cc: Granite Construction Company  
ESA  
John Speka, Planning and Building Services  
U 4-08

## Construction Aggregate Supply Limitations Some Estimates of Economic Impact

- Since transportation is a major element in the cost of delivered aggregate, and the cost depends on the distance of the delivery, permitting new aggregate sites that are closer to construction projects would lead to shorter haul distance and minimize transportation/shipping costs. According to the industry, shipping costs for aggregates can outweigh production costs if the material is trucked more than 20 miles.<sup>1</sup>
- A recent University of California, Berkeley, study<sup>2</sup> confirms that the most likely, and dominant effect of opening new sites for the production of construction aggregates would be *a reduction in truck miles of travel for hauling aggregates* (i.e., the new quarry will be located closer to the users to minimize transportation costs), *thus a reduction in emissions from trucks*.
- According to the California Geological Survey (CGS), California has an estimated 74 billion tons of aggregate resources underlying mineral lands classified by the State Geologist. However, only about 5.3 billion tons of aggregate (7.2 percent) have actually been permitted by cities and counties for mining activities. Permitting of mining sites can often take between five and ten years and longer for approval. At the current rate of production of 177 million tons per year, the permitted reserves will be exhausted in about 30 years.
- According to the CGS, the State produced 178.6 million tons of construction sand and gravel in 2006, valued at \$1.5 billion. The production of crushed stone in 2006 was estimated at 58.73 million tons, valued at \$481.7 million. According to the same source, California imported from Canada and Mexico about 3.2 million tons of sand and gravel during 2006, a fairly small portion of the total use.
- The total aggregate production (or demand) in 2006, therefore, exceeded 237.3 million tons (178.6 + 58.73). This production level would generate about 9.5 million truckloads (at 25 tons per truck), or a total of 19.0 million truck trips a year (including empty trucks returning to the aggregate sites) related to the transportation of construction aggregate in the state.
- Truck transportation accounts for about 99 percent of shipping aggregates for 40 miles or less.<sup>3</sup> However, according to Teichert Construction and West Coast Aggregates, Inc., the average hauling distance for aggregates in California may be as high as 50 miles one-way. At an average 50-mile distance, the total aggregate-truck vehicles miles traveled would be 950 million miles per year (19.0 million trucks x 50 miles). This would account for 4 percent of total truck trips, or 6 percent of all truck miles of travel on the State highways.
- Let us assume that permitting additional mining facilities would reduce the average hauling distance from 50 to 35 miles statewide. Using an average hauling distance of 35 miles, the total annual aggregate-truck miles of travel would be 665 million miles (19.0 million trucks x 35 miles). The 15-mile shorter hauling distance would reduce aggregate-truck miles of travel by 285 million miles per year (950 - 665), and annual diesel fuel consumption by 44 million gallons (using California Air Resources Board (CARB) diesel fuel consumption rate of 0.153 gallons per vehicle mile at 55-60 mph speed).
- Based on the CARB emission factors estimates, and assuming an average 55-60 miles per hour speed, a reduction of 285 million miles of truck travel (or 44 million gallons of diesel fuel consumption) would reduce truck emissions (CO, NOx, PM10, SOx, VOC) by about 843.5 tons a year.

<sup>1</sup> Therese Dunphy, "Evening the Playing Field," *Aggregates Manager*, August 2006.

<sup>2</sup> Peter Berck, "A Note on the Environmental Costs of Aggregates," *Working Paper No. 994*, Dept. of Agricultural and Resource Economics and Policy, University of California, Berkeley, January 2005.

<sup>3</sup> Tina Grady Barbaccia, "Off-highway Transportation," *Aggregates Manager*, July 2006.

- The total transportation cost of aggregates (at \$0.10 per ton per mile) shipped 35 miles average distance throughout California would be \$1.67 billion (19.0 million trucks x 25 tons x 35 miles x \$0.1), and over \$2.38 billion if shipped an average distance of 50 miles. The statewide transportation cost savings of reduced hauling distance would amount to **\$710 million a year** (or a 30 percent cost savings).
- The California Department of Transportation (Caltrans) estimates that on average, about \$2.55 billion is spent on state and local capital outlay projects each year, and on average, aggregates account for **8-10 percent** of total project costs, or about **\$250 million annually**. A 30 percent increase/decrease in shipping cost of aggregates would increase/decrease the total annual project costs by **\$75 million per year**.
- The reduction in aggregate-related truck miles of travel would also reduce traffic congestion and traffic accidents on roads, but these impacts would be difficult to estimate. An additional benefit from truck trip reduction would be reduced pavement deterioration. Caltrans expects to spend about \$700 million annually on pavement rehabilitation projects. Assuming trucks account for 60 percent of the pavement damage on the state highways, and aggregate-trucks on average account for 5 percent of all truck travel on the State highways, the trucks shipping aggregates would account for about **\$20 million** of cost savings in pavement rehabilitation each year.
- Project delays due to lack of aggregate supply in the area would also result in project cost escalation and reduced user benefits (reduced travel time and increased accidents) that would have otherwise been generated. A delay of 10 percent of the projects (or \$255 million in capital outlay expenditures) for one year would increase the cost of the State and local capital outlay program by **\$13 million a year** (at 5 percent average cost escalation factor).
- Generalizing, and pro rating, the user benefits estimated for the 2006 Interregional Transportation Improvement Program (ITIP) projects, a delay of 10 percent of the capital outlay program for one year would also cost California about **\$97 million** in increased roadway congestion and traffic accidents.

In conclusion, permitting and expansion of additional construction aggregate supply sources in California suggests potentially significant benefits and cost savings that would provide a high payoff and worthwhile effort for the State to undertake. Again, those benefits include:

- A reduction in emissions from trucks with a reduction in truck miles of travel for hauling aggregates.
- A shorter hauling distance which would reduce aggregate-truck miles of travel and the cost of the materials.
- A reduction of pavement deterioration from fewer truck miles traveled, which would allow rehabilitation resources to be available for other critical maintenance improvements.
- A reduction in project delays due to lack of aggregate supply in the area, which leads to increased project costs.
- A reduction in aggregate-related truck miles of travel would also reduce traffic congestion and traffic accidents on roads.

**Millview County Water District**  
**3081 North State Street**  
**Ukiah, California 95482**  
 Phone (707) 462-7229  
 Fax 462 8327  
 e-mail [millviewwater@comcast.net](mailto:millviewwater@comcast.net)

November 3, 2009

John Speka, Planner  
 Mendocino County Planning & Building  
 501 Low Gap Road, Room 1440  
 Ukiah, California 95482

Subject: Kunzler Terrace Mine Project

The District is currently in negotiations with Masonite and DDR for the acquisition of the Masonite well #6 for use as a public water supply. The District has received preliminary approval from the Department of Health Services to use this well as a ground water source requiring only the addition of chlorine for treatment. This approval was granted based on water quality tests results submitted under health and safety code title 22.

K-1

The DEIR indicates excavation and construction of the pond will be within 50 feet of the wells location and that there are no anticipated effects or degradation to the water quality of well 6 due to a continuous clay layer that is reported to be at a depth of approximately 60-65 feet.

K-2

**What is the location and number of borings that demonstrates a continuous clay layer exists and extends from the excavation site to well 6?**

This past summer the City of Ukiah drilled several deep ground water wells believed to be pumping from the same aquifer as the Masonite well.

K-3

**Has a hydrologic investigation been completed that proves or disproves the belief that the Masonite well and the City's new ground water wells are hydraulically connected and drawing from the same aquifer?**

**If excavation of the pit breaches the clay layer or operation of the mine facility degrades or contaminates the water of the aquifer from which well 6 pumps, how does Granite propose to mitigate the effects of water quality degradation or the complete loss of use of the aquifer? How would this impact the City's ground water supply and their ability to serve customers?**

K-4

The DEIR states that there has been no flooding within the upper main stem of the Russian River since completion of coyote dam. In December of 2007 the Russian River over flowed its banks in several locations from the confluence of the east and west forks of the River as far south as the community of Hopland.

The Millview District experienced flooding at its water treatment facility located just upstream from the proposed project site. The City of Ukiah water treatment facility located just down stream from the proposed project also experienced severe flooding and sustained considerable damage. The volume and velocity of water through their site was sufficient enough to float and relocate two large 40- foot steel storage containers filled with construction equipment.

K-5

A residential subdivision located just southwest of the Perkins Street Bridge was also flooded and many homes sustained damage.

District personnel visited the Masonite property during the time of flooding and found the project area, portions of Masonite and the Thomas properties under water.

**What are the effects of diverting water or displacing floodwaters around the proposed embankments of the excavation site? Will there be a bypass constructed to divert floodwaters to minimize damage to adjacent properties?**

During large storm events and high river flows, large plumes of muddy water originating from Granite's existing excavation site on Redemeyer Rd. have been observed flowing down stream.

K-6

**How will Granite ensure such events do not occur at the proposed excavation site?**

The Millview District appreciates the opportunity to comment on the DEIR and looks forward to receiving additional information addressing our concerns.

Sincerely,

K-7

Tim Bradley  
General Manager

Healthy People, Healthy Communities

MENDOCINO COUNTY HEALTH AND HUMAN SERVICES AGENCY  
MEMO

Date	November 6, 2009
From	John Morley, Director <i>JM</i>
To	John Speka, Planner II
Subject	Kunzlar Terrace Mine Project DEIR



Thank you for the opportunity to comment on the above referenced project. I offer the following comments for consideration:

L-1

3.10 Noise and Acoustics

Impact Analysis

L-2

Noise compatibility guidelines established in the County General Plan are expressed in a 24 hour day and night A-weighted noise exposure level (Ldn). The projected future noise levels of the project need to be calculated for Ldn.

3.11 Public Services, Utilities and Recreation

Wastewater

L-3

There is no record for the existing septic system. The system will need to be evaluated to determine compliance with existing regulations if planned for use.

RECEIVED  
NOV 06 2009

BY  
PLANNING & BUILDING SERVICES  
Ukiah, CA 95482



**DEPARTMENT OF TRANSPORTATION**

DISTRICT 1, P. O. BOX 3700  
EUREKA, CA 95502-3700  
PHONE (707) 441-2009  
FAX (707) 441-5869  
TTY 711



*Flex your power!  
Be energy efficient!*

November 9, 2009

1-MEN-101-26  
Kunzler Terrace Mine DEIR  
SCH# 2008042108

John Speka  
Planning & Building Services  
County of Mendocino  
501 Low Gap Road, Room 1440  
Ukiah, CA 95482

Dear Mr. Speka,

Thank you for giving us the opportunity to comment on the Kunzler Terrace Mine Project DEIR, which proposes to extract 3.37 million cubic yards of material over a period of 25 years. The project is located two miles northeast of Ukiah, east of the intersection of Kunzler Ranch Road and North State Street, on Assessor's Parcel numbers 170-150-09 & 170-160-03. We have the following comments:

M-1

- Page 3.12-11 of the Traffic and Circulation setting establishes the methodologies and assumptions used to evaluate traffic impacts for Caltrans facilities. Caltrans' target Level of Service (LOS) standards for State facilities are noted however, the County of Mendocino's standards are applied as the threshold of significance or standard for State facilities. The use of County standards for State facilities is inappropriate and shall not apply. State facilities that are projected to operate below the LOS C/D cusp (LOS C is acceptable, LOS D is not) as a result of project generated traffic will be responsible for their fair share of traffic mitigation.

M-2

- Alternative B proposes to route traffic from the mining site under Route 101 (at the Presswood Overhead) via Ford Road as an alternate access point onto North State Street. The proposed Alternative B would limit the number of left-turns onto North State Street/Route 101 ramp intersections, but we anticipate that the reroute will require signal coordination at North State Street with Ford Rd, Kuki Ln and the Route 101 ramp intersections. In order to adequately assess both the operation and effective mitigation of this segment of North State Street, a micro-simulation analysis will be needed.

M-3

- We agree that a fair share fee toward the implementation of identified improvements should be assessed to the applicant. We note that the Ukiah Valley Area Plan Transportation Impact Fee Nexus Study (September 2008) is currently a work-in-progress that has not been adopted by the County or the City of Ukiah. Due to its pending status, implementation of the Study's recommendations is not assured with the approval of this project. As suggested in the DEIR, we request to coordinate with the County and the project sponsor in the establishment of fair share traffic mitigation funds.

M-4

- As an informational item, we note the statement in the Transportation Study that a full set of warrants should be considered as part of an evaluation when a decision to install a signal is made. Despite this statement, the study implies warrants are met after examining only one of eight warrant criteria.

M-5

If you have questions or need further assistance, please contact me at the number above.

Sincerely,

M-6



Jesse Robertson  
Associate Transportation Planner  
District 1 Regional & Community Planning

c: Scott Morgan, State Clearinghouse  
Phil Dow, Mendocino Council of Governments  
Howard Dashiell, Mendocino County Department of Transportation



# DEPARTMENT OF CONSERVATION

## DIVISION OF LAND RESOURCE PROTECTION

801 K STREET • MS 18-01 • SACRAMENTO, CALIFORNIA 95814

PHONE: 916 / 324-0850 • FAX 916 / 327-3430 • TDD 916 / 324-2555 • WEBSITE conservation.ca.gov

November 9, 2009

**VIA FACSIMILE (707) 463-5709**

John Speka  
Mendocino County  
501 Low Gap Road, Room 1440  
Ukiah, CA 95482

Dear Mr. Speka:

**Subject: Mendocino Kunzler Terrace Mine Project Draft Environmental Impact Report  
SCH# 2008042108**

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Draft Environmental Impact Report (DEIR) for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on agricultural land and resources.

N-1

**Project Description:**

The purpose of the Kunzler Terrace Mine Project is the development of a sand and gravel quarry. The 65-acre project site is located in unincorporated Mendocino County (County), approximately one mile north of the City of Ukiah. There are no Williamson Act contracts within the project site. However, implementation of the project would result in the permanent conversion of 45 acres of Prime Farmland. Therefore, the Division recommends that the any subsequent California Environmental Quality Act (CEQA) document address the following items to provide a comprehensive discussion of potential impacts of the project on agricultural land and activities:

N-2

**Agricultural Setting of the Project**

- Location and extent of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and other types of farmland in and adjacent to the project area.
- Past agricultural use of the project area. Please include data on the types of crops grown, and crop yields and farm gate sales values.

N-3

To help describe the full agricultural resource value of the soils on the site, the Department recommends the use of economic multipliers to assess the total

N-4

Mr. John Speka  
November 9, 2009  
Page 2 of 3

contribution of the site's potential or actual agricultural production to the local, regional and state economies. Two sources of economic multipliers can be found at the University of California Cooperative Extension Service and the United States Department of Agriculture (USDA).

N-4  
cont.

#### Project Impacts on Agricultural Land

- Type, amount, and location of farmland conversion resulting directly and indirectly from project implementation and growth inducement, respectively.
- Impacts on current and future agricultural operations; e.g., land-use conflicts, increases in land values and taxes, vandalism, etc.
- Incremental project impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely projects in the future.

N-5

Under California Code of Regulations §15064.7, impacts on agricultural resources may also be both quantified and qualified by use of established thresholds of significance. As such, the Division has developed a California version of the USDA Land Evaluation and Site Assessment (LESA) Model. The California LESA model is a semi-quantitative rating system for establishing the environmental significance of project-specific impacts on farmland. The model may also be used to rate the relative value of alternative project sites. The LESA Model is available on the Division's website at:

N-6

[http://www.consrv.ca.gov/DLRP/gh\\_les.htm](http://www.consrv.ca.gov/DLRP/gh_les.htm)

#### Mitigation Measures

The loss of agricultural land represents a permanent reduction in the State's agricultural land resources. As such, the Department recommends the use of permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land. If Williamson Act contracts are terminated, or if growth inducing or cumulative agricultural impacts are involved, the Department recommends that this ratio of conservation easements to lost agricultural land be increased. Conservation easements will protect a portion of those remaining land resources and lessen project impacts in accordance with CEQA Guideline §15370. The Department highlights this measure because of its acceptance and use by lead agencies as an appropriate mitigation measure under CEQA and because it follows an established rationale similar to that of wildlife habitat mitigation.

N-7

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The

N-8

Mr. John Speka  
November 9, 2009  
Page 3 of 3

conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should be conducted regionally or statewide, and not limited strictly to lands within the project's surrounding area.

N-8  
cont.

The Department also has available a listing of approximately 30 "conservation tools" that have been used to conserve or mitigate project impacts on agricultural land. This compilation report may be requested from the Division at the email address or phone number below. General information about agricultural conservation easements, the Williamson Act, and provisions noted above is available on the Department's website:

N-9

<http://www.conservation.ca.gov/dlrp/index.htm>

Of course, the use of conservation easements is only one form of mitigation that should be considered. Any other feasible mitigation measures should also be considered.

Thank you for giving us the opportunity to comment on this DEIR. If you have questions regarding our comments, or require technical assistance or information on agricultural land conservation, please contact Elliott Lum, Environmental Planner, at 801 K Street, MS 18-01, Sacramento, CA 95814; phone: (916) 324-0869; email: [elliott.lum@conservation.ca.gov](mailto:elliott.lum@conservation.ca.gov).

Sincerely,



For

Dan Otis  
Program Manager  
Williamson Act Program

N-10

cc: State Clearinghouse



O

**From:** "Main, Jordan" <Jordan.Main@gcinc.com>  
**To:** Brian Grattidge <BGrattidge@esassoc.com>, John Speka <spekaj@co.mendocin...>  
**CC:** "Shaw, Tony" <Tony.Shaw@gcinc.com>  
**Date:** 11/10/2009 8:09 AM  
**Subject:** FW: Proposed Kunzler Mine Project

FYI- comments from the Regional Board.

Jordan Main  
 Material Resources Manager

Granite Construction Company  
 North Coast Branch  
 1324 South State Street  
 Ukiah, CA 95482

Office: (707) 467-4124  
 Fax: (707) 467-4158

-----Original Message-----

**From:** Paul Keiran [mailto:PKeiran@waterboards.ca.gov]  
**Sent:** Monday, November 09, 2009 2:34 PM  
**To:** Dennis Slota; Main, Jordan  
**Cc:** John Short  
**Subject:** Proposed Kunzler Mine Project

Jordan, Regional Water Board concerns regarding the proposed Kunzler Ranch Mine project are primarily centered around flooding events that may involve filling of the pit with Ackerman Creek and/or Russian River flood waters. Drag line mining can produce turbidity within the pit groundwater that can take weeks to settle out. If the mining operations could avoid mining during the wettest rain months (Nov-March) that would certainly alleviate our concerns regarding turbid floodwaters re-entering receiving waters. Additionally, source control, such as cleaning out any rock washing settlement ponds that may exist within the 100-year floodplain prior to the winter rains can help to reduce the potential for turbid discharges to receiving waters in the event of pit flooding.

O-1

O-2

Paul Keiran  
 Regional Water Board





P

**COUNTY OF MENDOCINO**  
**DEPARTMENT OF PLANNING AND BUILDING SERVICES**  
 501 LOW GAP ROAD · ROOM 1440 · UKIAH · CALIFORNIA · 95482

RAYMOND HALL, DIRECTOR  
 Telephone 707-463-4281  
 FAX 707-463-5709  
 pbs@co.mendocino.ca.us  
 www.co.mendocino.ca.us/planning

November 6, 2009

John Speka  
 Mendocino Co. Planning and Building Services  
 501 Low Gap Road, Rm. 1440  
 Ukiah, Ca 95482

Re: Kunzler Terrace Mine Project Draft EIR

Dear Mr. Speka,

This letter is the official response of the Mendocino County Archaeological Commission’s review of Section 3.5 Cultural Resources portion of the Kunzler Terrace Mine Project Draft Environmental Impact Report (EIR).

P-1

The Commission reviewed a cultural resource study on the property, completed by Jay Flaherty in 2005, which concluded that no resources were present within the project area. The Archaeological Commission approved the survey with the standard discovery clause condition. However, discussion of known cultural resource site CA-MEN-3115 was not included within Mr. Flaherty’s study.

P-2

Subsequently at our October 14, 2009 meeting, the Commission reviewed the Cultural Resources section of the draft EIR. Page 3.5.8 noted a past 2000 survey completed by North Coast Resource Management on adjacent lands to the west and the discovery of a prehistoric archaeological site (CA-MEN-3115). According to the 2000 study as written in the EIR, site CA-MEN-3115 is considered to be a significant cultural resource based on its potential to provide “information needed to answer important scientific research questions (criterion a), and involves important research questions (criterion d).” Further, the meeting was attended by Mr. David Edmonds, the Environmental Director for the Pinoleville Pomo Nation, whose reservation is within 1 mile of the project site. Mr. Edmonds testified that the project site is within an area of known village sites. As the Commission is charged with protecting cultural resources within Mendocino County and based on the new information noting the nearby presence of site CA-MEN-3115 and the testimony of Mr. Edmonds, the Commission is concerned that current proposed mitigation measures may not be adequate to prevent damage to significant cultural resources that may be present within the project site.

P-3

The Commission is aware of identified mitigation measure 3.5.1b, noted in the EIR, to develop an archaeologist monitoring plan, including that a monitor be on-site during ground-disturbing activities within 200 feet of the Russian River and Ackerman Creek. The Commission determined that there is a high probability that significant cultural resources may be present on-site beyond the area within 200 feet of the aforementioned waterways. On behalf of Commissioner Bill Cull and Commissioner Allison Scott, we respectfully request that a qualified professional archaeologist be required to be present on-site during all initial ground disturbance activities for Phase I of the Kunzler project, acting as a trained eye to monitor actions and spot any cultural resources that may be discovered.

P-4

Respectfully,

Dusty Duley  
 Planner II  
 County Staff Member of Mendocino County Archaeological Commission

P-5



# Mendocino County Fair and Apple Show

BOONVILLE, CALIFORNIA 95415

November 5, 2009

Mr. John Speka  
Mendocino County Planning and Building  
501 Low Gap Road, Room 1440  
Ukiah, CA 95482

Dear Mr. Speka

This letter is in regards to the Kunzler terrace mine draft environmental impact report.

Q-1

The draft environmental impact report fails to clarify the benefits of having a local source of sand and gravel to support public events like the Mendocino County Fair and Apple Show, which caters to the general public and especially the agricultural community.

Q-2

The sand and gravel terrace mines in the Ukiah Valley area have supported the Mendocino County Fair and Apple show for several decades.

An example of this support was reported in Ukiah Daily Journal Commerce File of September 30, 2009:

*"Congratulations to Granite Construction Company which received a Western Fairs Association Blue Ribbon Award from the Mendocino County Fair and Apple Show. Each year the fair board of directors will select one individual and one business to receive the honor. According to the Western Fairs Association Web Page: The Western Fairs Association Blue Ribbon Award is an effort to recognize and honor individuals and groups who have provided outstanding support to the fair industry. Recipients are those who have provided volunteer services, educational services and sponsors. Each year Granite has provided about 40 tons of sand from the company's Ukiah area sand and gravel terrace mines. The sand is applied to the stadium lawn which serves as a football field for the Anderson Valley high school and rodeo arena during the fair."*

Q-3

Please be so kind to recognize the benefits of having a local source of sand and gravel available to the community.

Q-4

Sincerely,



Jim Brown  
Fair Manager

### BOARD OF DIRECTORS

WAYNE HIATT  
PRESIDENT

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Mr. John Speka  
 County of Mendocino  
 Department of Planning and Building  
 501 Low Gap Road, Room 1440  
 Ukiah, CA 95482

Subject: Comments on Draft EIR for proposed Kunzler Terrace Mine

Dear Mr. Speka:

I am writing on behalf of Russian Riverkeeper and our over 1450 members including at least 160 in the Ukiah Valley to express our concerns with the proposed Kunzler Terrace Mine (Project) and the Draft Environmental Impact Report (DEIR) prepared for the project and our opposition to floodplain mining in general. We support the comments submitted by SCS Engineers on behalf of adjacent property owners. Russian Riverkeeper’s mission is to work with the community to advocate, educate and uphold our environmental laws to ensure the protection and restoration of the Russian River for the health and benefit of all who use and enjoy it. Russian Riverkeeper, formerly Friends of the Russian River, have opposed open pit, or terrace pit, mining along the floodplains of the Russian River for over 16 years due to the permanent impacts to our wildlife and water quality. We have worked with numerous expert consultants in Geology, Hydrology and Geomorphology in our review of mining projects and are currently party to litigation concerning the proposed Syar Industries Phase VI aggregate mining project.

R-1  
 R-2  
 R-3

Russian Riverkeeper opposes open pit mining in general due to the following impacts:

- Permanent loss of prime agricultural lands and protected shallow groundwater
- Impacts to listed Chinook and Steelhead from pit capture and predation
- Increase in mercury exposure to wildlife and humans
- Increase in impairing water pollutants from large-scale land disturbance in the floodplain
- Project not in the public interest

R-4

We offer the following comments and questions on the Project application and Draft EIR.

1. Project Results in Permanent Loss of Prime Agricultural Land

The Project will result in the permanent loss of prime agricultural land and offers no mitigation for this significant impact. The lands are currently in agriculture and have had a history of agricultural use. The Mendocino County General Plan contains policies that are meant to protect prime agricultural land and accordingly the DEIR lists this as a potentially significant impact with no mitigation under the current plan.

R-5

2. Project Results in Potential Significant Impacts Not Identified or Analyzed in the DEIR

The Project has the potential to cause the increase of mercury exposure to wildlife and possibly humans and an increase in impairing water pollutants and these impacts were not identified or analyzed in the DEIR.

R-6

## New Impacts from Potential Wildlife and Human Exposure to Mercury

Elemental Mercury is a potent neurotoxin and is abundant in cinnabar ore that is common throughout the North Coast Range of California and in the surrounding Ukiah Valley. Inorganic elemental mercury is not generally bioavailable to wildlife and humans but is often converted to its organic form methyl-mercury that is readily absorbed when ingested. Over geologic time natural erosion geothermal vents, and anthropogenic land disturbance including mercury prospecting and some actual mining have likely deposited trace amounts of mercury in the accumulated alluvial deposits the Project intends to mine. The action of aggregate pit mining especially mining below groundwater surface elevation causes historic mercury deposits to be disturbed and when excavator or dragline buckets are raised with material present mercury can wash back into the pits through holes intended to drain water. In addition, once pits are excavated protected groundwater is exposed to airborne

R-7

Mercury contamination of fish, bass in particular is documented in every reservoir in the North Coast, in particular Lake Mendocino in Ukiah less than 10 miles from the project and Lake Sonoma on Dry Creek a Russian River tributary and Lake Pillsbury on the Eel River. Mercury contamination can also effect humans who consume mercury contaminated fish, according to USGS Fact Sheets on Mercury and OEHHA Draft Health Advisory: Safe Eating guidelines for fish from Lake Mendocino and Lake Sonoma (attached). The Draft Health Advisory documents that past mining activities and natural erosion and geothermal vents are sources of Mercury and are present in the Project vicinity. The Draft Health Advisory also documents the mercury cycle in aquatic environments such as the proposed Project. Mercury accumulates in the sediments of impoundments or reservoirs due to it's high molecular weight and is converted by sulfide reduction bacteria to methyl-mercury which readily works its way up the food chain from benthic macroinvertebrates where it concentrates in higher level predators such as Largemouth bass and Osprey.

R-8

R-9

R-10

R-11

This project will create a new surface water body that will potentially, through both the action of pit mining and via airborne sources, accumulate mercury, which is a potentially significant impact. All Russian River gravel pits in Sonoma County are populated with a variety of fish species so we can assume that eventually the Project pit will have fish present. In addition even though some former Sonoma County pits are on private lands, it is well documented that people do fish the pits. One complex of former gravel pits were sold to the Sonoma County Open Space District and people catch fish and consume them, exposing the human population to mercury contamination. Russian Riverkeeper has collected fish from both the Russian River and former gravel pits in Sonoma County and found mercury present at levels triple the EPA Health Advisory limit and we have attached those results to this letter. Although the sample size was small the highest mercury levels were found in fish caught from the former gravel pits, demonstrating that there is a significant impact from mercury tainted fish in former gravel pits.

R-12

R-13

This issue was raised in the Syar Phase VI gravel pit EIR and in response Syar consultants tested the water from unknown depths for Mercury and had detections. In our comments we urged Sonoma County PRMD to require testing of fish tissue and sediment since this is where any mercury will be found since Mercury rapidly drops out of the water column and takes residence in the Pit sediments. Syar's consultants never tested fish tissue or sediments from the pits for Mercury. Although Syar produced data on soil samples and sediment holding ponds for Mercury it should be noted as documented in the Draft Health Advisory that Mercury in soils poses little risk but when soils are washed into an impoundment any mercury present eventually becomes bioavailable and therefore can be taken up the aquatic food chain. By sampling soils everywhere but the pit sediments they avoided looking for mercury in the most likely location and did not fulfill CEQA obligations, hence our lawsuit against that project.

R-14

Based on the information above we have the following questions:

Does the potential exist for the Project to create new exposure to mercury contamination?	R-15
Why hasn't the DEIR sampled either fish tissue or sediments from other Ukiah area gravel pits been tested for mercury?	R-16
Why hasn't the DEIR analyzed the Project's potential for creating new pathways for mercury exposure?	R-17
What are the potential impacts to wildlife from the new exposure pathways the Project creates?	R-18
What effect will the potential new sources of mercury have on raptors that prey on fish and other aquatic life that will end up in the Pits from river overtopping and unauthorized fish stocking?	R-19
How will the project protect humans who will fish in the pits once fish are present?	R-20
How will the Project mitigate the impacts from causing water to be exposed to airborne mercury?	R-21

### Increase in Impairing Water Pollutants

The Russian River in Ukiah is listed as impaired under the Clean Water Act section 303(d) for sediment pollution for fine-grained sediment. Under the Clean Water Act and North Coast Water Quality Control Board Basin Plan, which establishes water quality standards, a project or activity can not "cause or contribute" to an existing impairment of water quality standards. Any increase in impairing pollutants would be a significant impact. Sediment pollution also poses a serious impact to Endangered Species Act listed Chinook salmon and Steelhead Trout and any cause of sediment would be a significant impact. Due to the projects location in a 100-year floodplain the project site will undergo periodic inundation by floods from the Russian River and Ackerman Creek. Large scale land disturbance especially open pit or terrace pit mining allows a significant increase in erosiveness at the Project site from pre-Project conditions which are currently vineyards that when flooded do not contribute large amounts of sediment. To illustrate we have attached several aerial photographs of Sonoma County gravel pits during and after flood events to show the scale of erosion that occurs compared to adjacent farmland.	R-22
In the following pictures of the February 2002 and New Years 2006 floods show that pit mines exposure large areas of sediment to erosion compared to adjacent farmland. In the first picture taken just after the River receded within banks shows the river overtopped the banks and ran through the Kaiser pit complex on Eastside Rd near Healdsburg. The second photo shows the Kaiser dragline underwater and large areas of exposed sediment that creates potential for release of sediment to the Russian River. Additional photos show how vulnerable pits are to erosion in flood events.	R-23
	R-24



Kaiser Pit Complex Eastside Rd near Healdsburg – Feb 2002



Kaiser Pits near Healdsburg, showing vast areas of exposed soil compared to farmland across River.



Kaiser Pit breach Feb 2002 showing how river eroded pit separators and outflow keyway, adding sediment to the Russian River.



Syar stockpiles showing clear erosion of sediment that flowed back to River



Syar Pits Jan 2, 2006; the large pad at bottom right was the keyway built to allow flood flows into Pit but River entered pit and almost eroded levee in bottom middle photo.



Ground view of partial levee breach at Syar Basalt Pit Jan 2, 2006

The above pictures are of only two of the 5 overtopping events in the last 11 years at Sonoma County gravel pits. These pits were designed to withstand floods but obviously are quite vulnerable to flooding and subsequent erosion that often carries eroded sediment right back to the Russian River further downstream.

R-25

Given no allowance for contributing new sources of impairing pollutants to impaired waterways, how will this Project ensure no sediment is released to the River during flood events?

R-26

What is the impact of Project on sediment delivery to the Russian River compared to pre-project conditions?

R-27

How will the project protect the buffers, separators and levees during flood events?

R-28

How will sediment-holding ponds at processing site be protected from flooding?

R-29

If berms are used to protect pits, processing area or sediment holding ponds, how will those berms affect floodplain capacity during flood events?

R-30

We appreciate your consideration of our comments and welcome any questions you might have on our comments.

Sincerely,



R-31

Don McEnhill  
Executive Director

**DRAFT  
HEALTH ADVISORY:  
SAFE EATING GUIDELINES  
FOR FISH FROM  
LAKE SONOMA (SONOMA COUNTY) &  
LAKE MENDOCINO (MENDOCINO COUNTY)**

Margy Gassel, Ph.D.  
Susan Klasing, Ph.D.  
Robert K. Brodberg, Ph.D.  
Sue Roberts, M.S.

Office of Environmental Health Hazard Assessment  
California Environmental Protection Agency



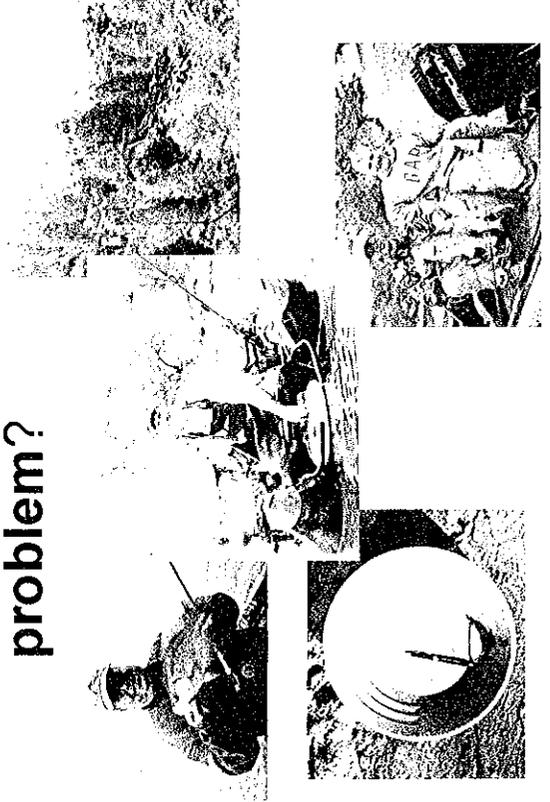
**ACKNOWLEDGEMENTS**

**SAMPLING AND ANALYSIS**  
SWRCB & NCRWQCB Peter Otis  
CDFG: Moss Landing Marine Lab & Water Pollution  
Control Lab

**COMMUNITY OUTREACH SUPPORT**  
MENDOCINO COUNTY David Koppel  
SONOMA COUNTY ENVIRONMENTAL HEALTH DIVISION  
Walter Kruse, Jeff Lewin, Jerry Meshulam,  
Laura Barnhouse, & staff  
MCH Sharon Oman  
WIC Elena Oseguera  
U.S. ARMY CORPS OF ENGINEERS  
Perry Crowley, Merle Griffen, & staff



**What is the  
problem?**



**FISH FACTS**

- Fish provide a good source of protein and other nutrients
- Fish contain "good fats" called "omega-3 fatty acids"
- Studies show significant health benefits from eating fish and from omega-3 fatty acids
- Other animal sources of protein may increase your risk of some diseases



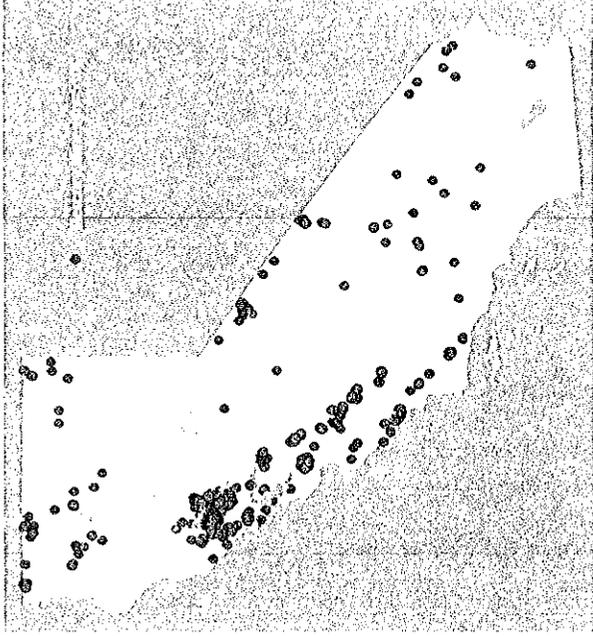


## MERCURY FACTS

- Mercury is a natural element in the earth
- The amount present on the earth will always be the same
- Human activities increase the amount of mercury that we can be exposed to



## MERCURY MINES IN CALIFORNIA



## MERCURY FACTS

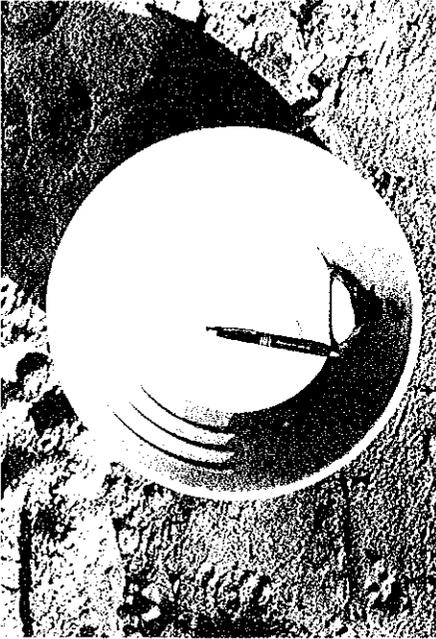
- CONTINUED -

- Mercury was mined and used to extract gold
- Also used for batteries, switches, thermometers, thermostats, blood pressure devices, dental amalgams, fluorescent lights, preservatives



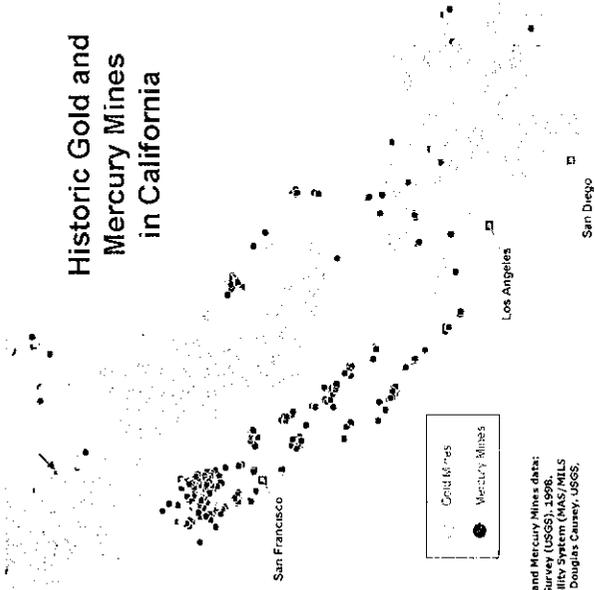
## What is methylmercury?

- Organic form of the element mercury
- Chemical formula:  $CH_3HgX$  (eHgX)
- Highest amount of mercury present on the earth will always be the same
- Humans often ingest the chemical form of mercury found in the environment

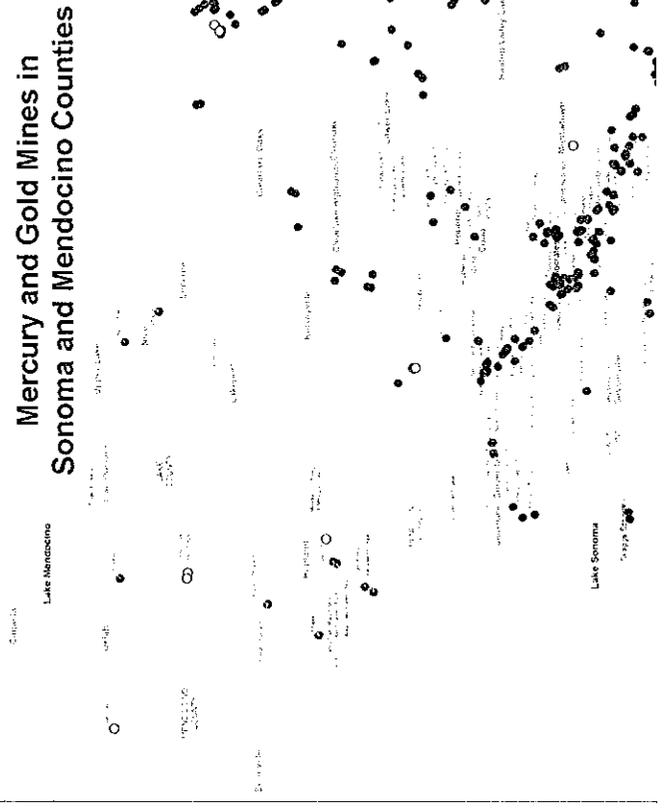


Gold pan with 30 grams of mercury  
 Panned from 1,000 grams of contaminated sediment  
 Tunnel sluice, Polar Star Mine, Placer County, CA

## Historic Gold and Mercury Mines in California



Source for Gold and Mercury Mines data:  
 U.S. Geological Survey (USGS), 1998.  
 Minerals Availability System (MAS/MILS  
 database). By J. Douglas Causey, USGS,  
 Denver, CO.



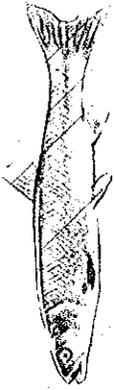
## SONOMA AND MENDOCINO COUNTY WATERSHEDS

- Numerous mines
- Leaching from mine tailings -- abandoned mines
- Natural geothermic activity and springs



## MERCURY FACTS - CONTINUED -

- Fish are the major source of exposure
- Almost all fish contain mercury
- Contact with the water is safe
- Concentrations in fish are 10,000 to 1,000,000 times greater than in water



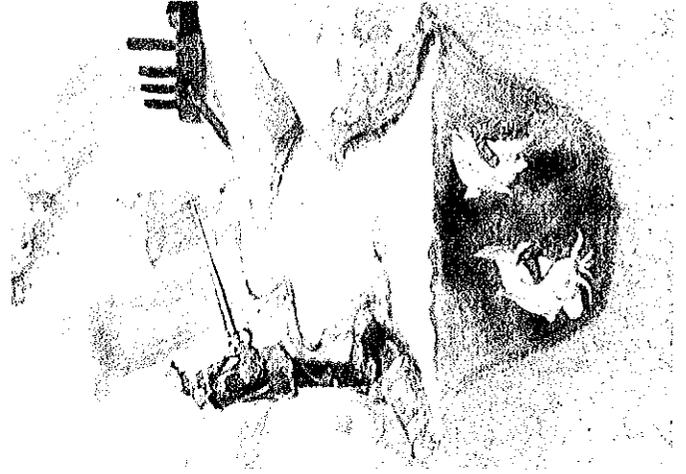
Rain and runoff from land ...

...deposits mercury in waterways.

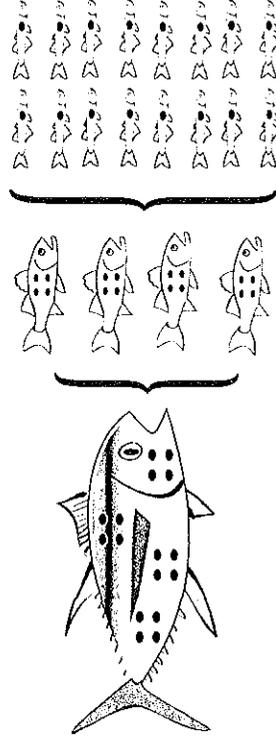
Mercury settles in the sediments

Bacteria change it to toxic form "meHg"

Aquatic animals take it in, and are eaten by fish



How does mercury get in fish?



**Bioaccumulation  
of mercury in fish**

## What happens to methylmercury in my body?



After ingestion:

GI Tract:  
95% absorbed

Blood-brain barrier:  
readily crosses

Kidneys:  
Highest levels  
Half-life: ~70 days



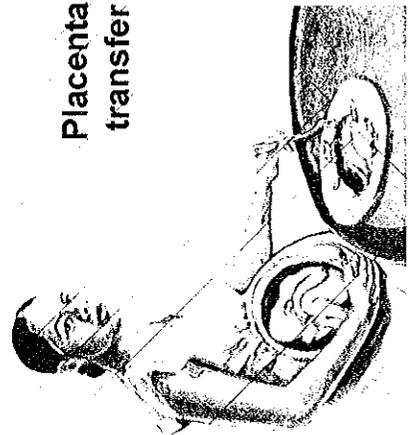
## METHYLMERCURY TOXICITY IN ADULTS



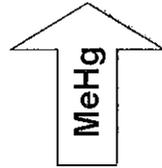
- Target organ – Brain
- Early signs & symptoms –
  - Numbness and tingling of the mouth, hands and feet
  - Observed in extreme cases of mercury poisoning in adults in Japan and Iraq (1950s – 1970s)



## How can children be affected by methylmercury?



Placental transfer



## METHYLMERCURY IN THE FETUS AND CHILDREN

- Nervous system is highly sensitive while developing
  - Recent studies have shown the developing adolescent brain is more sensitive to toxins compared to the adult brain
- Subtle signs and symptoms

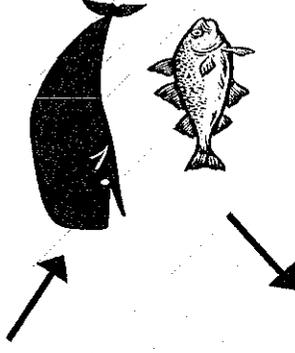


What is considered a safe level of methylmercury exposure?

- Significant research to identify lowest dose of methylmercury with adverse effects
- Large studies on children in seafood-consuming populations
- Faroe Islands, Seychelle Islands, New Zealand



## FAROE ISLANDS 1990s



Diet:  
Marine mammals  
and fish

### Health Effects:

- No maternal effect
- Subtle neurobehavioral effects in children



## FAROE ISLAND STUDY RESULTS

- Required sophisticated testing to recognize (Boston Naming Test)
- Differences in attention, fine-motor function, visual-spatial abilities, and verbal memory
- Effects measured in groups of boys and girls



## How does U.S. EPA use these data to set exposure limits?

- U.S. EPA sets oral reference dose (RfD)
- Estimate of daily exposure likely to be without significant risk of adverse effects during a lifetime
  - Incorporates uncertainty factors to account for incomplete data and individual variability
  - Protects most sensitive population
  - Expressed in units of mg/kg body weight per day



## Oral RfDs\* for Methylmercury

UF	RfD	Based on:
10	0.0003	Effects on CNS in adults (ataxia and paresthesia)
10	0.0001	Developmental neurological abnormalities in infants (Faroes data)

\* mg/kg body weight/day

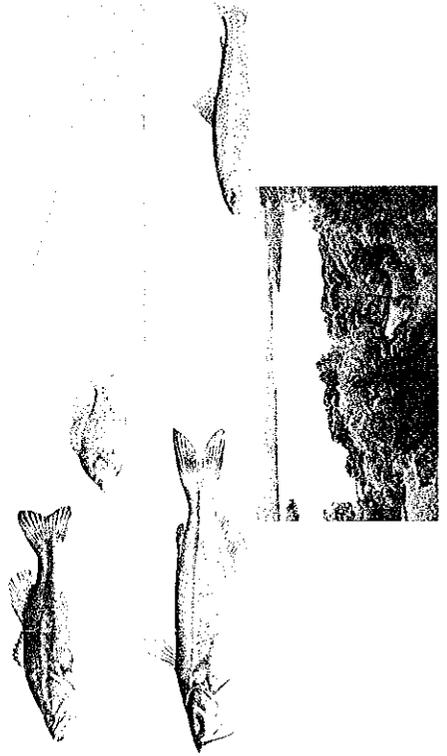


## METHYLMERCURY EXPOSURE IN THE UNITED STATES

- Most individuals in the United States have low blood mercury concentrations
- Small percentage of women of childbearing age have blood mercury concentrations that correspond to intakes above the RfD
  - About 8% of all women of childbearing age
  - About 16% of Asian, Pacific Islander, Native American, and multiracial women



What is the risk of methylmercury exposure from consumption of fish or shellfish from Lake Sonoma and Lake Mendocino?



## EVALUATING FISH DATA:

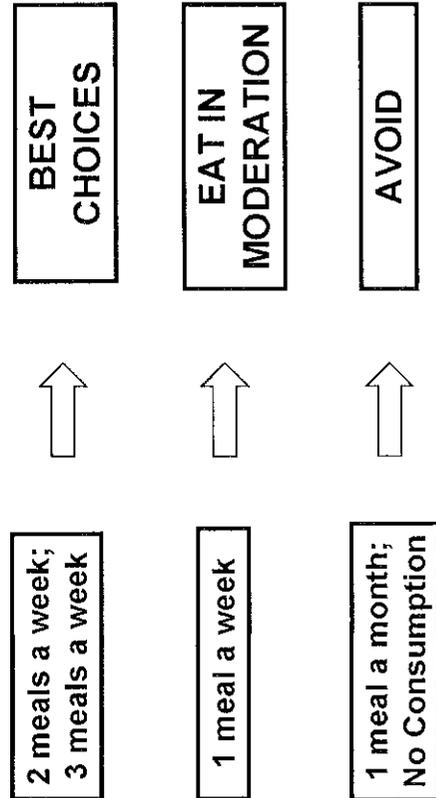
- How much mercury is the consumer exposed to?
  - Meal frequency and meal size
  - Hg concentration in the fish
- Compare fish tissue levels to "GTLs"
  - A series of tissue concentrations for each meal frequency that keeps exposure safe (RfD)



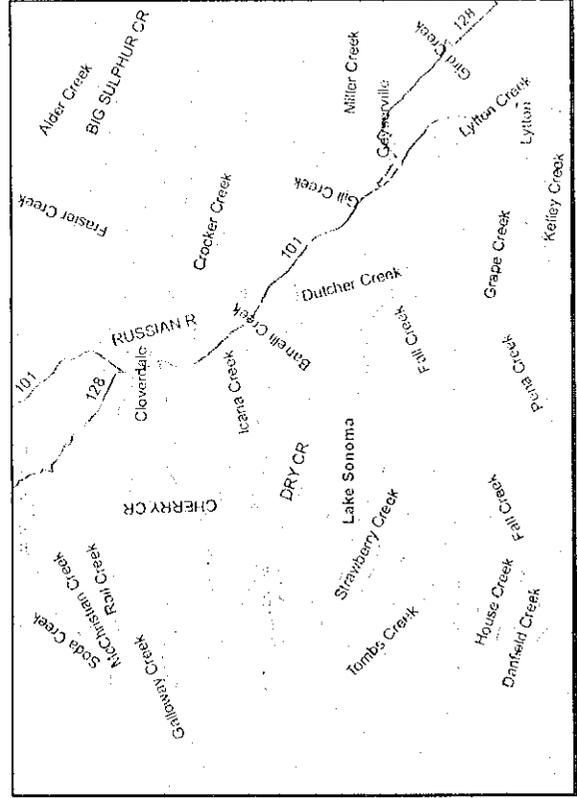
Guidance Tissue Levels For Mercury (ppm) For Two Population Groups		
Meals per Month	Women of Childbearing Age and Children 17 years and Younger	Women Beyond Childbearing Age and Men
30	≤ 0.03 ppm	≤ 0.09 ppm
12	> 0.03 – 0.08	> 0.09 – 0.23
8	> 0.08 – 0.12	> 0.23 – 0.35
7	> 0.12 – 0.13	> 0.35 – 0.40
6	> 0.13 – 0.16	> 0.40 – 0.47
5	> 0.16 – 0.19	> 0.47 – 0.56

Guidance Tissue Levels For Mercury (ppm) For Two Population Groups		
Meals per Month	Women of Childbearing Age and Children 17 years and Younger	Women Beyond Childbearing Age and Men
4	> 0.19 – 0.23	> 0.56 – 0.70
3	> 0.23 – 0.31	> 0.70 – 0.94
2	> 0.31 – 0.47	> 0.94 – 1.40
1	> 0.47 – 0.94	> 1.40 – 2.81
0	> 0.94	> 2.81

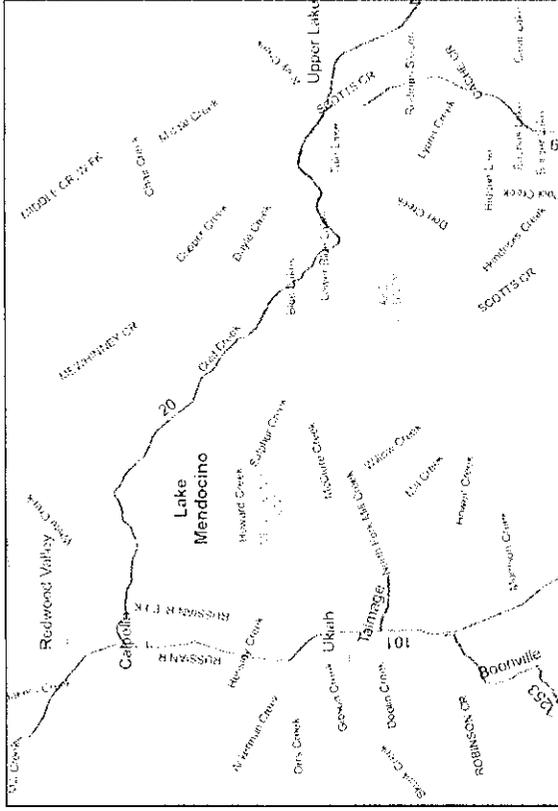
## SAFE EATING GUIDELINES



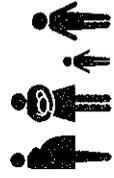
## Lake Sonoma



# Lake Mendocino



## SAFE EATING GUIDELINES FISH CONSUMPTION FROM LAKE SONOMA AND LAKE MENDOCINO



Women of childbearing age, pregnant or breastfeeding women, and children 17 years and younger

<b>EAT IN MODERATION</b>
No more than 1 meal a week
Sunfish or crappie or
<b>AVOID</b>
No more than 1 meal a month
Largemouth or smallmouth bass

MEAN MERCURY CONCENTRATIONS in Fish from Lake Sonoma			
FISH SPECIES	MERCURY (ppm)	LENGTH (mm)	SAMPLE SIZE
Largemouth Bass 	0.82	370	64
Redear Sunfish 	0.25	167	27
Black Crappie 	0.25	156	10

MEAN MERCURY CONCENTRATIONS in Fish from Lake Mendocino			
FISH SPECIES	MERCURY (ppm)	LENGTH (mm)	SAMPLE SIZE
Largemouth Bass 	0.55	379	36
Redear Sunfish 	0.26	285	12
Striped Bass 	0.74	622	7
Channel Catfish 	0.31	623	4
Rainbow Trout 	0.12	380	2



# GENERAL GUIDELINES

- Contact with the water is safe
- Eat smaller fish of legal size
- Meal size depends on body weight
- Do not combine meal consumption advice
- Consider the fish you buy from stores and restaurants
- Fish from other water bodies may also contain mercury



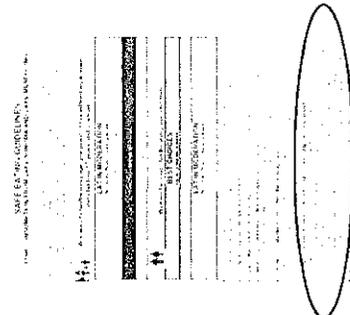
# Joint Federal Advisory for Mercury in Fish

- Do not eat shark, swordfish, king mackerel, and tilefish
- Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury
- Check local advisories about fish caught by family and friends. If no advice is available, eat up to 1 meal per week of fish from local waters and consume no other fish that week.



# Federal Advisory for Mercury in Fish

CONSIDER THE FISH YOU BUY FROM STORES AND RESTAURANTS. Women of childbearing age and children can safely eat up to 2 meals a week of most fish purchased in a store or restaurant\*. OR use this guide for eating fish caught from this water body. In a week when you eat 2 meals of fish purchased from stores or restaurants, avoid eating fish caught from a local water body. Commercial fish such as shrimp, king crab, scallops, farmed catfish, wild ocean salmon, oysters, tilapia, flounder, and sole generally contain some of the lowest levels of mercury. \* Women of childbearing age and children should not eat shark or swordfish, which contain the most mercury.



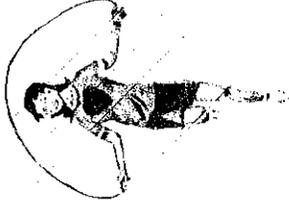
## IMPORTANT POINTS TO REMEMBER

- Consider all sources of fish
  - Fish from stores and restaurants
  - Fish caught in other water bodies
- Meal size depends on body weight
- Women and children be most careful



## MORE IMPORTANT POINTS

- Fish are nutritious
  - Protein and “good fats”
- Recommended as part of a healthy balanced diet
  - Benefits for heart and nervous system
  - Benefits for baby from mother’s fish consumption during pregnancy



## BOTTOM LINE

- As with most foods, it is best to eat fish in moderation
- Replacing other animal sources of protein with a low-contaminant fish meal twice a week may lower your risk of some diseases
- Make informed choices about which fish are safest to eat
- Eat fish without putting your health at risk



## FISH CONTAINING HIGHER LEVELS OF MERCURY

- Shark
- Swordfish
- King mackerel (East & Gulf)
- Tilefish (East & Gulf)
- Chilean sea bass
- Tuna steaks
- Albacore tuna
- Black bass
- Striped bass



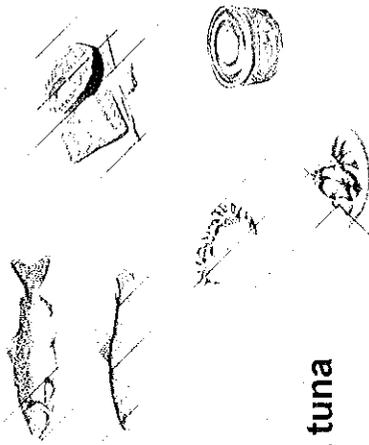
## FISH AND SHELLFISH CONTAINING LOWER LEVELS OF MERCURY

Wild Salmon  
(ocean or river-run)  
Trout  
Shrimp  
Tilapia  
Flounder  
Sole  
Scallops  
Oysters  
King Crab



## FISH AND SHELLFISH High OMEGA-3 & Low Mercury\*

Salmon  
Trout  
Oysters  
Crabs  
Pollock  
Perch  
Shrimp  
Cod  
Canned light tuna  
Haddock  
Farmed catfish



\*adapted from Smith and Sahyoun, 2005

## COMMENTS WELCOME

By October 2

Dr. Margy Gassel  
OEHHA  
1515 Clay Street 16<sup>th</sup> Floor  
Oakland, CA  
94612

mgassel@oehha.ca.gov  
510-622-3166



## **MERCURY in FISH FREQUENTLY ASKED QUESTIONS (FAQS)**

**Q. I heard there is mercury in the water and fish/shellfish. Where does the mercury come from?**

A. Mercury is released into the environment from natural processes like weathering of mercury - bearing rocks and from volcanic eruptions. It is also released by man's activities such as incineration of wastes, coal burning, mining and smelting. There are hundreds of other sources ranging from batteries and thermometers to drilling mud and municipal waste water. Most mercury in water and fish is thought to come from atmospheric deposition. After deposition, mercury may be converted by biological processes into methylmercury. Methylmercury is readily taken up by living organisms and is passed along from microscopic plants and animals to larger organisms.

**Q. Is it safe to swim in the water?**

A. Yes. The concentration of mercury in most surface waters is extremely low – usually less than 5 parts per trillion. One part per trillion is the same as one drop of detergent in enough dish water to fill a string of railroad cars 10 miles long. The safety standard for drinking water is 2 parts per billion which means that most swimming water would have less mercury than the maximum allowed for drinking water

**Q. If the amount (concentration) of mercury in water is so low, how does it get into fish?**

A. Some of the mercury in water or in the water bottom is converted to methylmercury by bacteria and natural chemical processes. Bacteria are eaten by small organisms which are eaten by larger organisms which in turn are eaten by even larger organisms. At each step, the concentration of methylmercury increases (a large, predator fish eats a lot of smaller fish each of which has a relatively low concentration of methylmercury but each contributes to the total amount in the large fish). The concentration of methylmercury in a large predator fish may be 10,000 to 100,000 times greater than in the surrounding water.

**Q. Are there methods of preparation that will reduce the mercury in fish?**

A. No. Mercury is found throughout the muscle tissue and there are no specific areas of the edible flesh that have more or less mercury. Similarly, there is no known marinade or “soak” that would reduce mercury.

**Q. Is it safe to eat fish?**

A. Fish and shellfish are food sources that are high in protein and low in saturated fats and are direct sources of beneficial fatty acids. There are hundreds of studies that have

demonstrated the health benefits of eating fish and shellfish. The concentration of mercury in some fish is considered unsafe (depending on the amount consumed) by the FDA and EPA. See Table 1. The level of consumption considered safe is a very conservative standard in order to protect those most at risk (primarily unborn and young children)

**Q. Are some fish or shellfish lower in mercury?**

A. Yes. The amount of mercury in fish and shellfish is dependent on the age of the fish, what it eats and in some cases where it lives. Older fish that prey on large amounts of other fish tend to have higher levels of mercury. Short-lived fish that feed lower on the food chain tend to have less mercury. Shellfish like shrimp, oysters and crabs tend to be low in mercury. Younger (and usually smaller fish) of most species are lower in mercury. More information is needed on the mercury levels for many kinds of fish and for different ages of the same kinds of fish.

**Q. What are the consequences of eating fish with elevated mercury levels?**

A. Mercury is a heavy metal that affects the human nervous system. Most studies to date have concentrated on the effects of mercury on children born to mothers who ate large amounts fish or whale meat during pregnancy. Some of these children scored slightly lower on standard tests and showed delayed development. There is little information on the consequences of eating fish with mercury levels commonly found in Gulf waters for adults. There is clear evidence of nervous system impairment where large quantities of fish with very high mercury concentrations were consumed in Japan.

**Q. I'm pregnant (or trying). Should I eat fish?**

A. The FDA advises against eating shark, swordfish, king mackerel and tilefish. The FDA further notes that "seafood can be an important part of a balanced diet for pregnant women and those of childbearing age who may become pregnant". FDA advises that these women can safely eat 12 ounces per week of shellfish, smaller ocean fish or farm raised fish. The EPA advises to check state consumption advisories (contact numbers and web sites at bottom) and to follow the limits in table 1.

**Q. Are high levels of mercury in fish particular to the coastal areas of the Gulf of Mexico?**

A. No. Elevated mercury levels in some fish have been known from various locations around the US for over 20 years. Currently there are 2,242 consumption advisories, primarily in specific fresh-water bodies, from 42 states. Most coastal states from Texas to New Hampshire have consumption advisories for fish like large mackerel. There is nothing unusual about local fish or levels of mercury in Gulf of Mexico compared to other locations around the US.

**Q. How can I determine the amount of mercury in my body?**

A. The two main methods are blood and hair analysis. Hair analysis is the simplest. Your doctor or State Public Health Department may be able to recommend a laboratory that can do the analysis.

**Table 1.**

EPA recommended monthly fish consumption limits for various levels of methylmercury in fish. Consumption limits have been calculated as the number of allowable fish meals per month based on the ranges of methyl mercury in the fish tissue. The following assumption were used to calculate the consumption limits:

1. Consumer adult body weight of 154 lbs
2. Average fish meal size of 8-oz
3. Time-averaging period of 1 month
4. EPA's reference dose

<b>Risk-based consumption limits</b>	<b>Ranges of methylmercury concentrations</b>
<b>Fish meals per month</b>	<b>Fish tissue concentration in parts per million</b>
<b>16</b>	<b>&gt;0.03-0.06</b>
<b>12</b>	<b>&gt;0.06-0.08</b>
<b>8</b>	<b>&gt;0.08-0.12</b>
<b>4</b>	<b>&gt;0.12-0.24</b>
<b>3</b>	<b>&gt;0.24-0.32</b>
<b>2</b>	<b>&gt;0.32-0.48</b>
<b>1</b>	<b>&gt;0.48-0.97</b>
<b>0.5</b>	<b>&gt;0.97-1.9</b>
<b>None</b>	<b>&gt;1.9</b>

Examples:

1. If a fish has a methylmercury level of 0.4 parts per million, then two 8 ounce (uncooked weight) meals per month can be safely consumed.
2. King mackerel over 39 inches in length often have mercury levels greater than (>) 1.9 parts per million methylmercury and no consumption is advised.

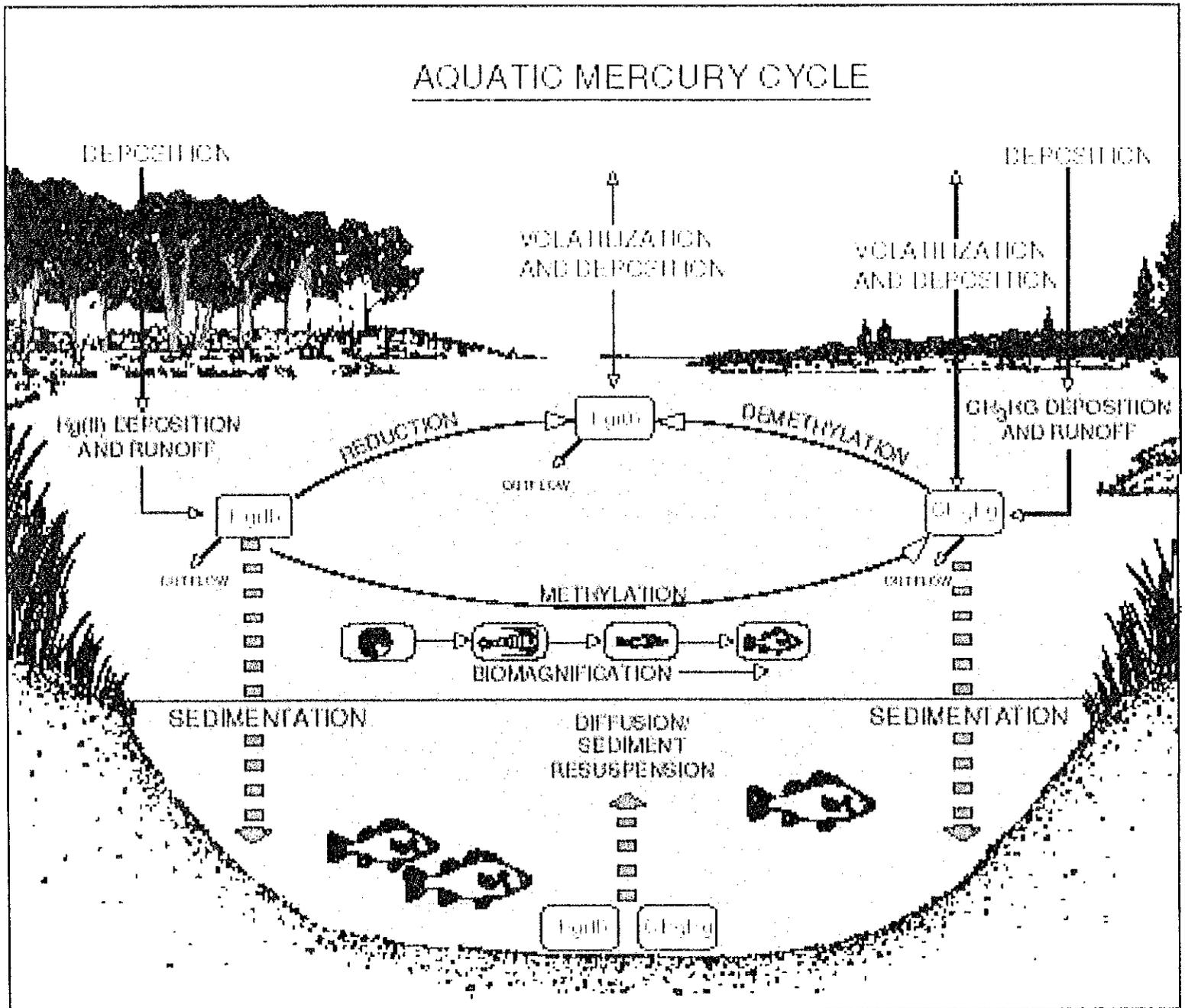
### Gulf of Mexico contacts for fish consumption advisories

State	Telephone No.	Web Site
Alabama	334 206 5941	<a href="http://www.adph.org/ADMINISTRATION/fishadv.pdf">www.adph.org/ADMINISTRATION/fishadv.pdf</a>
Florida	850 921 0884	<a href="http://www.floridaconservation.org/fishing/health.html">www.floridaconservation.org/fishing/health.html</a> <a href="http://www.marinefisheries.org">www.marinefisheries.org</a>
Louisiana	504 568 8028	<a href="http://www.deq.state.la.us/surveillance/mercury/fishadv1.htm">www.deq.state.la.us/surveillance/mercury/fishadv1.htm</a>
Mississippi	601 664 3910	<a href="http://www.deq.stae.us/newweb/erchome.nsf/pages">www.deq.stae.us/newweb/erchome.nsf/pages</a>
Texas	512 719 0215	<a href="http://www.tdh.state.tx.us/bfds/ssd/fiscount.html">www.tdh.state.tx.us/bfds/ssd/fiscount.html</a>

Note: If web address doesn't work try a search using your "state name" and "mercury" or your "state name" and "fish advisory".

This FAQ sheet was derived in parts from questions and information presented at The Mercury Forum, May 20-21, 2002, Mobile, AL. The Mercury Forum was sponsored by the Mississippi-Alabama Sea Grant Consortium, The FORUM-Industry Partners in Environmental Progress, Mobile Bay Watch/Mobile Baykeepers and the Mobile Bay National Estuary Program.

## AQUATIC MERCURY CYCLE



*Figure 6. Mercury cycling pathways in aquatic environments are very complex. The various forms of mercury can be converted from one to the next, most important is the conversion to methylmercury. This is the most toxic form. Ultimately, mercury ends up in the sediments, but can migrate, or be carried back to the atmosphere by volatilization. Reproduced with permission from Mercury Pollution: Interaction and Synthesis. Copyright Lewis Publishers, an imprint of CRC Press.*

# Mercury in Aquatic Habitats

Contaminants in Aquatic Habitats at Hazardous Waste Sites: Mercury (PDF file, 264 K; check our [PDF Page](#) to learn about PDF files.) Review of published literature on mercury chemistry, bioaccumulation and toxicity. The paper's purpose is to highlight factors to consider in designing and evaluating ecological risk assessments, and in sampling, monitoring and analyzing environmental media in aquatic habitats affected by mercury. The executive summary of the document appears below.

- The toxicity associated with mercury in tissues ([Table 2](#)) from the document has been updated with new studies in an expanded format. (webposted 3/01)

## Executive Summary

### Environmental Chemistry

The fate of mercury in the environment depends on the chemical form of mercury released and the environmental conditions. Elemental mercury, inorganic mercury, and methylmercury are the three most important forms of mercury in natural aquatic environments. Most mercury is released into the environment as inorganic mercury, which is primarily bound to particulates and organic substances and may not be available for direct uptake by aquatic organisms. The process of methylation of inorganic mercury to methylmercury, which is highly bioavailable, is thus an important key to the fate of mercury in the environment.

Elemental mercury has a high vapor pressure, a low solubility, does not combine with inorganic or organic ligands, and is not available for methylation. The mercurous ion ( $\text{Hg}[\text{I}]$ ) combines with inorganic compounds only and cannot be methylated. The mercuric ion ( $\text{Hg}[\text{II}]$ ) combines with both inorganic and organic ligands, and can be methylated. Methylation in aquatic habitats is primarily a biological process. Mono- and dimethylmercury are formed by microorganisms in both sediment and water through the methylation of inorganic mercuric ions ( $\text{Hg}[\text{II}]$ ). Dimethylmercury, which is highly volatile, is generally not persistent in aquatic environments.

Methylation is influenced by environmental variables that affect both the availability of mercuric ions for methylation and the growth of the methylating microbial populations. Methylation rates are higher under anoxic conditions, in freshwater compared to saltwater, and in low pH environments. The presence of organic matter can stimulate growth of microbial populations (and reduce oxygen levels), thereby enhancing the formation of methylmercury. Sulfide can bind mercury and limit methylation. Methylmercury production can vary due to seasonal changes in nutrients, oxygen,

temperature, and hydrodynamics. In most studies, methylation increased during the summer months when biological productivity was high, and decreased during the winter months.

Measurements of total mercury concentrations in the sediment do not provide information on the form of mercury present, methylation potential, or availability to organisms locally and downstream. If environmental conditions are conducive for methylation, methylmercury concentrations may be high in proportion to the supply and distribution of total mercury.

## **Bioaccumulation**

Mercury is accumulated by fish, invertebrates, mammals, and aquatic plants and the concentration tends to increase with increasing trophic level (mercury biomagnifies). Although inorganic mercury is the dominant form of mercury in the environment and is easily taken up, it is also depurated relatively quickly. Methylmercury accumulates quickly, depurates very slowly, and therefore biomagnifies in higher trophic species. The percentage of methylmercury, as compared to total mercury, also increases with age in both fish and invertebrates.

Uptake and depuration rates vary between tissues within an organism. Partitioning of mercury between tissues within aquatic organisms is influenced by the chemical form of mercury and route of exposure (ingestion or via the gills). Due to its preferential uptake, ability to be transferred among tissues, and slow depuration, most of the mercury in fish muscle tissue (Å99%) is methylmercury.

Marine mammal tissues have some of the highest concentrations of mercury found in all marine organisms, with the liver generally having the highest total mercury concentration. Although many juvenile and adult marine mammals primarily feed on fish, which contain high percentages of methylmercury, high concentrations of inorganic mercury are found in adult specimens. Apparently, adult marine mammals can mineralize methylmercury into inorganic mercury. Juvenile marine mammals have lower concentrations of total mercury than adults; but unlike fish and invertebrates, the percentage of methylmercury is higher in juvenile mammals.

Invertebrates generally have a lower percentage of methylmercury, as compared to total mercury, in their tissues than do fish and marine mammals. The percentage of methylmercury in invertebrates varies greatly and can range from one percent in deposit-feeding polychaetes, to close to 100% in crab.

Bioconcentration factors (BCFs) reflect uptake from water in laboratory experiments. BCFs for mercury are variable, with the highest factors determined for methylmercury. BCFs for methylmercury in brook trout range from 69,000 to 630,000, depending on the tissue analyzed. BCFs for inorganic mercury (mercuric chloride) in saltwater species

range from 129 for adult lobster (*Homarus americanus*) to 10,000 for oysters (*Crassostrea virginica*).

While sediment is usually the primary source of mercury in most aquatic systems, the food web is the main pathway for accumulation. High trophic level species tend to accumulate the highest concentrations of mercury, with concentrations highest in fish-eating predators. Mercury concentrations in higher trophic species often do not correlate with concentrations in environmental media. Correlations have been made between sediment and lower trophic species that typically have a high percentage of inorganic mercury, and between mercury concentrations in higher trophic species and their prey items. The best measure of bioavailability of mercury in any system can be obtained by analyzing mercury concentrations in the biota at the specific site.

## **Toxicity**

Toxicity is influenced by the form of mercury, the environmental media, environmental conditions, the sensitivity or tolerance of the organism, and the life history stage. Inorganic mercury is less acutely toxic to aquatic organisms than methylmercury, but the range in sensitivity among individual species for either compound is large. Toxicity was found to be greater at elevated temperatures, lower oxygen content, reduced salinities in marine environments, and in the presence of metals such as zinc and lead.

In general, toxic effects occur because mercury binds to proteins and alters protein production or synthesis. Toxicological effects include reproductive impairment, growth inhibition, developmental abnormalities, and altered behavioral responses. Reproductive endpoints are generally more sensitive than growth or survival, with embryos and the early developmental stages the most sensitive. Mercury can be transferred from tissues of the adult female to developing eggs. Exposure to low concentrations of mercury may not result in mortality directly, but may retard growth thereby increasing the risk of predation.

Data available on the effects of mercury-contaminated sediment on aquatic organisms reviewed by Long and MacDonald (1992) resulted in effects range-low (ERL) and effects range-median (ERM) concentrations of 0.15 mg/kg and 0.71 mg/kg, respectively. However, these numbers were less accurate than other metals in predicting adverse effects, highlighting the need for site-specific effects data to determine concentrations of mercury in sediment that pose a threat to aquatic biota.

Few studies report both tissue residues and effects in long-term exposure to low concentrations of mercury. However, results from studies on different freshwater species indicate that reproductive effects could be expected to occur in sensitive fish species at tissue concentrations close to the FDA action level of 1 mg/kg (ppm).

The interaction of mercury and other trace elements (e.g., cadmium, copper, selenium, and zinc) can be both antagonistic and synergistic, primarily depending on exposure

concentrations and form of mercury. Effects were generally less than additive (antagonistic) at lower exposure levels and greater than additive (synergistic) at higher levels. Zinc and cadmium were reported to reduce the teratogenic effects of methylmercury to killifish while selenium reduced mercury's toxic effects on development in medaka embryos.

## **Applications**

Ecological assessments of waste sites with elevated concentrations of mercury in the aquatic environment are particularly challenging due to the complexity of the factors that affect the availability of mercury to aquatic organisms. Depending on the magnitude of the problem (local versus system-wide), the level of effort necessary to evaluate mercury contamination may range from simple monitoring of chemical concentrations to more complex programs including monitoring of numerous physical, chemical and biological parameters. The distribution of total mercury in sediment, which in most cases is predominantly inorganic mercury, may not by itself provide useful information about the bioavailability of mercury to aquatic species. Concentrations of total mercury in sediment that decrease with increasing distance from the source may still pose a threat to organisms if the bioavailability of the mercury increases (i.e., environmental conditions are more conducive for methylation). Mercury concentrations in aquatic organisms, particularly higher trophic-level organisms, may provide the best measure of the availability of mercury in a particular area.

In sites where a whole system has been affected, evaluation of remedial alternatives may need to be based on an understanding of the system-specific processes that lead to increased methylation and the pathways to resources of concern. An assessment of environmental parameters that affect the activity of methylating microbes (e.g., nutrients, temperature, pH, and dissolved oxygen) and the factors affecting the availability of inorganic mercury for methylation (e.g., the resuspension of sediment, total organic carbon, and sulfides) may be warranted when designing sampling plans for a remedial investigation.

To establish protective sediment target cleanup concentrations and remedial options for mercury-contaminated sites, we must understand the extent of contamination, the major pathways of transport, and bioavailability. Therefore, data on the accumulation of mercury in tissues of aquatic organisms should be included in assessment studies because it addresses potential human health concerns and availability to aquatic receptors. In addition, studies should assess toxicity to aquatic organisms, focusing on early life stages and reproductive effects.

Detection limits should reflect the program objectives. Contract Lab Program (CLP) methodology may be appropriate for screening level assessments; however, biologically relevant detection limits are often required and not available at CLP laboratories. Thus, analytical laboratories that can achieve lower detection limits may need to be used.

Quality control is an important aspect of any testing program but is particularly important when analyzing mercury in environmental matrices. In water, very low concentrations need to be measured; the separation of the different forms of mercury requires special analytical techniques. Matrix effects in the extraction of mercury from tissue may interfere with accurate analyses for methyl and total mercury. When analyzing mercury in water, sediment, and tissue, analysis of certified standards for the appropriate matrix must be included as part of the quality control plan.

## Summary

NOAA recommends a site-specific approach that focuses on determining the availability of mercury and the potential for toxic effects. The accumulation of mercury in aquatic biota is often the primary concern at mercury sites and is useful for assessing availability. Bioaccumulation studies should measure tissue concentrations in more than one resident and/or transplanted caged species, preferably with species representing different trophic levels or different food web pathways. It may not be possible to correlate sediment mercury concentrations with concentrations in biota. However, correlations between mercury concentrations in predator and prey species may be useful in determining pathways of mercury transfer.

Toxicity tests such as the standard amphipod tests should also be conducted to assess mercury toxicity to benthic organisms. At major mercury sites, chronic toxicity endpoints should be included in the assessment - in particular, fish early life stage or reproductive endpoint tests. Because of the persistence of mercury in aquatic systems, source control alone may not be sufficient to permit recovery. Additional remedial actions may be required to reduce the total mercury burden in the system. Long-term monitoring of tissue concentrations of mercury in aquatic biota is needed to assess remedial effectiveness.

Office of Response and Restoration, National Ocean Service, National Oceanic and Atmospheric Administration

[CPRD.Webmaster@noaa.gov](mailto:CPRD.Webmaster@noaa.gov)



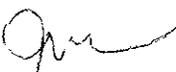
UNIVERSITY OF CALIFORNIA  
COOPERATIVE EXTENSION  
Mendocino County



890 North Bush Street, Ukiah, CA 95482  
Phone: (707) 463-4495 Fax: (707) 463-4477 Email: [gmcgourty@ucdavis.edu](mailto:gmcgourty@ucdavis.edu)

October 6, 2009

**Memo To:** Mendocino County Planning Dept.

**From:** Glenn McGourty 

**RE: Proposed Granite Construction Gravel Mine, Kunzler Ranch Road**

Since the land has already been zoned as industrial use, it is no longer considered agricultural land. This is unfortunate, because Mendocino County has such limited flat arable land with water available for intensive agriculture.

S-1

However, I do have the following concerns:

1. The mine will be left unfilled and unreclaimed, and will be a "legacy scar" on the landscape.

S-2

2. The exposed pit will change the hydrology of the flood plain, and will no longer allow water to percolate in a contiguous strata from the surface. This will change the dynamics during the wet season, and could potentially incrementally affect more flooding down stream, since it represents an impairment of natural infiltration into the water table.

S-3

3. The project has the potential to lower water tables in the immediate area, and may affect natural vegetation along the river.

S-4

4. The site will become a potential "attractive nuisance" for children and trespassers seeking access to water for recreation or fishing. It will require fencing.

S-5

5. The site will also become a potential breeding area for mosquitoes and other pest insects, as well as aquatic and terrestrial weeds.

S-6

6. There already are several large aggregate and rock quarries in the area that could easily supply the amount of material that this project would provide.

S-7

I encourage the applicants to thoughtfully address these issues.

S-8

RECEIVED  
OCT 08 2009

BY  
PLANNING & BUILDING SERVICES  
Ukiah CA 95482



T

## John Speka - Kunzler Terrace Mine Project

---

**From:** "Greg Giusti" <gagiusti@ucdavis.edu>  
**To:** <spekaj@co.mendocino.ca.us>  
**Date:** 10/6/2009 10:47 AM  
**Subject:** Kunzler Terrace Mine Project  
**CC:** "John M. Harper" <jmharper@ucdavis.edu>, "Tony Linegar" <linegart@co.mendocino.ca.us>

---

John,

Per your office's request I have reviewed the Kunzler Terrace Mine Project EIR.

The only questions I have are regarding Biological Resources.

Figure 2-3c illustrates a drop in surface level elevation of approximately 48'. As it relates to protection of salmonid resources;

- 1) Will the decrease in surface elevation (that will eventually fill with water) create negative hydrologic pressure from surrounding ground water sources? And, if so,
- 2) Will this potentially affect water table levels? And if so,
- 3) Will this potentially lead to early season de-watering of either Ackerman Creek or the Russian River?

I have not seen this topic addressed in the proposed impact or mitigations of the current draft.

Gregory A. Giusti  
 County Director  
 Forest Advisor, RPF #2709  
 Wildlands Ecology Advisor  
 IHRMP Advisor  
 Affiliate-College of Natural Resources UCB

University of California Cooperative Extension  
 Lakeport Office  
 883 Lakeport Blvd  
 Lakeport, Ca., 95453  
 707-263-6838  
 fax 707.263.3963  
[http://celake.ucdavis.edu/Fresh\\_Water\\_Ecology/](http://celake.ucdavis.edu/Fresh_Water_Ecology/)

Mendocino Office  
 707.463.4495  
 fax 707.463.4477  
<http://cemendocino.ucdavis.edu/forestry>

*The best time to plant a tree is 20 years ago....The second best time is now.*  
 - Chinese proverb



November 6, 2009

John Speka  
 County of Mendocino  
 Department of Planning and Building  
 501 Low Gap Road, Room 1440  
 Ukiah, CA 95482



RE: Draft Environmental Impact Report for the Kunzler Terrace Mine Project  
 SCH 2008042108

Dear Mr. Speka:

Granite Construction Company ("Granite") respectfully submits the following initial comments relating to the Draft Environmental Impact Report ("DEIR") prepared for the County of Mendocino by ESA Associates for approval of a use permit and mining and reclamation plan for the Kunzler Terrace Mine Project (the "project").

U-1

### Comments

❖ Executive Summary, Page ES-2 -reference to an "Initial Study Checklist" is incorrect. During preliminary review, the County of Mendocino determined that an EIR would be required, and thus, skipped further initial review of the project and began working directly on the EIR process.

U-2

❖ Page 2-4, Section 2.1.2 Existing Land Uses: the DEIR should clarify that the processing plant to wash, crush and screen aggregate is a principally permitted use that can occur by right in the I-2 General Industrial Zone. Approval of as of right uses are ministerial acts that are exempt from environmental review pursuant to the California Environmental Quality Act.

U-3

❖ Aesthetics, Page 3.1-6 and Land Use, Page 3.9-3 - Under the heading Mendocino County 2009 General Plan: the DEIR fails to point out that the project is consistent with Mendocino County 2009 General Plan Action Item RM 65-4: Promote Off-Stream Terrace Mining or Hard Rock Quarrying Operations Over In-Stream Operations.

U-4

❖ Agricultural Resources, Page 3.2-9 - Impact 3.2.1 "Agricultural production has ceased on the project site due to poor quality and low production." Agricultural production has not ceased on the project site.

U-5

❖ Figures 2-3 and 2-4 - the scale shown is incorrect. Discussion throughout the DEIR accurately describes the mining setbacks as being 150 feet from Ackerman Creek (top of bank) and 250 feet the Russian River (top of bank).

U-6

Ukiah Area  
 1324 S. State St.  
 Ukiah, CA 95482  
 707/467-4100  
 FAX: 707/467-4154

- ❖ Biological Resources, Pages 3.4-28 to 3.4-31, – The word “construction” is frequently used throughout this chapter of the DEIR. The DEIR should clarify what specific activities the term “construction” is referring to (e.g., processing plant area grading/preparation, topsoil/overburden stripping, dry mining, wet mining, flood plain benching, installation of the flood control features, reclamation, etc.).

U-7
- ❖ Biological Resources, Page 3.4-31, Mitigation Measure 3.4.3 contains a typographical error in Condition 11 (i.e. “off-site”) with regard to securing water for dust control. There is no compelling reason to prohibit on-site water sources from supplying dust control for any phase of the project. Existing, on-site sources of water are available to adequately serve the project, see page 14 of the project Application for Approval of a Conditional Use Permit and Reclamation Plan for the Kunzler Terrace Mine.

U-8
- ❖ Geology, Soils, and Seismicity, Page 3.6-11, Section 3.6.3 Impacts and Mitigation Measures – “The proposed project would involve the excavation and removal of sand, gravel, and overburden to depths averaging 65 feet below ground surface for the north pit and 40 feet below ground surface for the south pit.” There are two typographical errors in this sentence. The sentence should say that the proposed project will excavate and remove sand, gravel and overburden to a maximum depth of 65 feet below ground surface.

U-9
- ❖ Hydrology/Water Quality, Pages 3.8-1 to 3.8-38: There is inconsistent reference to the flood recurrence interval. The discussion appears to intertwine the original and alternative reclamation designs.

U-10
- ❖ Hydrology/Water Quality, Pages 3.8-1 to 3.8 -38 – The word “construction” is frequently used throughout this chapter of the DEIR. Again, the DEIR should clarify what specific activities the term “construction” is referring to (e.g., processing plant area grading/preparation, topsoil/overburden stripping, dry mining, wet mining, flood plain benching, installation of the flood control features, reclamation, etc.).

U-11
- ❖ Noise and Acoustics, Page 3.10-15 - references “...noise data collected from the Granite Redemeyer Terrace Mine is considered to be representative of the anticipated noise to be generated at the proposed mine.” While correct, please note that the project will use a dragline that is much newer and quieter than the yarder that was measured during the Environmental Noise Assessment by Illingsworth and Rodkin in 2005.

U-12
- ❖ Environmentally Superior Alternative, Page 4-14, “As shown in Table 4-1, the No Project Alternative would result in the reduction of all significant impacts (with the exception of water consumption.”: In review of Table 4.1, Comparison of Alternatives, the No Project Alternative could result in potentially significant impacts to Air Quality and that would be greater than the proposed project.

U-13
- ❖ Table 4-1 Comparison of Alternatives, Alternative 1: No Project, Impact 3.12.: the cell at this row and column of this table incorrectly identifies that the No Project Alternative would contribute less to the degradation of pavement on public roads

U-14

than the proposed project, and therefore the No Project Alternative would have a less than significant impact to the condition of public roads. The No Project Alternative would have greater and potentially significant impacts to public roadways because other aggregate sources which would logically serve Granite's North State Street and Talmage Road facilities are located further away than the proposed project and are only served by public roadways. Aggregate trucks would have to travel much greater distances on public roadways than the proposed project to serve public agencies, businesses, homeowners and other customers if the No Project Alternative was adopted. Additionally, existing activities at the project site (i.e., trucking operation and vineyard production) utilize heavy trucks on the proposed transportation routes.

U-14  
cont.

❖ Page 5-3, Cumulative Setting "According to the Upper Russian River Aggregate Resources Management Plan (1997), aggregate demand for the year 2040 in Mendocino County is approximately 190-600 cubic yards per year." a typographical error is contained within this sentence and should be listed as 190,000 to 600,000 cubic yards per year.

U-15

○ **Additional Comment:**

To Granite's knowledge, the Upper Russian River Aggregate Resources Management Plan was not subjected to a peer review process to verify the accuracy and completeness of the information contained therein and was not adopted by the Mendocino County Water Agency Board of Directors.

U-16

Thank you for your time and consideration on this matter. Please do not hesitate to contact me at (707) 467-4124 if you have questions or require additional information.

Sincerely,  
GRANITE CONSTRUCTION COMPANY

U-17



Jordan Main  
Material Resources Manager



**Douglas Parkinson and Associates  
890 L Street  
Arcata, CA 95521**

**November 4, 2009**

**Attention: John Speka  
County of Mendocino  
Department of Planning and Building  
501 Low Gap Road, Room 1440  
Ukiah, CA 95482**

**Subject: Comments on the Draft Environmental Impact Report for the Proposed Kunzler Terrace Mine, Ukiah, California**

**Mr. Speka:**

**Attached is a report of the fishery issues associated with the proposed Kunzler Terrace Mine, a gravel extraction mine proposed on 65 acres at the confluence of Ackerman creek and the Russian river near Ukiah, Mendocino county CA.**

**This evaluation of potential impacts of the proposed project features on the salmonids present was based on reviews of available documents from NMFS, California Department of Fish and Game and Mendocino County Planning Dept. Personal communication with the Mendocino Flood and Water Control District and DPA's experience with salmonids in the Russian river watershed were used to develop a further understanding of the impacts.**

V-1

**The most significant potential impact to anadromous salmonids would be the proposed pit excavation that would create an off channel pond that could potentially capture flood waters and prevent salmonids from returning to the Russian river during the recessional limb of the flood hydrograph.**

V-2

**A brief site visit was performed on October 28, 2009 but no access onto the project site was attempted.**

**The enclosed review is based on DPA's understanding after reviewing the aforementioned publications, personal experience and the site visit. Any omissions about important features is DPA's responsibility.**

V-3

County of Mendocino  
Kunzler Terrace Mine

Salmonid Entrapment Assessment

**Please contact DPA immediately for clarifications to this report.**

Thank you

  
Doug Parkinson

V-4

Douglas Parkinson and Associates  
890 L Street  
Arcata, CA 95521

**Douglas Parkinson and Associates  
890 L Street  
Arcata, CA 95521**

**Introduction**

**Granite Construction is proposing to perform floodplain gravel mining on an existing flood plain terrace at 2175 Kunzler Ranch Road, Ukiah, CA, southwest of the confluence of Ackerman Creek and the Russian River.**

**The proposed site is a 65 acre site of which pit mining will be performed on approximately 30.2 acres over an estimated 20 year period. Construction activity will include a flood control weir between the pit location and Ackerman Creek, installation of a gate-controlled culvert to drain water from the pit and construction of vegetated floodplains along 1300-feet of the south bank of Ackerman Creek and 450-feet along the west bank of the Russian River. Maximum proposed depth of the pit is currently estimated to be 65 feet.**

V-5

**The proposed Reclamation Plan for the project will establish a 150-foot wide buffer between the pit and Ackerman Creek and a 250-foot wide buffer between the pit and the Russian River.**

**The proposed alternative for the project Alternative C is for an armored flood control weir with a fuse plug that would erode during high flows allowing flood waters to enter the existing pit. The gate valve would be opened on the recession limb of the hydrograph and trapped fish would have the opportunity to exit the impoundment.**

**The Responsible and Trustee agencies identified fish entrapment (pit capture) as a long range and significant impact associated with the Kunzler Pit mine.**

**Fish Resources**

**Three species of anadromous salmonids present in the Russian River are listed under the Endangered Species Act the California Central Coast Steelhead and the California Coast Chinook salmon as threatened and the California Central Coast coho salmon as endangered.**

V-6

**The Chinook salmon ascend the Russian river in the fall and winter to spawn and the fry out migrate in the following spring during the winter-spring flows.**

**Steelhead spawn in early winter and spring and the juvenile fish remain and rear in the watershed and out migrate as either 1+ or 2+ old fish.**

V-6  
cont.

**Coho salmon spawn in the winter and out migrate as 1+ juveniles.**

**Most recent surveys performed during the low flow period by the Department of Fish and Game (CDFG) found stickleback, suckers, pike minnow and steelhead trout in Ackerman Creek. Steelhead adults and redd locations have been located in the upper reaches of Ackerman creek during previous surveys by CDFG.**

V-7

**No other salmonid species have been found in Ackerman creek.**

**Chinook and coho salmon are present in the upper Russian river. The coho are present in the upper reaches of the northwest portion of the Russian.**

V-8

### **Fisheries Risks**

**The rearing and out migrating juvenile salmonids have distinct habitat requirements for rearing and survival. Their preferences for habitats are very specific and will gravitate to those preferred areas which are related to stream velocity and cover characteristics.**

**During extreme high flow events the juvenile fish will seek refuge in natural cover elements, such as wood accumulations, large boulders or other natural protective features to avoid displacement by high velocities or high suspended sediment loads.**

V-9

**In broader floodplains of rivers the refuge areas can be in the backwater areas at the confluence of smaller tributary streams or along the stream margins or in the flooded riparian zones adjacent to the stream. Juvenile fish are the most susceptible because they will remain closer to the margins because of the lower water velocities**

**During recessional flows of river hydrographs the fish return to the main channels but do sometimes become trapped in side channels or natural depressions adjacent to the main channels.**

### **Project Features and Entrapment**

**The enlarging of the riparian zone at the mouth of Ackerman Creek with the creation of a larger flood plain will provide more off channel refuge in this constructed flood plain during high flow events in the Russian river.**

V-10

**It is likely that the juvenile fish would be more at risk of entrapment during the weir breaching because the fish are moving downstream and would be passively following the flows downstream.**

**Post spawning adult steelhead out migrating could be likely trapped. Coho salmon and Chinook die following spawning and are not likely to be trapped during a draining into the pond.**

V-10  
cont.

**Issues Related to the Proposed Action (Alternative C)**

**The proposed constructed flood terrace and widening of Ackerman Creek will enlarge the backwater area and refuge area and provide an attraction for rearing or out migrating juvenile salmonids.**

V-11

**Will this increase the risk of entrapping more juvenile fish if the weir plug releases?**

**The Sonoma County Water Agency removes juvenile salmonids from their off channel infiltration ponds. What is the species composition of the entrapped fish and can this be an indication of what could be trapped during the breaching of the weir during a flood event?**

V-12

**The proposed maximum pit depth is 65 feet. How much residual pool will remain following draw down after weir breaching?**

V-13

**Will the residual pool depth encourage salmonids to remain and or provide additional area for smallmouth bass or pike minnow both predators on juvenile salmonids to remain?**

**The ESA listed coho is present in the northwestern tributaries of the upper Russian River. The out migrating juveniles could be at risk of entrapment during high flow events as they would probably seek refuge in the backwater of Ackerman Creek.**

V-14

**What is the outmigration timing and any estimate of numbers of juvenile coho moving past the proposed project area to determine potential risk of take associated with entrapment?**

**The proposed culvert to drain the pit following breach of the weir may be an attractor for predators to congregate and prey on trapped salmonids out migrating from the pond. Pike minnow in other river systems quickly adapt to opportunities where the prey are at an unnatural risk.**

V-15

**Can this feature be modified to minimize risk of predation for the juvenile fish out migrating from the pit?**

**DOUGLAS PARKINSON**  
**Fishery, Wildlife Consultant**

**EDUCATION**

Humboldt State University, Arcata, CA  
Bachelor of Science Degree in Wildlife Biology, fisheries emphasis 1977.

**PROFESSIONAL EXPERIENCE**

Private Consultant 1981 - Present: Perform fisheries investigations of influences of timber harvest, instream gravel mining, water withdrawal and toxic discharges on the physical and biological systems of streams. Biological assessment methodologies employed have included electrofishing, snorkeling and aquatic invertebrate collection and identification. Physical assessment methodologies include stream temperature monitoring, stream habitat typing, Spawning Habitat Availability inventory, Rosgen stream channel typing, Wolman pebble counts and use of scour chains for detecting gravel movements.

DPA has performed all phases of Instream Flow Studies (IFIM) from study design, PHABSIM hydraulic data collection, fish habitat suitability studies and instream flow negotiations.

DPA has performed several fish population monitoring projects to determine population trends following flow modifications associated with water withdrawals.

DPA is capable of performing several habitat typing methodologies: the California Department of Fish and Game stream Habitat Inventory (1998), the U.S. Forest Service (R1/R4) Fish and Fish habitat Standard Inventory Procedure (1997) and the state of Washington TFW Ambient Monitoring stream inventory methodologies.

DPA has provided training of stream habitat typing teams and performed quality control to assure quality data.

Environmental Scientist 1979 - 1981: Winzler and Kelly Consulting Engineers, Eureka, CA. Perform water quality analysis, synoptic studies, McNeil sediment sampling, suspended sediment sampling, aquatic invertebrate sampling, and herbicide spray monitoring runoff related to timber harvest activities.

Fisheries Aide 1965-1966, 1969-1977: Alaska Department of Fish and Game, Sport Fish Division and Commercial Fisheries Division. Rainbow trout life history studies on Lower Talarik Creek and arctic grayling studies in the Bristol Bay region. Designed and implemented creel census surveys on the Naknek River and Tangle Lakes. Located and mapped critical anadromous fish habitat on the Keta River. Performed aerial and float surveys for adult spawner escapements. Performed population surveys for juvenile coho salmon with electrofishing.

**PERTINENT EXPERIENCE**

Principal Investigator 2009. SWAMP, Phab and invertebrate data collection. Klamath River Tributaries Bridge Replacement. CALTRANS. AMEC. Eureka, CA.

Principal Investigator 2009 Construction Compliance Monitoring. Roy Rook Boat Ramp, Klamath Glen, Klamath River. Del Norte County. SHN Engineers and Geologists, Eureka, CA

Principal Investigator 2007 Fisheries and Physical Habitat Investigations. Perform available spawning habitat (SHA) inventory, anadromous fish upstream migration barriers and habitat typing for a proposed Hydroelectric Power Project on SF Battle Creek, CA. ECORP Consulting, Rocklin, CA

Senior Biologist, 2000-07. Outmigrant Trapping, Redwood Creek. Co-Manage with California Department of Fish and Game, Steelhead Research and Monitoring Project (SRAMP) juvenile Outmigrant trapping program on Redwood Creek. Train and supervise crewmembers in proper fish handling and salmonid identification. Sierra Pacific Industries, Inc. Redding, CA

Principal Investigator 2006 Anadromous fish habitat evaluation. Upper Klamath River Tributaries. Estimate potential habitat for reintroduction of anadromous salmonids. Client US Fish and Wildlife Service, Yreka, California. John Hamilton Project Manager.

Principal Investigator 2006 Evaluate late summer stream habitat for reintroduction of steelhead rainbow trout. Calaveras Dam Retrofit. City of San Francisco Water Department. Thomas R. Payne and Associates. Arcata, CA

Principal Investigator 2005 Fin fish sampling for tissue analysis. Humboldt Bay, Arcata, CA. Geomatrix Consultants, Oakland, CA

Senior Biologist 2005 Fish population monitoring studies. Snorkel and electrofish North Fork of the Feather River and selected tributaries. Pacific Gas and Electric Company. Thomas R. Payne and Associates. Arcata, CA.

Senior Biologist 2002-04 Fish Stranding and Displacement. North Fork of the Feather River. Perform snorkeling and stream channel surveys for stranding and displacement of

fish associated with increased releases from hydropower operations. Thomas R. Payne and Associates, Arcata, CA.

Senior Biologist, 2003. Supervise and train snorkel crews in fish Habitat Suitability Index (HSI) data collection. Perform PHASIM hydraulic data collection. Upper San Joaquin River, Big Creek Relicensing, Southern Calif Edison. Entrix, Inc., Walnut Creek, CA

Senior Biologist, 2003 Habitat typing for IFIM studies, fish sampling and barrier analysis on Old Cow Creek and South Cow Creek . Kilarc-Cow Creek Hydroelectric Project, FERC Relicensing. Entrix, Inc., Walnut Creek, CA

Principal Investigator 2003 Fisheries and Physical Habitat Investigations. Perform available spawning habitat inventory, air and water temperature monitoring, hydrology and physical stream habitat conditions, anadromous fish upstream migration barriers and habitat typing for a proposed Hydroelectric Power Project on SF Battle Creek, CA. Synergics, Inc., Annapolis, Maryland.

Senior Biologist 2002 Basin wide fish population estimation. Electro fish and snorkel San Lorenzo River and tributaries. City of Santa Cruz. Thomas R. Payne and Associates

Senior Biologist 2001. Fish Habitat Evaluation. Perform juvenile anadromous fish habitat evaluation on ten miles of Suisun Creek. Hanson Environmental, Inc. Walnut Creek, CA.

Senior Biologist 2001. Fish Habitat Evaluation. . Perform juvenile anadromous fish spawning and rearing habitat evaluation on eight miles of Alameda Creek, Alameda County. Hanson Environmental, Inc. Walnut Creek, CA.

Senior Biologist 2001. Spawning Habitat Evaluation. Anadromous fish spawning and rearing habitat evaluation on lower Deschutes River, Oregon. Entrix, Inc. Seattle, WA.

Senior Biologist 2001. Fish Rescue. Remove and relocate juvenile anadromous fish by electrofishing from four streams prior to construction activities. Humboldt County, CA. MFG-Tetra Tech. Arcata, CA.

Senior Biologist 2001. Anadromous fish presence/absence survey and removal of juvenile salmonids on 1600 feet of Francis Creek Flood Channel Construction Project, Ferndale, Humboldt County, California. Spencer Engineering and Construction Management, McKinleyville, CA.

Fisheries Module Analyst, 2000 Watershed Analysis. Fisheries investigations and evaluation of stream habitats on The Pacific Lumber Company lands on the Lower Van Duzen River and tributaries. MFG-Tetra Tech. Inc., Arcata, CA

Principal Investigator. 1999 Spawning gravel investigations, Dry Creek. Perform Wolman pebble counts and embeddedness surveys at riffles to evaluate influence of flow releases from Warm Springs Dam on anadromous fish redds. Winzler and Kelly Consulting Engineers, Santa Rosa, CA.

Senior Biologist. 1999. Stream habitat typing. Provide training and quality control for stream habitat typing crews performing stream inventory in San Jose streams. Entrix, Inc. Walnut Creek, CA.

Principal Investigator. 1998-99. Rosgen Channel Typing. South Fork American River. Perform channel typing to characterize streams in watershed for Eldorado Irrigation District. Thomas R. Payne and Associates. Arcata, CA.

Principal Investigator. 1997-98 Fish population sampling, Mono Basin. Snorkeling and Electrofishing to monitor recovery of fish populations. Ecosystem Sciences, Boise, ID.

Principal Investigator. 1998. Evaluation fish population's structure on Foss Creek, Healdsburg, CA, following toxic spill. EnviroNet Consulting, Santa Rosa, CA

Principal Investigator. 1997. Evaluating timber harvest activities on stream habitats on industrial timber lands for a pending lawsuit. Pillsbury, Madison and Sutro LLP, San Francisco, CA.

Principal Investigator. 1997. Developed and implemented fisheries monitoring plan for surface gravel mining on the Mad and Eel Rivers. Performed habitat typing, snorkeling on SF Eel River and mainstem Eel River and spawner surveys. North Coast Gravel Extractors, Eureka, CA.

Biologist. 1995-1999. Performed IFIM hydraulic data collection and habitat mapped 15 streams in the Snake River Basin, Idaho. Snake River Basin Water Adjudication for State of Idaho Attorney General's Office. Thomas R. Payne and Associates, Arcata, CA.

Principal Investigator. 1997. Fish Monitoring. Habitat typing 8,000'(R-5 methodology), fish population estimation by electrofishing, aquatic invertebrate sampling and Wolman pebble counts. Multi-year (1994-2000) fish population monitoring study on Deadwood Creek Hydro Project for Yuba County Water Agency, Marysville, California.

Principal Investigator. 1995. Chinook spawning investigations, Mad River. Install scour chains to monitor fate of early redds in the lower Mad River. Rising Sun Enterprises, Eureka, CA.

Principal Investigator. 1994-1998. Fish Monitoring. Habitat typing 5,000' (R-5) and snorkeling to monitoring influence of gravel mining on fish habitat. South Fork of the Eel River and mainstem Eel River. Rising Sun Enterprises, Eureka, CA.

Biologist. 1992-1994. Fish population estimation. Snorkel sample sites in forty miles of upper Sacramento River to monitor fish population recovery following toxic spill. Included providing observations of snorkeling protocol of California Department of Fish and Game divers. Entrix, Inc. Walnut Creek, CA.

Principal Investigator. 1993-1995. Stream Habitat Inventory. Habitat typing 10,000'(R-5) and electrofishing to evaluate the influence of gravel mining on fish habitat on the South Fork Gualala River and Wheatfield Branch of the Gualala River. Winzler and Kelly Consulting Engineers. Santa Rosa, California.

Principal Investigator. 1993. Fish Investigations. Electrofishing for westslope cutthroat and bull char distribution in three drainages upper St. Joe River, Idaho. Mosquito-Fly EIS, Idaho Panhandle National Forests, JW and Associates, Breckenridge, CO.

Biologist. 1992-1993. Stream habitat inventory. Habitat map 15,000' of East Walker River and perform electrofishing to document habitat conditions and fish population recovery following stored sediment release from Bridgeport Reservoir, CA. Aquatic Systems Research, Loomis, CA.

Biologist. 1993. Stream habitat inventory. Habitat mapped 2,000' on Lake and Lost Creeks, Medford, OR. Instructed crews in R-5 methodology and performed electrofishing to document existing conditions. Proposed hydroelectric project. Thomas Payne and Associates, Arcata, CA.

Biologist. 1991-1993. Stream habitat inventory. Annually habitat mapped 26,000'of Last Chance Creek, N.Fork Feather River, Greenville, CA. Pre-timber harvest baseline monitoring. Electrofished in 1991. For Greenville Ranger District, Plumas National Forest. Aquatic Systems Research, Loomis, CA.

Principal Investigator. 1992. Stream habitat inventory. Habitat mapped 6,000' of Canyon Creek and performed electrofishing for a proposed hydroelectric project. WES TECH, Newcastle, CA.

Biologist. 1992-1995. Fisheries Technical Committee. Mono Lake Restoration Technical Committee. Perform spawning surveys, electrofishing and winter snorkeling to determine fish habitat utilization. Provided guidelines for restoration activities. Trihey and Associates, Walnut Creek, CA.

Principal Investigator. 1991. Stream habitat inventory. Performed quality control on habitat typing crews, conducted biological sampling and collected RASI data on 130 miles of streams on tributaries in N.F. Coeur d' Alene River, Wallace District, Idaho Panhandle National Forests. Pacific Land and Water Resource Consultants and DPA, Arcata, CA.

Biologist. 1991. Stream habitat inventory. Habitat mapped 17,000' Rush Creek, Mono County CA. Existing condition survey for baseline conditions prior to major stream restoration activities. Trihey and Associates, Walnut Creek, CA.

Biologist. 1990. Stream habitat inventory. Habitat mapped 25,000' of Lee Vining Creek, Mono County, CA. Aquatic Systems Research, Loomis, CA.

Principal Investigator. 1989. Stream habitat inventory. Habitat mapped 35 miles of Browns and Indian Creek, Trinity County, CA. Performed fish abundance by snorkeling and electrofishing. Pacific Land and Water Resource Consultants and DPA, Arcata, CA.

Principal Investigator. 1989. Stream habitat inventory. Habitat mapped 16 miles of Bucks, Grizzly and Milk ~Ranch Creeks, North Fork Feather River. Pacific Gas and Electric Co., San Ramone, CA.

Biologist. 1987. Stream habitat inventory. Habitat mapped 45 miles of Battle Creek, Tehama Co., CA. Thomas Payne and Associates, Arcata, CA.

Task Leader. 1992

Principal Investigator. 1983-1987. Fish population monitoring. Performed electrofishing for five years to monitor fish response to reduced flow releases from a small hydro project. Consolidated Hydro Inc., Manton, CA

Principal Investigator. 1982-1988. Performed fisheries investigations on ten streams in Northern California proposed for small hydroelectric projects. Tasks included electrofishing for population estimation, habitat typing and hydraulic data collection for Instream Flow Incremental Methodology (IFIM). Enviro Hydro, Auburn, CA.

## TRAINING

1982 IFG 205 Field Techniques for Instream Habitat Analysis. Instream Flow Group, National Ecology Research Center, U.S. Fish and Wildlife Service, Redding, CA.

1984 NR 561 Habitat Evaluation Procedures (HEP), National Ecology Research Center, Ft. Collins, CO.

1985 Hydraulics in PHABSIM, Instream Flow Group, U.S. Fish and Wildlife Service, National Ecology Research Center, Seattle, WA.

1986 A Direct Observation Techniques. A Fisheries Techniques Workshop. Humboldt Chapter, American Fisheries Society, Eureka, CA.

1988 Course in Stream Hydraulics and Hydrology for Fisheries Biologists, Cal-Neva Chapter, American Fisheries Society, Eureka, CA.

1989 Advanced Riparian Course. Monitoring Best Management Practices and Non-Point Source Pollution. Don Chapman Consultants. Boise, ID.

1990 IFIM 300 Stream Network Temperature Model (SNTEMP), National Ecology Research Center, U.S. Fish and Wildlife Service, Ft. Collins, CO.

1990 HEP 200 Sampling Techniques/Sample Design. National Ecology Research Center, U. S. Fish and Wildlife Service, Ft. Collins, CO.

1993 Stream Habitat: Application of Geomorphic and Ecological Principles. Oregon State University, Corvallis, OR.

1993 Timber Harvest and Erosion Control, Road Planning, Building and Maintenance Workshop. Salmonid Restoration Federation. College of the Redwoods, Eureka, CA.

1994 Monitoring Cumulative Watershed Effects: A Survey of Low Cost Tools. Humboldt Chapter, American Fisheries Society. Arcata, CA.

1994 Salmonid Spawning Gravel Composition. Timber Fish and Wildlife (TFW) Ambient Monitoring Workshops. Northwest Indian Fisheries Commission, Olympia, WA.

1995 California Department of Fish and Game Salmonid Habitat Restoration Manual Training. California Department of Fish and Game. Fortuna, CA

1995 Applied Fluvial Geomorphology. Short Course. Dave Rosgen, Wildland Hydrology Consultants, San Jose, CA.

- 1997 Principles and Techniques of Electrofishing. National Conservation Training Center. U.S. Fish and Wildlife Service. Sacramento, California.
- 1998 Stream Temperature Monitoring and Assessment Workshop. Sponsored by Forest Science Project, California Forestry Assn. And U.S. Environmental Protection Agency. Jan 12-14, 1998. Sacramento, CA
- 1999 Stream Segment Identification, Woody Debris Survey, Habitat Unit and Stream Temperature Survey. TFW Ambient Monitoring Workshops. Northwest Indian Fisheries Commission, Olympia, WA.
- 2000 Advanced Rapid Bioassessment Procedures. May, 2000. Cal-Neva Chapter American Fisheries Society. Sacramento, Calif.
- 2000 Proper Functioning Condition Short Course. Methodology for assessing the physical functioning of riparian and wetland areas. Watershed Management Council, November 27, 2000. Asilomar, Pacific Grove, CA.
- 2002 Sampling Theory and Design Workshop. Dave Hankin. Humboldt Chapter of the American Fisheries Society. Arcata, CA. March 15, 2002. Basics of sampling theory with applications to survey designs for salmonid abundance in small streams.
- 2002 Hydrologic and Geomorphic Processes in Stream Restoration. June 6-7, 2002. Continuing Education in Environmental Management and Engineering. University Extension, University of California, Berkeley.



## SCS ENGINEERS

November 5, 2009  
File No. 01209149.00

Mr. John Speka  
County of Mendocino  
Department of Planning and Building  
501 Low Gap Road, Room 1440  
Ukiah, CA 95482

Subject: Comments on the Draft Environmental Impact Report for the Proposed Kunzler  
Terrace Mine, Ukiah, California

Dear Mr. Speka:

SCS Engineers (SCS) respectfully submits this letter on behalf of Mr. Dan Thomas, Mr. Charlie Sawyer, Masonite Corporation, and Developers Diversified Realty (DDR), in response to submittal of the Draft Environmental Impact Report (DEIR) for the proposed Kunzler Terrace Mine, which was submitted to the County of Mendocino (County) by Granite Construction Company (Granite) in September 2009. The comments that are made and questions that are posed to the County in this letter are based on a comprehensive professional review of the DEIR as well as information that is referenced in the DEIR, which points in some cases to professional documents that were submitted by Granite in February 2008 as appendices to Granite's application for a Conditional Use Permit (CUP) for the Kunzler Terrace Mine. In this comment letter, SCS identifies a number of land use conflicts, environmental, social, and other concerns, as well as some questions as to the accuracy of data and the validity of conclusions drawn from that data. SCS also identifies several issues and concerns that have not been expressed either in writing or verbally at the county supervisors meeting, which SCS attended and entered comments into the public record on October 15, 2009.

W-1

Major comments with the Application and proposed mining operations are summarized below and described in detail in subsequent sections of this letter.

### COMMENT 1:

The proposed mine site is a floodplain that is currently zoned as industrial and contains land that will be forever lost to other, more sustainable, productive uses should the proposed mine and its reclamation plan, as submitted, be approved. The DEIR indicates that there is no mitigation measure that can be taken to avoid the loss of future beneficial use of the mine site following its eventual closure. However, it is common practice in many of the states of the Western U.S. that still have a healthy mining industry, such as Utah, Colorado, and Nevada, that it is industry standard practice to return the land to "approximate original contour" as specified in the Surface Mining Control and Reclamation Act (SMCRA), the Federal law governing the reclamation of

W-2

W-3



approved mine sites. It is clear from the reclamation plan submitted as part of the CUP Application to the County that this site will not be restored to approximate original contour, which will therefore result in the permanent loss of beneficial use of the land subsequent to the proposed mining operations. According to the Office of Surface Mining, Sec. 515(b)(3) of SMCRA requires that all surface mining operations "backfill, compact and grade the mine site in order to restore the approximate original contour of the land, and eliminate all highwalls".

W-3  
cont.

It is possible to require full reclamation of the mined pit with suitable materials subsequent to each phase of mining or at the completion of mining activities. Obviously, backfilling the open pit would be costly and time consuming, but could be reasonably accomplished in a phased manner as mining advances through the proposed phases. Complete reclamation of the pit would avoid any need of long-term maintenance of the fuse plug, alleviate concerns over the potential capture of the pit by the Russian River and associated potential for fish entrapment, mitigate concerns over loss or alteration of the local aquifer that may negatively impact adjacent wells, and allow for future beneficial use of the land.

The following information is an excerpt obtained from the California Office of Mine Reclamation's website (OMR, 2009.) that briefly outlines mining projects that have successfully restored the original ground surface so as to provide for ongoing beneficial use of the mined land.

W-4

The following are examples of successful reclamation projects:

- A gravel extraction area at Mississippi Bar in Sacramento County was returned to a riparian (water) wildlife habitat.
- An aggregate mine on agricultural land in Yolo County operates in four phases. The intent is that not more than 95 acres is out of agricultural production at any time during the project's life.
- Other mined lands have been reclaimed to grazing and production of crops such as alfalfa, corn, grapes, and tomatoes.

### **QUESTIONS:**

**QUESTION 1a) Have the requirements set forth in SMCRA, whereby mine sites are required to be returned to approximate original contour, been fully considered and adhered to?**

W-5

**QUESTION 1b) Have requirements of mine reclamation (i.e., backfilling the open pits after each phase of mining) in order to return the land to productive use been considered with respect to the proposed mine reclamation plan?**

W-6

**COMMENT 2:**

The proposed mining operation in the context of other mining operations that are currently or have operated in or near the Russian River channel and the cumulative effects of in-stream and near-stream mining in the Russian River valley have not been addressed or considered in the DEIR..

W-7

**QUESTION:**

**QUESTION 2) How will watershed scale cumulative impacts be analyzed or addressed to ascertain the overall health of the Russian River system in its current state and projected conditions if this operation and future similar operations are approved and completed?**

W-8

**COMMENT 3:**

Proposed setbacks of the top of the mined slope from the top of banks of the Russian River and Ackerman Creek are inadequate and may not reasonably protect against pit capture or impacts to water quality associated with flood waters entering and exiting the mined pit. The width of the Russian River channel at the location of the proposed operations is approximately 300 feet, while the setback distance is only 250 feet. Effective setbacks are often based on calculations using bankfull channel width measurements. One benchmark for establishing setbacks in order to maintain channel stability is 2.5 times the bankfull channel width. In the case of the Russian River, coarse channel width measurements suggest that an appropriate setback distance (using such criteria) would be on the order of 750 feet from the top of the bankfull channel.

W-9

In addition, page 14 of Appendix B (of the CUP Application) notes that proposed 1,000 foot setbacks for pit mining along the Russian River in Mendocino County including the Ukiah valley, reasoning that mining activities should remain outside the potential meander belt area of the Russian River (PWA, 1997). Although the 1,000 foot setback was not adopted, "the Sonoma County Aggregate Resource Management Plan requires a 450 foot setback from the ordinary high water mark for terrace mining projects." It should be noted again here that the proposed Kunzler Terrace Mine is not located on a terrace and therefore is not a terrace mining project. Instead, it is a floodplain mining project, which should require a larger setback, not a smaller setback as proposed. Granite offers little or no justification for their proposed 250 foot setback when 450 foot setbacks are required and geomorphic evidence suggests that 1,000 foot setbacks may be warranted. Professional documents appear to use 150 feet and 250 foot setbacks on Ackerman Creek and the Russian River as a premise rather than a scientifically calculated value.

W-10

Figure 2.7 of Appendix B (CUP Application) illustrates that a 25-year flood event would almost completely inundate the mine site and pit capture could occur. Figure 2.10 illustrates the high degree of variability in historical channel planform geometry for the Russian River where maximum variations of channel positions after the construction of Coyote Dam are on the order of 500 feet within one river mile of the project reach. It should also be noted that historical channel thalweg positions as indicated on Figure 2.10 represent snapshots and may not represent

W-11

the maximum lateral variability in channel position during the period of record. No scientifically justified reasoning or defensible method is presented in the DEIR for the minimal 250 foot setback proposed by Granite.

W-11  
cont.

**QUESTION:**

**QUESTION 3a) What calculations are used to justify the 150 foot and 250 foot setbacks from Ackerman Creek and Russian River, respectively?**

W-12

**QUESTION 3b) Have setback considerations been fully reviewed and compared with industry standards and have long-term geomorphic processes been fully recognized in the context of the permanent mine feature and associated lake that would be created if the mining operation is approved?**

W-13

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**COMMENT 4:**

The disposition and fate of fine particles at the mine site have not been adequately addressed and have potential to violate the Clean Water Act. The disposal of industrial water is extremely important because the Clean Water Act prohibits the commingling of industrial water (e.g., wash water) with storm water generated at an industrial site such as the proposed Kunzler Terrace Mine. It is also not apparent that the source of wash water for the proposed operation has been disclosed in the DEIR or the CUP Application.

W-14

It is unclear how fines will be used in reclamation if no waste is retained on site. It can only be assumed that the waste will be hauled and retained at another location and then retrieved for reclamation purposes. Page 11 of the CUP Application indicates that "the top one foot of topsoil/surface soil excavated during mining will be separated and stored within a designated topsoil/surface soil stockpile location." Although not specifically stated, it is implied that the existing topsoil will be stockpiled long-term on-site. No consideration appears to be given to the mobilization and potential for loss of this material during flooding or winter storms, as well as any impacts to sediment loading of Ackerman Creek and Russian River. In addition, the disturbed fine-grained topsoil may be subject to entrainment by high winds. Again, loss of this material may affect sediment loading in the adjacent watercourses and could affect air quality through dust mobilization by wind. Although dust suppression by utilization of a water truck to apply water to onsite haul roads and working areas is mentioned on page 13 of the CUP Application, no mitigation measures that address this particular issue appear in the reclamation plan or elsewhere in the Application.

W-15

W-16

**QUESTIONS:**

**QUESTION 4a) What level of fine particle entrainment is expected under an overtopping event if mining operations are allowed to proceed during or immediately prior to flooding events?**

W-17

**QUESTION 4b) What is the source of wash water for operations at the site?**

W-18

**QUESTION 4c) If fine particles are used for reclamation purposes, will those fines be stored and used at the termination of the project or staged, returning fines to the ponds?**

W-19

**QUESTION 4d) If fine particles are stored on-site and returned to the ponds after mining activities have ceased, what impacts would remobilization of these fine particles have during an overtopping event, particularly at outfall locations?**

W-20

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**COMMENT 5:**

The short- and long-term potential severity of fish entrapment under overtopping event scenarios does not appear to have been addressed in the DEIR or supporting documents. Although no pit capture has yet occurred on permitted mine sites located on the Russian River, pit capture has occurred on many other rivers in California, which suggests that pit capture is a possible scenario at the proposed mine site. The Fish Entrapment Assessment contained in Appendix F indicates that some salmonids may be entrapped if the pit is captured by high flow water. All alternatives presented in the Assessment are noted to have risk, with the proposed operations having greater risk than current conditions. Although construction design provides a level of barrier to keep fish out of the pit while in operation, there is a risk that salmonids could become trapped in the pit. No estimate of how many individual salmonids may become entrapped during an overtopping event, so it is difficult to evaluate whether entrapment poses an important or significant threat to salmonids in the area. In addition, no consideration is given to risk of entrapment after operations have ceased and reclamation activities have occurred. In the public hearing on 10-16-09, Applicant representatives stated that the salmonids would be better off captured in the pit than if they had not; however, predators will also be subject to pit capture.

W-21

**QUESTION:**

**QUESTION 5) How many salmonid individuals might be expected to become trapped in the pit should an overtopping event occur? How many studies have been completed, involving what type of salmonid populations that are being used to support pit capture at this site?**

W-22

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**COMMENT 6:**

It is common knowledge that bird species do not prefer to nest in or near active mining operations due to noise, heavy equipment movements, etc.

W-23

**QUESTION:**

**QUESTION 6) What, if any, mitigation measures are in place that will ensure that bird species are able to utilize the existing site while mining operations are occurring (i.e., the first 20 years of the proposed operations, prior to reclamation activities)?**

W-23  
cont.

**COMMENT 7:**

It is common knowledge that mercury (both natural and anthropogenic) is an environmental concern in watersheds near the proposed mine site (Cal-EPA, OEHHA, August 2006). In addition, elevated concentrations of mercury have been found in the alluvial deposits of the Russian River system near Healdsburg that were being mined by Syar Industries at their sand and gravel mine (McEnhill, 2008). The Kunzler Terrace Mine proposes to mine the same stratigraphic unit (Quaternary Russian River alluvium) as was being mined near Healdsburg. It is a reasonable assumption that mercury (natural or anthropogenic) that has been incorporated into sediments at the Syar mine site may also be found in sediments of the proposed Kunzler Terrace Mine. Such mercury could become biologically available when naturally deposited sediments are disturbed during the mining process. Section 3.7 Hazards and Hazardous Materials of the DEIR makes no mention of naturally occurring or anthropogenic mercury in alluvial sediments to be mined at the proposed Kunzler Terrace Mine.

W-24

**QUESTIONS:**

**QUESTION 7a) Have the alluvial deposits proposed for mining at the Kunzler Terrace Mine been tested for mercury? If not, why?**

W-25

**QUESTION 7b) To what extent might the proposed mining operations disseminate, through agitation of sediments, processing (e.g., crushing and creating airborne particulates), and transportation of work products, mercury that may harm the environment or human health through various exposure pathways?**

W-26

**QUESTION 7c) How will the potential for mercury in mined deposits be addressed with respect to exposure factors/pathways and potential human and ecological impacts?**

W-27

**QUESTION 7d) To what extent could mercury laden fine sediments be remobilized to the active channels during an overtopping event?**

W-28

**QUESTION 7e) How will watershed scale cumulative impacts of mercury mobilized during mining operations been analyzed or addressed to ascertain the overall health of the Russian River system in its current state and projected conditions if this operation and future similar operations are approved and completed?**

W-29

**COMMENT 8:**

In a number of locations, the DEIR suggests that the adjacent properties are vacant and implies that there is and will be no future use. The adjacent property owned by Masonite Corporation is actively being redeveloped and although buildings are not yet being erected, there are plans to develop the site. Masonite has spent in excess of \$1M on its property within the last 18 months alone. The property is considered a key asset that is slated for short-term re-development. Adjacent and nearby parcels owned by Masonite Corporation and DDR are actively undergoing site characterization and remediation of contamination as part of their redevelopment. Site improvement and redevelopment plans are currently being designed for these parcels. A site grading plan has been submitted to Mendocino County for approval on the remaining Masonite property. DDR is in the process of redeveloping its nearby parcels and will potentially seek annexation of their parcels by the City of Ukiah. Property owned by Mr. Dan Thomas and Mr. Charlie Sawyer near the proposed mining operation has actively been slated for redevelopment (e.g. 235 home development by Ryder Homes in entitlement process for two years).

W-30

In addition, there are several wells located on adjacent property in close proximity to the proposed project. One of these wells (Masonite Well 6, referred to as Well A in the DEIR) is currently in active use. Section 3.7 of the DEIR incorrectly states that "Well A was most recently used in 2002" and that Wells B through D are currently in disrepair." Page 3.8-11 of the DEIR states that "industrial activities have ceased (at the Masonite properties) and none of the wells are being used for any purpose." These statements are inaccurate. Well A (Masonite Well 6) is in active use and a pump test was conducted on October, 2006. A generator and pump are connected to the well and water from this well is being used for ongoing site work. A grading permit is being submitted for the removal of the stormwater ponds in preparation for future development of the property. Wells B through D only appear to be in disrepair as indicated in the DEIR because they have been vandalized. Plans are being prepared to repair the damage caused by vandals. Development projects planned for adjacent parcels would be directly impacted by the proposed operations and the long-term effects of the proposed mine. Use of approximately 220 acres of adjacent land rely on the use of Masonite's wells, and in particular, Well 6, which lies within 100 feet of the edge of the proposed mined slope.

W-31

W-32

Page 9 of the DEIR notes that groundwater levels are estimated to fall by 3 feet due to the proposed mining operations. Groundwater wells used for domestic and industrial purposes immediately adjacent to the proposed mine site will likely be negatively impacted by this fall in groundwater levels (Figure 2, DEIR). Currently, there are (as previously mentioned) several wells located near the proposed mine site. One of these wells is in active production and may become a significant contributor to water resources of the Millview Water District. The wells are also required for current (e.g., agricultural, commercial) and future potential uses (e.g., various land developments that are planned or underway) of the adjacent properties. Over 200 acres of land rely on water from Well 6 and future development projects are relying heavily on this well to support future planned uses. Any fall in groundwater levels, decrease in production, or impacts to groundwater quality may have significant economic impact on the current and future use of adjacent property. The groundwater analysis contained in Appendix E does not appear to directly address the extent to which a hydraulic subsurface connection may exist

W-33

W-34

between the proposed mine site and adjacent properties. Although it is noted that a clay layer separates the upper aquifer where mining activities will take place, from the lower aquifer in which Well 6 is screened, there may be a hydrologic connection between the two aquifers. The lower aquifer is noted to be confined in theory, but it should be noted that few aquifers are ever completely confined and are often "leaky" and may allow water to move through potential gaps in the clay later (between bore holes).

W-34  
cont.

Potential impacts to groundwater quality were addressed in a general fashion but no specific calculations were presented or defensible arguments made to support the statement that "expected changes in the quality of the recycling pond and wet pit waters would be minimal and potential for groundwater quality to be impacted is remote." Consultant produced groundwater analysis contained in Appendix E of DEIR indicated that they had examined similar issues at well-established terrace pits where monitoring showed no change in groundwater quality. Yet, no specific evidence is offered, so no reasonable evaluation can be made of this statement. We argue that the proposed site is not located on a terrace; therefore such an analysis would not be valid if presented and subsurface conditions can vary tremendously from site to site. The sites that were examined by the consultant were not presented in the Application, nor were the data generated from those sites to support the assertion that there would not be a negative impact to groundwater quality. Furthermore, site hydrogeology (e.g., borehole logs showing grain size distributions) for the examined sites was not presented, so it is unknown whether those sites represent reasonable proxies for the proposed project site. It is difficult to understand how drag-line operations that result in agitation of sediments would not impact surface water quality during storm events when river water begins to mix with water contained in the open pit, which then would under the proposed plan exit the pit through an overflow pipe. In addition, turbid waters may present an issue to water quality during peak flows if the pit has been breached. No apparent consideration has been given to discharge of turbid waters to the Russian River under this scenario.

W-35

W-36

**QUESTIONS:**

**QUESTION 8a) What assurances can be made that there are no impacts to the production volume or quality of water that is produced from wells on adjacent properties that are located in very close proximity to the proposed mining operations?**

W-37

**QUESTION 8b) If there is a hydraulic connection between the upper and lower aquifer and between the mine operation and Well 6 or other wells, then what are the possible and probable impacts of proposed mining operations on the local aquifer that may negatively impact the water rights of adjacent land owners and their ability to develop their properties?**

W-38

**QUESTION 8c) Has the DEIR provided sufficient site specific hydrogeologic information that demonstrates that no significant negative impacts will occur to the adjacent wells?**

W-39

**QUESTION 8d) If impacts to the adjacent wells do occur as a result of the proposed mining operations, how will these impacts be addressed as mining operations proceed and conclude?**

W-40

**QUESTION 8e) What impacts might occur to surface water quality during an overtopping event during a phase of active mining operations?**

W-41

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**COMMENT 9:**

A list of intersections are provided in the Traffic Analysis contained in Appendix I of the DEIR. Page 3 of the Analysis indicates that nine intersections are potentially impacted by the proposed project. It should be noted that the data collected for the Traffic Analysis is now outdated by approximately 5 years, a time during which there have likely been increasing traffic pressures on the intersections in question. Page 9 states that although signaling would improve the level of service for the Kunzler Ranch Road/State Street and Interstate 101 Southbound ramps/Mendocino Drive intersections, they “would not meet rural peak hour volume warrant” under the proposed project. Page 20 Table V indicates that the cumulative plus project conditions with mitigation that includes signalization at the North State Street/Lake Mendocino Drive intersection would result in a level of service rating of “D”, which suggests that this intersection would under-perform. Increased traffic volumes would be expected in the future, which would exacerbate these deficiencies. It is known that the current and former Masonite properties are now in the process of development. The economic impact to the community that the increased heavy traffic and future use restrictions that may be applied to future developments needs to be addressed.

W-42

W-43

It is common knowledge that heavy trucks and buses are responsible for a majority of pavement damage. The “Generalized Fourth Power Law”, which is available in the Washington State Department of Transportation Pavement Guide ([http://training.ce.washington.edu/wsdot/Modules/04\\_design\\_parameters/04-3\\_body.htm#tire\\_loads](http://training.ce.washington.edu/wsdot/Modules/04_design_parameters/04-3_body.htm#tire_loads)), demonstrates that a moderately loaded truck has 10,000 times more impact to roads than do passenger cars. Page 21 of the Traffic Analysis assumes that a loaded truck is equivalent to 3 passenger cars and an unloaded truck would be equivalent to 2 passenger cars, which appear to grossly underestimate the potential damage that would be caused by the large amounts of additional truck traffic on public and private roadways that would be introduced by the proposed project. The values reported and used in calculations in the Application are based on “studies conducted at other quarries,” yet no data are provided from those studies, so no evaluation can be made of the data or the soundness of methods or assumptions used to generate those data. It is important to know whether the studied quarries were located in heavily developed areas or in rural areas as it would greatly impact methods and assumptions that are used. Provided that the assumptions are grossly underestimated for truck to passenger car equivalency, then the cumulative fair share analysis, which is based on the biased low assumptions, must be drawn into question and are commensurately undervalued. Lastly, no fair share costs are provided or thought to be included

W-44

W-45

in the fair share allocations for the additional costs that would be required for mitigation measures such as the installation of signals at a minimum of nine intersections.

W-45  
cont.

The Traffic Analysis does not address traffic concerns and road usage requirements on Kunzler Ranch Road, a private road that would be the only access road into and out of the Kunzler Terrace Mine. Kunzler Ranch Road in its existing condition is inadequate and/or infeasible for use in the proposed operations based on issues associated with road width, road quality, and existing utilities. The paved width of Kunzler Ranch Road was measured by SCS personnel on September 8, 2009 with a wheeled measurement device. Paved road width varied from 19 feet to 36 feet, with the most common measurement width of 22 feet. The Local Road, Commercial or Industrial Urban Typical Road Section standard number A10E issued by the County of Mendocino indicates that such paved roads should be 42 feet wide with a 24 foot traveled road way. It is evident that Kunzler Ranch Road does not meet these road width requirements. Kunzler Ranch Road was noted to be in poor overall condition at the time of our visit and showed an abundance of cracks and broken road surface materials, great variations in paved road width, vegetation encroaching into the roadway, and old power poles and power lines overhead. Kunzler Ranch Road is already in need of repairs and upgrades and is wholly inadequate to handle the large amounts of proposed heavy truck traffic. There is an economic impact to existing businesses using Kunzler Ranch Road and the current owner of the road that needs to be addressed in the CEQA review.

W-46

**QUESTIONS:**

**QUESTION 9a) Does Kunzler Ranch Road, a private road, meet County standards for the proposed use?**

W-47

**QUESTION 9b) Have all necessary improvements on public roads been fully addressed for the proposed project?**

W-48

**QUESTION 9c) Are cost sharing measures equitable given the large amount of daily, heavy truck traffic over public roads and bridges?**

W-49

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**COMMENT 10:**

The term "terrace" as used in the DEIR refers to a fluvial or surface water-originated terrace. A fluvial terrace is a fragment of a former valley bottom that now stands well above the level of the present floodplain and is by definition not subject to flooding by the active channel. The project site ranges in elevation from about 610 to 620 feet above mean sea level and hydrologic modeling determined that the 10-year maximum water surface elevation is about 610.7 feet. The project site is located within the FEMA 100-year floodplain and is subject to relatively frequent flood flows from Ackerman Creek and the Russian River. Therefore, the proposed mine site is located within the active floodplain of the Russian River and its tributary, Ackerman Creek, the significance of which may not have been fully recognized or accurately assessed in the DEIR or supporting documents.

W-50

The Hydrologic and Hydraulic Analysis presented by Swanson Hydrology + Geomorphology (SH+G, 2008) in Appendix C provides significant and important information, but fails to present key data, methods, and discussion relating to modeling efforts that were undertaken and fails to address certain aspects of peak flow hydraulics along Ackerman Creek and the Russian River. The SH+G report does not appear to mention how their HEC-RAS model matches upstream and downstream in the project area with starting boundary conditions presented in the FEMA models. This modeling aspect has important ramifications for potential flooding impacts to neighboring properties. In addition, there appears to be no discussion of how releases from Coyote Dam might change in the future and potential impacts that those conditions might impose on the project site and adjacent properties. The SH+G model does not appear to build off of the FEMA model and therefore the models do not appear to match. Cross-sections from the FEMA model are not presented and it is unclear if or how they are integrated into SH+G's model. In addition, SH+G does not present cross-sections that were used in its model. Page 7 of SH+G's report indicates that the proposed operation will raise base flood elevations, yet there appears to be no reference to what existing base flood elevations might be at the site as well as no mention of how SH+G's model matches the FEMA flood model. SH+G does not appear to have defined how they determined 20 year recurrence interval, nor did they develop a stage-discharge curve at Ackerman Creek or for the Russian River.

W-51

W-52

W-53

On December 31, 2005 the United States Army Corps of Engineers (USACE) allowed the Russian River to over top its banks when they released water from Lake Mendocino. The USACE was concerned that the water was getting too high in the lake and with more storms forecast, they were forced to release. The river overtopped its banks and flowed up to the Masonite treatment plant and ponds. The flood waters covered most of the Kunzler Ranch property where the mine is proposed. The flooding was witnessed by both Mr. Lauren Beuving and Mr. Tim Bradley of Ukiah, California.

W-54

**QUESTIONS:**

**QUESTION 10a) How might variations in future release schedules from Coyote Dam affect future flooding within the project area?**

W-55

**QUESTION 10b) How might discharge variations originating from Coyote Dam contribute to any increases in flooding at the site and on neighboring properties that share the floodplain?**

W-56

**QUESTION 10c) How can SH+G's model be accurately evaluated if the cross-section data, which is a key component used in their HEC-RAS model, is missing?**

W-57

**QUESTION 10d) Given that SH+G's model does not appear to match the FEMA model, does the SH+G model accurately represent existing and post-project conditions with respect to base flood elevations? If it does not match, then what might explain the discrepancy and how might that discrepancy affect conclusions drawn from the model?**

W-58

**COMMENT 11:**

Appendix B, Analysis of Potential Pit Capture, presented by MBK Engineers (MBK), considers pit capture probability and various scenarios relating to overtopping events. MBK shows an increase in Russian River flows due to construction of a berm. Approximately half of the model sections do not extend across the Russian River, which poses a serious technical challenge to the model and draws into question the validity of the model output. The MBK report does not run scenarios for a 50 or 100 year event, showing water as it rises and fills the pit and then recedes. When the pit is drained by the overflow pipe during and after an overtopping event, a very turbulent environment will be created as approximately 20 to 50 cubic feet per second of water flows into Ackerman Creek through the 30 inch outfall pipe. This volume of water greatly exceeds the 5 to 10% of total stream flow that typically will attract fish.

W-59

W-60

**QUESTIONS:**

**QUESTION 11a) Would complete cross-sections produce radically different modeled results? If so, would those results impact design criteria of the outfall, weir, berm or other design structures?**

W-61

**QUESTION 11b) What is the extent, depth, and velocities of floodwaters under 50 and 100 year flood events?**

W-62

**QUESTION 11c) What is the stability (i.e., how much shear stress and what potential for associated erosion will occur at this location) of the fuse plug under greater than 20 year flood event?**

W-63

**QUESTION 11d) Will the berm be undermined or eroded away completely during a 50 or 100 year event?**

W-64

**QUESTION 11e) Will the outfall/overflow pipe into Ackerman Creek produce an attraction flow for fish, thereby negatively impacting fish populations that might seek to enter the pit waters?**

W-65

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**COMMENT 13:**

The DEIR discusses proposed widening of the Russian River by 80 to 120 feet over 4 acres along the project area. The channel widening is “intended to improve channel hydraulic capacity and winter rearing habitat for salmonids...” and “to improve the current degraded state of the Ackerman Creek reach.” The Russian River channel at the project location has been naturally designed by the Russian River over geologic timescales in order to accommodate discharge and sediment yield delivered from the basin. Artificial and unwarranted “improvements” such as those proposed by Granite serve to upset the equilibrium of the fluvial system for the financial benefit of one landowner. This proposed channel widening is not only unneeded under current

W-66

conditions, such channel manipulations have the potential to destabilize downstream banks and to shift the position of the channel thalweg with potentially negative impacts to downstream landowners. Such negative impacts may include increased potential for flooding or other unanticipated, non-linear responses that may occur due to lateral channel erosion, abrupt channel migration, potential to deflect flow to the opposite bank causing bank failure, as a result of the proposed unwarranted mechanical manipulation of the channel. It should also be noted that the Application presents no analysis of potential impacts or design criteria that may result from the proposed channel widening.

W-66  
cont.

Although channel widening may have a positive localized impact on salmonid habitat, there is little or no geomorphic or other scientific justification for such a proposal and many potential pitfalls. It is assumed that the underlying motive to widen the channel at this location would be to acquire additional quantities of aggregate or to potentially reduce the possibility of pit capture. The Russian River and Ackerman Creek have already been heavily manipulated and impacted by relatively recent human activities, a few of which include: installation of a grade control structure on Ackerman Creek designed to protect bridge abutments, junk car revetments along Ackerman Creek and Russian River designed to control bank erosion, in-stream and near stream gravel operations on the Russian River, and (as per Figure 2.3 in Appendix B of the CUP Application) an overall reduction in riparian vegetation along the Russian River by 80% during period 1942 to 2002. It is unclear why an already heavily impacted major, public waterway should be unnecessarily and significantly modified and compromised in order to financially benefit a single property owner, while potentially negatively impacting the lands and interests of many other property owners as well as the surrounding community. Page 14 of Appendix B states that there is "no documentation of significant channel stability problems resulting from mining pits along the floodplain of the Russian River in the Ukiah valley." It should be noted that a lack of evidence is not in itself evidence that some phenomena does or does not exist. No channel stability studies are cited in the consultant prepared report to support the above statement.

W-67

W-68

W-69

Channel widening or other modifications are unnecessary and have not been assessed with respect to channel stability and potentially negative impacts to downstream landowners and land uses. Professional opinions and scientific data are not presented that demonstrate effects channel widening might have on the stability of banks up- and downstream of the project area.

W-70

**QUESTION:**

**QUESTION 13) Has a geomorphic or hydraulic study been prepared to specifically show potential ramifications to long-term channel and bank stability of the suggested channel widening and is the reasoning for such an action justified or necessary? If not, why?**

W-71

**CLOSING**

We appreciate the opportunity to submit this letter to the County of Mendocino in response to the Draft Environmental Impact Report for the proposed Kunzler Terrace Mine. If you have any questions or would like to clarify any information presented in this letter, please do not hesitate to contact SCS at (707) 546-9461.

Sincerely,



Paul Wisniewski, PG 7543  
Professional Geologist  
**SCS ENGINEERS**



Linda Taverner  
Vice President  
**SCS ENGINEERS**

W-72

Attachments: Figure 1: Site Aerial Photograph and Vicinity with Domestic Water Well Locations  
Resume of Paul Wisniewski

cc: Mr. Matthew Clark, Masonite Corporation, One N. Dale Mabry Highway, Suite 905,  
Tampa, FL 33609

Mr. Nash Gonzales, County of Mendocino, Department of Planning and Building, 501  
Low Gap Road, Room 1440, Ukiah, CA 95482

## REFERENCES

- OEHHA, August 2006. Office of Environmental Health Hazard Assessment (OEHHA), California Environmental Protection Agency, *Draft Health Advisory: Safe Eating Guidelines for Fish from Lake Sonoma (Sonoma County) and Lake Mendocino*, August 2006.
- SMARA. Section 3707, Surface Mining and Reclamation Act (SMARA) of 1975, California Public Resources Code, Division 2, Chapter 9, Section 2710 et seq.
- SMCRA. Section 515(b)(3), Surface Mining Control and Reclamation Act (SMCRA), 1977, US Code, Title 30, sections 1201 et seq.
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- PWA, 1997. Pacific Watershed Associates, *Sediment Production and Delivery in the Garcia River Watershed, Mendocino County, California*, November 5, 1997.
- WDOT, 2009. Washington State Department of Transportation Pavement Guide, [http://training.ce.washington.edu/wsdot/Modules/04\\_design\\_parameters/04-3\\_body.htm#tire\\_loads](http://training.ce.washington.edu/wsdot/Modules/04_design_parameters/04-3_body.htm#tire_loads), last accessed November 4, 2009.
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- MBK, 2006. MBK Engineers, *Report on Upper Russian River Potential Pit Capture*, April, 2006.
- McEnhill, 2008. Letter to Ken Ellison & Chris Seppler of Sonoma County Permit and Resource Management Department from Don McEnhill, Riverkeeper, dated June 20, 2008.

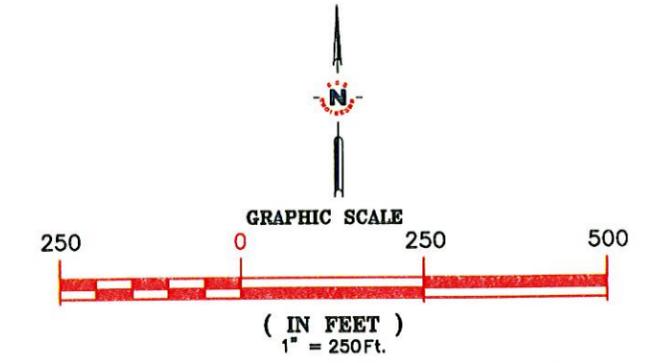




**LEGEND**

- APPROXIMATE PARCEL BOUNDARY OF PROPOSED KUNZLER TERRACE MINE
- ⊕ DOMESTIC WATER WELL

LOCATIONS ARE APPROXIMATE; NOT A PRODUCT OF SURVEY  
 SOURCE OF BASE MAP:  
 AERIAL ORTHOPHOTOGRAPH: MAY 7, 2007; GOOGLE PROFESSIONAL IMAGE.  
 PARCEL LINES ARE APPROXIMATE; MENDOCINO COUNTY APN LAYERS/SHAPEFILES,  
 COUNTY OF MENDOCINO 2008.  
 ASSESSOR'S PARCEL BOOK 170 PAGES 15 & 16.



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**SCS ENGINEERS**  
 ENVIRONMENTAL CONSULTANTS  
 3843 BRICKWAY BOULEVARD SUITE 208  
 SANTA ROSA, CALIFORNIA  
 PH. (707) 546-9481 FAX (707) 544-5789

PROJ. NO.	1209149.00	DRN. BY:	JJM	ACAD FILE:	0146.00 PARCEL AERIAL_10-09
DATE:	10/22/09	CHK. BY:	PAW	APP. BY:	LST

SHEET TITLE	SITE AERIAL PHOTOGRAPH AND VICINITY WITH DOMESTIC WATER WELL LOCATIONS
PROJECT TITLE	PROPOSED KUNZLER TERRACE MINE UKIAH, CALIFORNIA

SCALE:  
1" = 250±'  
FIGURE NO.  
2

---

PAUL ADAM WISNIEWSKI, P.G.

**Education**

Master of Science, Geology, 1999, The University of New Mexico, Albuquerque, New Mexico (Magna Cum Laude)

Bachelor of Arts, Government, 1994, The College of William and Mary, Williamsburg, Virginia

**Professional Licenses**

California Professional Geologist, license #7543 (expires 8/31/2011)

California Real Estate Broker, license #01817768 (expires 1/5/2010)

**Specialty Certifications**

OSHA/RCRA 40-hour Hazardous Waste Operations and Emergency Response

(HAZWOPER) Standard and 8-hour annual refresher courses (expires 4/11/2010)

8-hour MSHA mine safety training (expired)

**Professional Affiliations**

Geological Society of America (active membership)

**Professional Experience**

Mr. Wisniewski is a Professional Geologist with over 12 years of experience in the fields of **Economic Geology, Environmental Geology, Watershed Geology, and Geotechnical Engineering**. Mr. Wisniewski's diverse professional experience in California, Utah, New Mexico, and Nevada includes:

- Phase I and Phase II Environmental Site Assessments (ESA)
- Brownfield assessments; Environmental Protection Agency (EPA) grant funding
- Soil and groundwater investigation and remediation at Underground Storage Tank (UST) sites
- Mineral resources exploration and mine development
- Mined land reclamation of open-pit and underground mines; Surface Mining Control and Reclamation Act (SMCRA) compliance
- Mine reclamation plans and in-stream gravel mine permit assistance
- Stream channel assessments: channel stability, historical sediment storage and mobilization, grade control evaluations, gravel extraction impact analysis, mine-impacted stream channels
- Slope and road stability evaluations in forested environments with a focus on landslide and sediment source inventory, analysis, and mitigation
- Watershed analysis with a focus on process geomorphology and the hydrologic and cumulative effects of land management activities on stream channels and landforms
- Geomorphic and geologic mapping
- Geotechnical and Paleoseismic investigations

Mr. Wisniewski has experience with the preparation of construction plans and bid documents, project permitting, project scoping and management, construction management, and regulatory

compliance in sensitive environments in California and Utah. He has also conducted public meetings for various projects, including project planning meetings, has worked to encourage public participation, sought and received landowner support and obtained Right of Way/Right of Entry permissions, and elicited stakeholder feedback on a number of projects. He often helps clients from project initiation through completion, writing grants and obtaining project funding, investigation, design, permitting, construction, post project monitoring and long term maintenance.

### **Brownfields**

#### **Brownfield Assessment & Remediation, Rio Dell, California**

Negotiated the scope of work on behalf of Humboldt Land Recovery, Inc. with the Department of Toxic Substances Control (DTSC) and the North Coast Regional Water Quality Control Board (NCRWQCB) for the assessment, remedial action, and quarterly reporting requirements for a 45-acre Brownfield site at the former Eel River Sawmills, Mill A. Prepared an Interim Removal Action Plan that included an alternatives analysis to mitigate contaminants of concern, which included: tetrachlorophenol (TCP), pentachlorophenol (PCP), dioxins, furans, heavy metals and petroleum hydrocarbons. Co-authored a successful EPA Brownfields Assessment Grant on behalf of the City of Rio Dell to obtain \$350,000 in funding to define the lateral and vertical extent of contamination at the site and move the site toward regulatory case closure. Coordinated with DTSC and NCRWQCB to determine appropriate cleanup levels, identify gaps in the existing analytical data set, and formulate the best solution for remedial action for the site.

### **Environmental Management**

#### **Soil and Groundwater Investigations & Remediation, Humboldt County, California**

Managed UST investigation and remediation projects for both public and private clients. Prepared and directed the implementation of work plans, corrective action plans, health and safety plans, groundwater monitoring programs, and soil and groundwater management contingency plans. Designed and implemented subsurface investigations, prepared and reviewed Phase I and Phase II ESA, obtained cost reimbursements from the California Underground Storage Tank Cleanup Fund (USTCF), prepared successful USTCF applications for newly identified leaking UST sites, supervised the removal of leaking USTs, supervised the installation of borings and monitoring wells using auger and direct push technology to delineate the lateral and vertical extent of contamination in soil and groundwater, supervised the collection and submittal of soil and groundwater samples for laboratory analytical testing, prepared and reviewed numerous quarterly monitoring reports, and assisted in the design of remediation systems and over-excavations. Prepared the scope, schedule, and budget for the assessment of sites impacted by a wide variety of contaminants of concern, including petroleum hydrocarbons, chlorinated solvents, fuel additives, and heavy metals.

#### **Environmental Site Assessments and Remediation, Salt Lake City, Utah**

Conducted Phase I ESA for Key Bank, The Church of Jesus Christ of Latter Day Saints, Linford Brothers Glass, and various industrial and commercial property owners. Results included over ten first-author ESA reports, produced according to American Society for Testing and Materials (ASTM) standards.



BECKSTOFFER VINEYARDS

MENDOCINO

POST OFFICE BOX 218

TALMAGE, CALIFORNIA 95481

PHONE 707 462-6624 FAX 707 462-5145

November 5, 2009

Mendocino County  
Department of Planning & Building  
ATTN: John Speka  
501 Low Gap Road, Room 1440  
Ukiah, CA 95482

Dear Mr. Speka:

Since the early 1970s, Beckstoffer has been a leader in cultivating more than 1,000 acres of premium wine grape vineyards in Mendocino County. A pioneer in environmental awareness, technical development, sustainable farming, and business practices, Beckstoffer Vineyards is the largest seller of luxury premium wine grapes (primarily cabernet sauvignon and merlot) in the North Coast.

X-1

Beckstoffer Vineyards owns and manages the Russian River Vineyard that is situated between the Russian River and the Redemeyer Road in Ukiah.

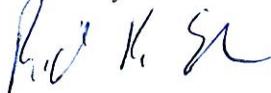
X-2

The Russian River Vineyard is contiguous to Granite Construction Company's Redemeyer sand and gravel terrace mine, including the use of a common driveway and unpaved haul road for truck traffic.

Since Granite took ownership of the terrace mine in 2002, we have found Granite to be a good neighbor. Our grapevines produce fine wine grapes side by side with Granite's terrace mining operation and the haul road for sand and gravel trucks. It has been our experience that Granite's operation has been compatible with our agricultural operation.

X-3

Sincerely,



Rich Schaefer  
General Manager



## John Speka - comments on DEIR for Granite Extraction

---

**From:** Pinky Kushner <pinkykushner@mac.com>  
**To:** <spekaj@co.mendocino.ca.us>  
**Date:** 11/9/2009 4:34 PM  
**Subject:** comments on DEIR for Granite Extraction  
**CC:** John McCowen <mccowen@pacific.net>, phil baldwin <felipe@pacific.net>

---

Comments on the DEIR for the New Granite Extraction Facility Upstream from the City of Ukiah

First, I want to thank Mr. John Speka for speaking with me today. He seemed knowledgeable and most professional. I thank him for answering my questions.

Y-1

I have two comments:

### 1. Hours of Operation:

Granite proposes to operate this facility from 5 AM to 6 PM, six days a week, Monday through Saturday. The extraction facility will make considerable noise in its operation. These hours of operation are unreasonable and place an undue burden on the Ukiah Valley environment. I am told that the word 'Ukiah' refers to the deep valley that Ukiah lies in. At approximately 20 miles long and 4 miles wide, the valley exaggerates any noise generated in the Valley. During winter months especially, without the benefit of leafy trees, State Highway 101 noise and State St. noise is bad. The new Granite facility will add to the existing noise considerably. Granite's operation will reverberate throughout the valley, affecting all who live on the hillsides and also those living on the valley floor on the north end of the valley. This noise of operation will be particularly bothersome during the quiet morning hours from 5 yo 7 AM, a time when an urban noise ordinance is in place, but also throughout the day.

Y-2

Noise is after all cumulative, such that one source, for instance, a truck at the new Granite facility will make x amount of noise, but added together with the gravel extraction and sorting, there will be considerable cumulative noise produced. Having this noise early in the morning, during a time when most people are sleeping, is unacceptable and unreasonable. Having this noise during Saturdays all day long is also unreasonable and unacceptable. Saturdays are for many in the Ukiah community a Sabbath day. A minimum mitigating measure is to begin operations at 7 AM and have no operation on Saturday. During the normal workday, noise generation should be mitigated additionally in some way --- perhaps noise absorbing barriers or yet better with natural barriers of plantings of evergreen trees, redwoods or live oaks.

Y-3

### 2. Notification:

Since the effects of the Granite operation will extend widely into the community, an appropriate notification includes the *complete list of persons who commented on the UVAP DEIR*. It is not enough to notify only those persons owning property within so many feet of the operation. For transparency and open government a much broader notification is required. For this reason, I do request that the notification of the next public hearing be extended to the list of persons who commented on the UVAP DEIR. This notification can be easily done by email (see below for my email), which should be on file for many who commented on the UVAP DEIR.

Y-4

Thank you,

Y-5

Pinky Kushner  
pinkykushner@mac.com  
504 N. Oak St., #1  
Ukiah, CA 95482

Y-5  
cont.

**SCS ENGINEERS**

September 28, 2009  
File No. 01209149.00

Attention: David Shilken  
County of Mendocino  
Department of Planning and Building  
501 Low Gap Road, Room 1440  
Ukiah, CA 95482

RECEIVED  
SEP 30 2009

BY  
PLANNING & BUILDING SERVICES  
Ukiah, CA 95482

Subject: Application for Conditional Use Permit and Reclamation Plan for the Kunzler Terrace Mine

Dear Mr. Shilken:

SCS Engineers (SCS) respectfully submits this letter on behalf of Masonite Corporation and Developers Diversified Realty (DDR) in response to the application for approval of a Conditional Use Permit and Reclamation Plan (Application) for the Kunzler Terrace Mine submitted to the County of Mendocino (County) by Granite Construction Company (Granite) in February of 2008. This letter is not intended to be used as a complete review of the application nor does it address all anticipated concerns such as those that may arise through review of other, related documents such as the Environmental Impact Report (EIR), which is currently under County review, or other documents drafted to evaluate and/or support the proposed Kunzler Terrace Mine.

For simplicity and ease of understanding, issues and concerns raised in this letter are itemized and described in sequence, following the order of information as presented in the Application. Herein, we identify a number of land use conflicts, environmental, social, and other concerns, as well as questions as to the accuracy of data and the validity of conclusions drawn from that data. This letter is not intended as the aforementioned property owners and SCS's final comments on the Application, but as a starting point to address concerns that arise from information presented in the Application.

### **SCOPE OF PROPOSED PROJECT**

SCS understands that Granite has submitted an application to permit a mining operation known as the Kunzler Terrace Mine, which is located adjacent to the Russian River and Ackerman Creek near Ukiah in Mendocino County, California (Figure 1). Granite proposes to convert the current agricultural use (vineyards) to continuous open-pit mining of 67,000 to 167,000 cubic yards per year or 100,000 to 250,000 tons per year of "alluvial terrace sand and gravel" on 65.3 acres of land (Figure 2). The proposed open-pit mine will be completed in three phases with a total approximate mine life of 25 years. Equipment associated with the operations will consist of a drag-line, processing equipment, loaders, water trucks, haul trucks, and support vehicles. Mined material will be washed, screened and crushed on-site and then hauled to nearby existing facilities for further processing. Maximum proposed depth of the open-pit mine is 65 feet below

the existing ground surface, which is approximately 30 feet below the local groundwater table and on the order of several tens of feet below the average elevation of the Russian River. The application for the Kunzler Terrace Mine also proposes to widen the Russian River channel by 80 to 120 feet over a 4 acre area. Upon completion of mining activities, the Kunzler Terrace Mine will be revegetated with the exception of the open pit, which will remain as a manmade lake.

The following is an initial list of project concerns and issues that have been identified during a review of the Application for the proposed Kunzler Terrace Mine.

### **SUMMARY OF CONCERNS**

Major concerns with the Application and proposed mining operations are summarized below and described in detail in subsequent sections of this letter.

1. The site is a floodplain, not a fluvial terrace as indicated; therefore, there is a greater potential for flooding, greater potential for pit capture, and more severe potential impacts to fisheries than acknowledged. These concerns need to be assessed and findings held to appropriate state and federal standards.
2. Proposed setbacks from the Russian River and Ackerman Creek are inadequate and not supported by either scientific reasoning or regulation.
3. Channel widening or other modifications are unnecessary and have not been assessed with respect to channel stability and potentially negative impacts to downstream landowners and land uses.
4. The resulting water-filled mining pit will result in the long-term loss of prime agricultural lands from future productive use and will preclude most if not all future uses, in perpetuity.
5. The close proximity of the proposed mining operations to existing residential property and urban centers is unprecedented. Noise and increased heavy truck traffic have not been adequately addressed and the associated shared costs of mitigating these factors have been underestimated and/or inadequately addressed. Existing private and public roadways are currently inadequate to support the proposed project.
6. Proposed mining operations will likely result in a long-term loss of tax revenue as the resultant land is converted to water or artificial wetland that will severely inhibit future development or taxable, beneficial use.
7. The presence of the proposed mining operations have great potential to devalue adjacent planned development projects that are currently underway, resulting in loss of future tax revenue on those lands and a disproportionate burden for those landowners.

8. The disposition and fate of fine particles at the site has not been adequately addressed and have potential to violate the Clean Water Act.
9. There is a failure to scientifically demonstrate or refute the existence and importance of subsurface hydraulic connections between the site and adjacent property in the context of potential to negatively impact existing, active water wells and planned developments. Groundwater quality and quantity evaluations and impacts to adjacent properties resulting from the proposed operations have not been fully assessed.
10. The short- and long-term potential severity of fish entrapment under overtopping event scenarios has not been fully addressed.

### **APPLICATION: GENERAL CONCERNS**

Page 2 of the Application states that the goal of the project is to “minimize environmental impacts and minimize land use conflict”. It is our understanding that the primary goal of mining operations is to extract and sell natural resources at a profit. While minimizing environmental impacts and land use conflicts are necessary and essential ingredients to successfully bringing a mine into operation, profitability remains the primary goal of mining operations. In fact, minimizing environmental impacts and land use conflicts are not goals, they are mandates required by law, which are interpreted and enforced by government agencies through regulation at the request of the general public who is ultimately responsible for conceiving and upholding those regulations.

The Application contains a large number of references to the proposed mining operations being located on a “terrace”, a term which appears to be inaccurately applied to the proposed project site. Page 3 states that the proposed Kunzler Terrace Mine will be located on a “terrace”. Page 6 refers to the project area as a “raised river terrace”. Page 9 under “Hydrology/Drainage” describes the project area as an “alluvial terrace adjacent to the Russian River and Ackerman Creek...” The term “terrace” as used in this case refers to a fluvial or surface water-originated terrace. A fluvial terrace is a fragment of a former valley bottom that now stands well above the level of the present floodplain and is by definition not subject to flooding by the active channel. The Application further states on page 9 that the “project site ranges in elevation from about 610 to 620 feet above mean sea level” and that “Hydrologic modeling determined that the 10-year maximum water surface elevation...is about 610.7 feet.” The description of the project area even acknowledges that it is “subject to periodic inundation”; and page 28 indicates that the “project site is located within the FEMA 100-year floodplain and is subject to overbank flows from Ackerman Creek and the Russian River. This series of statements would suggest that the project site is or could periodically be inundated by flood waters. Based on the information provided in the Application, it is logical to draw the conclusion that the project site is not a fluvial terrace. Instead, we assert that the site is located within the active floodplain of the Russian River and its tributary, Ackerman Creek, the significance of which is not recognized or accurately assessed in the Application. The project name, “Kunzler Terrace Mine”, and all references to the project site within the Application and its appendices as a “terrace”, appear to be misleading. Item 13 “Mineral Commodity to be mined:” appears to have been incorrectly

indicated as “Other – Please Describe: Alluvial terrace sand and gravel” and should have been indicated as “Streamside gravel” or other descriptor that either accurately reflects the landform that contains the commodity or a descriptor that is free of interpretation with respect to the genetic origin of deposit from which the mineral commodity in question is proposed to be mined.

Item 9(A) of the Application states that the project area is zoned I2 (General Industrial) with the implication that the proposed use is consistent with current uses of the site and surrounding area. While trucking/hauling uses are generally consistent with adjacent and zoned uses, there is no history of a mining use in or near this area. Although it is noted that there are a number of other gravel mining operations in close proximity to the Russian River, there are no recently approved gravel mining operations adjacent to the Russian River that are also in such close proximity to a City such as Ukiah; and as such, there is an inordinately high degree of potential long-term impacts to local residents, businesses, and adjacent property owners as well as an essentially permanent footprint that will remain in the landscape long after mining operations have ceased. The Application does not appear to address issues surrounding the preclusion of future uses and lack of precedence for the proposed use, but are clearly ones that require full consideration.

Exhibit 2 and 3 of the Application indicate that the adjacent lands owned by Masonite Corporation are “Industrial / Vacant” and that the use is “Abandoned Industrial”. This information is misleading and inaccurate. Adjacent and nearby parcels owned by Masonite Corporation and DDR are actively undergoing site characterization and remediation of contamination as part of their redevelopment. Site improvement and redevelopment plans are currently being designed for these parcels. DDR is in the process of redeveloping its nearby parcels and will potentially seek annexation of their parcels by the City of Ukiah. A portion of property owned by Mr. Dan Thomas near the proposed mining operation is also slated for redevelopment while other property will remain in active production as agricultural lands. In addition, there are several wells located on adjacent property in close proximity to the proposed project. One of these wells is in active use and is in the process of becoming part of the Millview Water District and once a part of the Millview Water District, this particular well will serve as a substantial source of water to the District. Development projects are currently underway on adjacent parcels that would be directly impacted by the proposed operations and the long-term effects of the proposed mine.

Exhibit 8C notes that “Basin to be backfilled concurrently with closure of plant site.” However, it is evident from page 32 and 33 of the Application that the open pit will not be backfilled and that an open pit will remain in perpetuity with standing water and ongoing potential for pit capture during flooding events. An open pit will remain at the site that will significantly and permanently restrict land use on what is otherwise “prime agricultural lands”. In fact, since the vast majority of the proposed project will result in a lake, it seems that there are very few if any tangible future uses that would be possible after mining activities have ceased. In addition, there are long term costs associated with the permanent loss of these prime agricultural lands that could otherwise provide an ongoing source of tax revenue for the County of Mendocino (or to the City of Ukiah, if adjacent parcels are annexed to the City) that should be considered in the CEQA review.

Item 14(B) "Waste retained on the site per year (cubic yards/year)" is indicated to be "None". The answer specified in Item 14(B) ("None") appears to conflict with the answer to Item 16 "Processing fines will either be sold or used in reclamation (i.e. no waste disposal)". It is unclear how fines will be used in reclamation if no waste is retained on site. It can only be assumed that the waste will be hauled and retained at another location and then retrieved for reclamation purposes. If the fines are used for reclamation, will those fines be stored and used at the termination of the project or staged, returning fines to the ponds? Clarification and/or consistency are needed in the answers provided for Items 14(B) and 16. Similarly, the disposition of wash water has not been addressed in the Application. The disposal of industrial water is extremely important because the Clean Water Act prohibits the commingling of industrial water (e.g., wash water) with storm water generated at an industrial site such as the proposed Kunzler Terrace Mine.

Page 11 indicates that "the top one foot of topsoil/surface soil excavated during mining will be separated and stored within a designated topsoil/surface soil stockpile location." Although not specifically stated, it is implied that the existing topsoil will be stockpiled long-term on-site. No consideration appears to be given to the mobilization and potential for loss of this material during flooding or winter storms, as well as any impacts to sediment loading of Ackerman Creek and Russian River. In addition, the disturbed fine-grained topsoil may be subject to entrainment by high winds. Again, loss of this material may affect sediment loading in the adjacent watercourses and could affect air quality through dust mobilization by wind. Although dust suppression by utilization of a water truck to apply water to onsite haul roads and working areas is mentioned on page 13, no mitigation measures that address this particular issue appear in the reclamation plan or elsewhere in the Application.

Item 14(D) indicates that the Kunzler Terrace Mine will not be a pit quarry and therefore the answer to "Maximum anticipated depth per year (feet/year)" is "Not Applicable". It is unclear how surface mining operations will proceed to a "maximum depth of 65 feet (below the existing ground surface)", as stated on page 12 of the "Mining Plan", without creating an open pit in the ground. Clarification is needed on Item 14(D) of the Application. Open pits that are created through surface mining should have an associated depth per year that can be approximated or calculated, yet none is provided in the Application.

Page 12 of the Application states that "...haul routes...are completely within the project site." It is difficult to understand how the crushed aggregate generated from the site would be transported to the off-site facilities located a number of miles away from the project site for use in concrete and construction materials, while remaining on the site. The Traffic Analysis (contained in Appendix I) supports the notion that nearly 200 truck trips will occur each day that will result in aggregate being transported over private and publicly owned roads that are largely outside of the project site. Additional clarification is needed on the location of haul routes.

The long-term economic cost associated with the development of an open-pit mine that will not be restored to approximate original contour and the resultant land feature will be a manmade lake of little economic use has not been considered in the Application and should be addressed as part of the CEQA process. Most mining operations are located in rural or remote areas, far from

local human populations that may be directly affected by their presence. This is not the case for the proposed Kunzler Terrace Mine, which is to be located on prime agricultural lands, adjacent to a scenic and already heavily impacted river that is in close proximity to a growing urban center and its residential population. The proposed mine is situated within one mile to the northwest of the Ukiah City limits, an area which represents a probable direction of future growth for the city. The northern limits and immediate areas which include the project site lie in the direction of recent development within the Highway 101 corridor, where there is great potential benefit for the City of Ukiah to annex these areas. Future development and/or redevelopment north of the City of Ukiah may not only be hampered by the proposed mining operations, the City may realize a much lower long-term tax base as a result of the conversion of the land use from agricultural to mining.

Mining operations will yield a 20 year payoff in the form of increased tax revenue from the sale of aggregate, whereas the existing agricultural or other surrounding commercial uses will generate revenue on an indefinite, sustainable basis. A lake will remain after mining operations have ceased, which will severely limit any other potential future uses that may generate tax revenue either for the City of Ukiah or the County of Mendocino. A comparative analysis is warranted to determine whether relatively short-lived mining revenue will outweigh long-term agricultural or other, sustainable uses to which the property could otherwise be applied. We argue that the proposed project will severely decrease potential future revenue for the County of Mendocino or potential future revenue for the City of Ukiah, should this area eventually be annexed by the City of Ukiah. Furthermore, it unclear whether the County of Mendocino will share with the City of Ukiah the costs of additional road repairs, police services, and overall increased municipal services that will be required should the proposed project be approved and which will be born in large part by the City of Ukiah.

## **GEOMORPHIC AND CHANNEL WIDENING CONCERNS**

Page 16 of Appendix E discusses details regarding the proposed widening of the Russian River by 80 to 120 feet over 4 acres along the project area. The channel widening is “intended to improve channel hydraulic capacity and winter rearing habitat for salmonids...” and “to improve the current degraded state of the Ackerman Creek reach.” The Russian River channel at the project location has been naturally designed by the Russian River over geologic timescales in order to accommodate discharge and sediment yield delivered from the basin. Artificial and unwarranted “improvements” such as those proposed by Granite serve to upset the equilibrium of the fluvial system for the financial benefit of one landowner. This proposed channel widening is not only unneeded under current conditions, such channel manipulations have the potential to destabilize downstream banks and to shift the position of the channel thalweg with potentially negative impacts to those landowners. Such negative impacts may include loss of agricultural lands (e.g., vineyards that line the downstream valley bottom) due to lateral channel erosion, abrupt channel migration, potential to deflect flow to the opposite bank causing bank failure, and/or increased potential for flooding or other unanticipated, non-linear responses that may occur as a result of the proposed unwarranted mechanical manipulation of the channel. It should also be noted that the Application presents no analysis of potential impacts or design criteria that may result from the proposed channel widening.

Although channel widening may have a positive localized impact on salmonid habitat, there is little or no geomorphic or other scientific justification for such a proposal and many potential pitfalls. It is assumed that the underlying motive to widen the channel at this location would be to acquire additional quantities of aggregate or to potentially reduce the possibility of pit capture. The Russian River and Ackerman Creek have already been heavily manipulated and impacted by relatively recent human activities, a few of which include: installation of a grade control structure on Ackerman Creek designed to protect bridge abutments, junk car revetments along Ackerman Creek and Russian River designed to control bank erosion, in-stream and near stream gravel operations on the Russian River, and (as per Figure 2.3 in Appendix B) an overall reduction in riparian vegetation along the Russian River by 80% during period 1942 to 2002. It is unclear why an already heavily impacted major, public waterway should be unnecessarily and significantly modified and compromised in order to financially benefit a single property owner, while potentially negatively impacting the lands and interests of many other property owners as well as the surrounding community. Page 14 of Appendix B states that there is “no documentation of significant channel stability problems resulting from mining pits along the floodplain of the Russian River in the Ukiah valley.” It should be noted that a lack of evidence is not in itself evidence that some phenomena does or does not exist. No channel stability studies are cited in the consultant prepared report to support the above statement.

In addition, page 14 of Appendix B notes that PWA (1997) proposed 1,000 foot setbacks for pit mining along the Russian River in Mendocino County including the Ukiah valley, reasoning that mining activities should remain outside the potential meander belt area of the Russian River. Although the 1,000 foot setback was not adopted, “the Sonoma County Aggregate Resource Management Plan requires a 450 foot setback from the ordinary high water mark for terrace mining projects.” It should be noted again here that the proposed Kunzler Terrace Mine is not located on a terrace and therefore is not a terrace mining project. Instead, it is a floodplain mining project, which should require a larger setback, not a smaller setback as proposed. Granite offers no justification for their proposed 250 foot setback when 450 foot setbacks are required and geomorphic evidence suggests that 1,000 foot setbacks may be warranted. Figure 2.7 of Appendix B illustrates that a 25-year flood event would almost completely inundate the project site and pit capture could occur. Figure 2.10 illustrates the high degree of variability in historical channel planform geometry for the Russian River where maximum variations of channel positions after the construction of Coyote Dam are on the order of 500 feet within one river mile of the project reach. It should also be noted that historical channel thalweg positions as indicated on Figure 2.10 represent snapshots and may not represent the maximum lateral variability in channel position during the period of record. No scientifically justified reasoning or defensible method is presented in the Application for the minimal 250 foot setback proposed by Granite.

## **GROUNDWATER CONCERNS**

There are a number of inconsistencies in the reported values of groundwater elevations in the project area, which draws into question the validity of the groundwater and pit capture analysis and overall understanding of the hydrologic and cumulative effects the proposed mining operations may have on potential for pit capture and to negatively impact production wells that

are situated in close proximity to the proposed project. The Groundwater section of the Application contained on Page 9 states that the “mean depth to groundwater is 17 feet below ground surface with negligible seasonal variation”. The Mining Plan on page 12 states that “...groundwater levels range seasonally from 29 feet below ground surface in the spring, to 35 feet below ground surface in the fall. The consultant report contained in Appendix E states in its Executive Summary that “Groundwater levels in the vicinity of the Property have shown a consistent seasonal fluctuation and long-term stability, with the typical depth to groundwater ranging from approximately 15 feet in the spring to 25 feet in the fall.” It is apparent from the wide range of statements regarding seasonal groundwater levels contained in the Application that groundwater conditions are either poorly known or incorrectly characterized, or both.

Page 9 notes that groundwater levels are estimated to fall by 3 feet due to the proposed mining operation. Groundwater wells used for domestic and industrial purposes immediately adjacent to the subject property will likely be negatively impacted by this fall in groundwater levels (Figure 2). Currently, there are (as previously mentioned) several wells located near the subject site. One of these wells is in active production and in the process of becoming a significant contributor to water resources of the Millview Water District. The wells are also required for current (e.g., agricultural, commercial) and future potential uses (e.g., various land developments that are planned or underway) of the adjacent properties. Any fall in groundwater levels, decrease in production, or impacts to groundwater quality may have significant economic impact on the current and future use of adjacent property. The groundwater analysis contained in Appendix E does not appear to directly address the extent to which a hydraulic subsurface connection may exist between the proposed mining areas and adjacent properties. If there is a hydraulic connection, based on technical data, then what are the possible and probable impacts of proposed mining operations on the local aquifer that may negatively impact the water rights of adjacent land owners and their ability to develop their properties? These impacts need to be addressed in the CEQA review.

Assuming that groundwater levels range from 15 feet to 35 feet below the ground surface (maximum range of values reported in the Application) and estimated maximum depth of the excavation is 65 feet below ground surface, then the open pit would be expected to be filled with approximately 30 to 50 feet of water at its maximum depth, thus creating an artificial and essentially permanent lake adjacent to the Russian River and Ackerman Creek.

Potential impacts to groundwater quality were addressed in a general fashion but no specific calculations were presented or defensible arguments made to support the statement that “expected changes in the quality of the recycling pond and wet pit waters would be minimal and potential for groundwater quality to be impacted is remote.” Consultant produced groundwater analysis contained in Appendix E indicated that they had examined similar issues at well-established terrace pits where monitoring showed no change in groundwater quality. Yet, no specific evidence is offered, so no reasonable evaluation can be made of this statement. We argue that the proposed site is not located on a terrace; therefore such an analysis would not be valid if presented. The sites that were examined by the consultant were not presented in the Application, nor were the data generated from those sites to support the assertion that there would not be a negative impact to groundwater quality. Furthermore, site hydrogeology for the

examined sites was not presented, so it is unknown whether those sites represent reasonable proxies for the proposed project site. It is difficult to understand how drag-line operations that result in agitation of sediments would not impact water quality during storm events when river water begins to mix with water contained in the open pit, which then would under the proposed plan exit the pit through an overflow pipe. In addition, turbid waters may present an issue to water quality during peak flows if the pit has been breached. No apparent consideration has been given to discharge of turbid waters to the Russian River under this scenario.

The groundwater analysis contained in Appendix E of the Application compares groundwater usage for the current use type (agriculture) to the proposed use type (mining). The current water demand at the site for agricultural uses (vineyards) is undocumented. Calculations appear to be generated using assumptions without a basis in fact. Therefore, the calculations and comparisons that are made in the Application appear to be of questionable validity.

### **FISH ENTRAPMENT CONCERNS**

Appendix B also notes that although no pit capture has yet occurred on the Russian River, it has occurred on many other rivers in California, which would imply that pit capture is possible at the site. The Fish Entrapment Assessment contained in Appendix F indicates that some salmonids may be entrapped if the pit is captured by high flow water. All alternatives presented in the Assessment are noted to have risk, with the proposed operations having greater risk than current conditions. Although construction design provides a level of barrier to keep fish out of the pit while in operation, there is a risk that salmonids could become trapped in the pit. No estimate of how many individual salmonids may become entrapped during an overtopping event, so it is difficult to evaluate whether entrapment poses an important or significant threat to salmonids in the area. In addition, no consideration is given to risk of entrapment after operations have ceased and reclamation activities have occurred.

### **TRAFFIC CONCERNS**

A list of intersections are provided in the Traffic Analysis contained in Appendix I that are unacceptable under existing conditions with additional intersections and more intensely unacceptable conditions under existing plus project conditions. Page 3 of the Analysis indicates that nine intersections are potentially impacted by the proposed project. It should be noted that the data collected for the Traffic Analysis is now outdated by approximately 5 years, a time during which there have likely been increasing traffic pressures on the intersections in question. Page 9 states that although signalizing would improve the level of service for the Kunzler Ranch Road/State Street and Interstate 101 Southbound ramps/Mendocino Drive intersections, they "would not meet rural peak hour volume warrant" under the proposed project. Page 20 Table V indicates that the cumulative plus project conditions with mitigation that includes signalization at the North State Street/Lake Mendocino Drive intersection would result in a level of service rating of "D", which suggests that this intersection would under-perform. Increased traffic volumes would be expected in the future, which would contribute to these deficiencies. It is known that the current and former Masonite properties are now in the process of development.

The economic impact to the community that the increased heavy traffic and future use restrictions that may be applied to future developments needs to be addressed.

It is common knowledge that heavy trucks and buses are responsible for a majority of pavement damage. The "Generalized Fourth Power Law", which is available in the Washington State Department of Transportation Pavement Guide ([http://training.ce.washington.edu/wsdot/Modules/04\\_design\\_parameters/04-3\\_body.htm#tire\\_loads](http://training.ce.washington.edu/wsdot/Modules/04_design_parameters/04-3_body.htm#tire_loads)), demonstrates that a moderately loaded truck has 10,000 times more impact to roads than do passenger cars. Page 21 of the Traffic Analysis assumes that a loaded truck is equivalent to 3 passenger cars and an unloaded truck would be equivalent to 2 passenger cars, which appear to grossly underestimate the potential damage that would be caused by the large amounts of additional truck traffic on public and private roadways that would be introduced by the proposed project. The values reported and used in calculations in the Application are based on "studies conducted at other quarries," yet no data are provided from those studies, so no evaluation can be made of the data or the soundness of methods or assumptions used to generate those data. It is important to know whether the studied quarries were located in heavily developed areas or in rural areas as it would greatly impact methods and assumptions that are used. Provided that the assumptions are grossly underestimated for truck to passenger car equivalency, then the cumulative fair share analysis, which is based on the biased low assumptions, must be drawn into question and are commensurately undervalued. Lastly, no fair share costs are provided or thought to be included in the fair share allocations for the additional costs that would be required for mitigation measures such as the installation of signals at a minimum of nine intersections.

The Traffic Analysis does not address traffic concerns and road usage requirements on Kunzler Ranch Road, a private road that would be the only access road into and out of the Kunzler Terrace Mine. Kunzler Ranch Road in its existing condition is inadequate and/or infeasible for use in the proposed operations based on issues associated with road width, road quality, and existing utilities. The paved width of Kunzler Ranch Road was measured on September 8, 2009 with a wheeled measurement device. Paved road width varied from 19 feet to 36 feet, with the most common measurement width of 22 feet. The Local Road, Commercial or Industrial Urban Typical Road Section standard number A10E issued by the County of Mendocino indicates that such paved roads should be 42 feet wide with a 24 foot traveled road way. It is evident that Kunzler Ranch Road does not meet these road width requirements. Kunzler Ranch Road was noted to be in poor overall condition at the time of our visit and showed an abundance of cracks and broken road surface materials, great variations in paved road width, vegetation encroaching into the roadway, and old power poles and power lines overhead. Kunzler Ranch Road is already in need of repairs and upgrades and is wholly inadequate to handle the large amounts of proposed heavy truck traffic. There is an economic impact to existing businesses using Kunzler Ranch Road and the current owner of the road that needs to be addressed in the CEQA review.

## **NOISE CONCERNS**

Page 3 of the Application indicates that the nearest residential area is "one mile to the southwest" of the subject property, yet the consultant prepared Noise Assessment contained in Appendix J, states that the nearest residential area is "one mile to the northeast." The Application indicates

that there are "isolated farm houses to the east." In fact, there are a number of residential neighborhoods whose residential dwellings have in many cases a direct line of sight (and sound) to the proposed operations from the east side of the Russian River. Noise impacts to the occupants of these residences do not appear to have been considered as part of the Noise Assessment. Noise from the drag-line and crusher in particular will travel not only horizontally across the landscape but also vertically, carrying noise generated from the proposed mining operations across the Russian River to hillside residences that are located in close proximity to (approximately one half mile to the east) and potentially highly impacted by the proposed mining operations.

Page 2 of Appendix J presents values for average noise levels at a number of locations proximal to the project site. The Noise Assessment indicates that day-night noise levels on weekdays at the south property line were measured at 56 to 57 decibels, but that noise levels were not obtained at the nearest receivers due to residential landscaping activities and traffic noise. It is also noted that the relatively high reported levels of noise (56 to 57 dB) were "predominately the result of distant traffic and industrial noise." The proposed operations will add additional noise to these reported values, yet no mitigation measure has been proposed and no cumulative impacts analysis has been performed to show what noise levels will increase to in the future and how the proposed mine operation might contribute to those noise levels.

In addition, the Noise Assessment does not show calculations, so it is impossible to evaluate methods used to arrive at the values presented in the report. The report does not show a mapped location of the nearest residential receptor, so it is impossible to evaluate the approach in determining noise levels and the effects on those residents. The report does not account for future residential land use as currently allowed by zoning and the general plan. Noise impacts to those future potential residential areas do not appear to have been evaluated as part of the Noise Assessment.

## CLOSING

We appreciate the opportunity to submit this letter to the County of Mendocino in response to the Application for a Conditional Use Permit and Reclamation Plan submitted by Granite. If you have any questions or would like to clarify any information presented in this letter, please do not hesitate to contact SCS at (707) 546-9461.

Sincerely,



Paul Wisniewski, PG 7543  
Professional Geologist  
SCS ENGINEERS



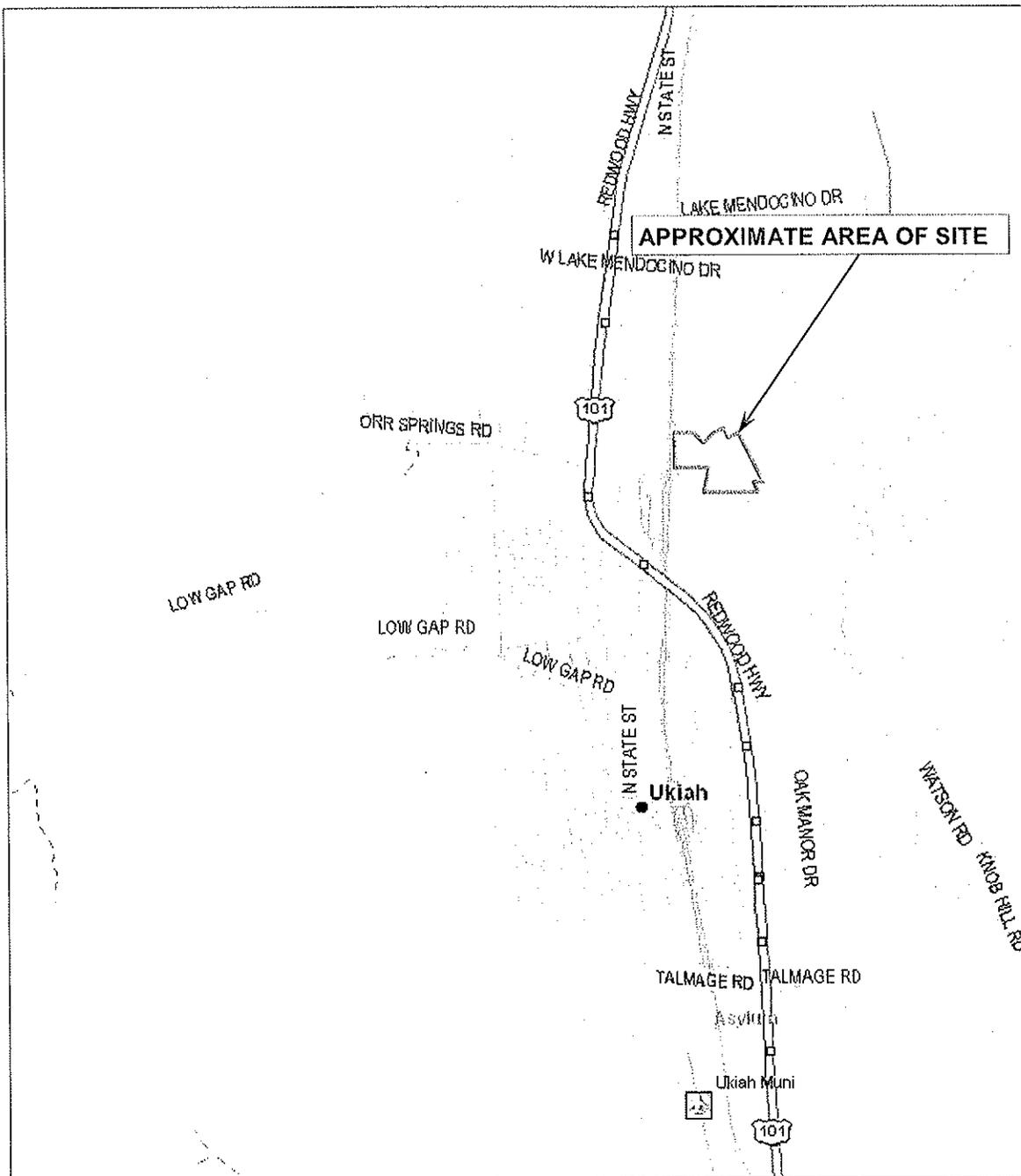
Linda Taverner  
Vice President  
SCS ENGINEERS

Mr. David Shilken  
County of Mendocino  
September 28, 2009  
Page 12

Attachments: Figure 1: Site Location Map  
Figure 2: Parcel Map-Well Locations

cc: Mr. Matthew Clark, Masonite Corporation, One N. Dale Mabry Highway, Suite 905,  
Tampa, FL 33609

Mr. Nash Gonzales, County of Mendocino, Department of Planning and Building, 501  
Low Gap Road, Room 1440, Ukiah, CA 95482



Source of Base Map: DELORME 2009®



<b>SCS ENGINEERS</b>		
ENVIRONMENTAL CONSULTANTS		
3843 BRICKWAY BOULEVARD SUITE 208 SANTA ROSA, CA 95403 PH (707) 546-9481 FAX (707) 544-5788		
PROJ. NO:	TAKEN BY:	FILE:
01209149.00	JM	9149.00 SiteLoc
DATE:	CREATED BY:	APP. BY:
9/25/09	JM	SK

SITE LOCATION MAP

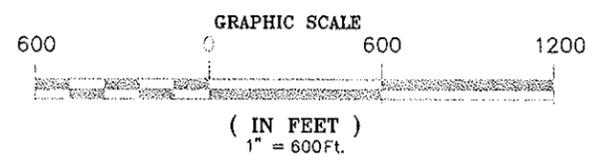
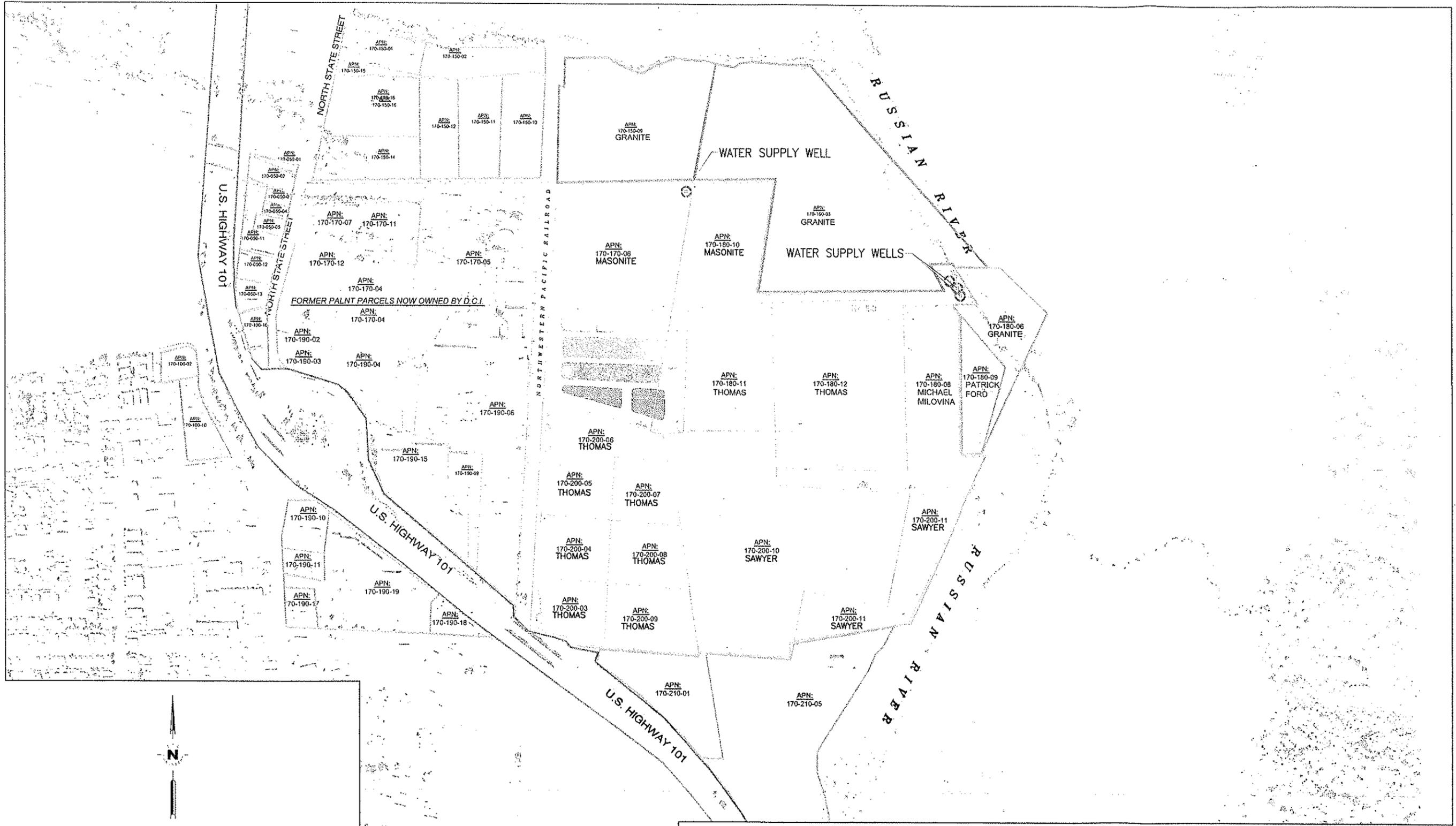
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PROPOSED KUNZLER TERRACE MINE

UKIAH, CALIFORNIA

APPROX. SCALE (MILES)
FIGURE
1





<b>SCS ENGINEERS</b> ENVIRONMENTAL CONSULTANTS 3843 BRICKWAY BOULEVARD SUITE 208 SANTA ROSA, CALIFORNIA PH. (707) 546-3461 FAX. (707) 544-5769			SHEET TITLE PARCEL MAP - WELL LOCATIONS	SCALE: 1" = 400'
PROJ. NO. 1209149.00 DATE: 9/18/09			PROJECT TITLE PROPOSED KUNZLER TERRACE MINE UKIAH, CALIFORNIA	FIGURE NO. 2
OWN. BY: JUM DATE: 9/18/09	DES. BY: LST	AGAD FILE: 9149.00 PARCEL WITH W-WELLS APP. BY: LST		



**Aaron Hecock**

**From:** Richard Macedo [RMACEDO@dfg.ca.gov]  
**Sent:** Thursday, November 12, 2009 5:08 PM  
**To:** John Speka  
**Cc:** Dennis Slota; Tom Daugherty  
**Subject:** Re: DFG Informal Comments re. the Kunzler DEIR

John:

The purpose of this email is to respond to your request for my comments regarding the subject draft DEIR. Due to reduced work schedules, DFG was not able to submit a formal response to the DEIR.

AA-1

Under DEIR Section 3.4 Biological Considerations, I'm unclear if a protocol level botanical survey was completed at the site. If not, this will be necessary to determine the presence/absence of listed and/or sensitive plants. On a related note, Table 3.4-2 states that the Sonoma canescent manzanita exists outside the range of the project site. This is no longer accurate; a recent population of this species has been documented at the Willits Airport (in Brooktrails). Alan Falleri from the Willits Planning Dept. can confirm this.

AA-2

AA-3

Foothill yellow-legged frogs are likely to exist along riparian areas of Ackerman Creek and the Russian River. The "Potential to Occur in the Study Area" column in Table 3.4-2 should be changed from "low" to "high" especially for the affected Russian River reach. Recent surveys at the Russian River bridge crossing at Talmage documented foothill yellow-legged frog presence.

AA-4

The potential of the proposed terrace pit pond to serve as effective habitat for anadromous salmonids remains unknown at this time. Two critical variables that need additional study are 1) additional analysis on expected water temperature/water quality in the propose pit pond and 2) expected occupancy of the pit pond by native and exotic predators including Sacramento pikeminnow, black bass and other Centrarchids.

AA-5

Finally, the final EIR should include a detailed plan for eradicating and controlling invasive plant and animal species. Invasive plants, in particular, need to be addressed considering the present condition and the proposed management of the affected parcel.

AA-6

Thank you for your time and consideration.

Rick

Rick Macedo  
 Staff Environmental Scientist  
 Coastal Conservation Planning  
 Northern Region  
 California Department of Fish and Game  
 P.O. Box 1338  
 Cobb, California 95426  
 (707) 928-4369

AA-7

>>> "John Speka" <spekaj@co.mendocino.ca.us> 11/5/2009 4:42 PM >>>  
 Brian,

I was just informed that the comments weren't attached earlier. My apologies. Here you go.

John



## Comment BB - DEIR Public Hearing

### Mendocino County Planning Commission, October 15, 2009

The DEIR Public Hearing included a tour of the project site by the Planning Commission and open to the public. Following the site visit, the Planning Commission opened the public hearing at the Mendocino County offices. Following an introduction by County planning staff, the Commissioners engaged in questions with the applicant. The Commission then took public comment. Those comments are summarized below.

#### ***Speaker: Paul Wisniewski, SCS Engineers***

The speaker expressed a number of concerns with the project. The comments were addressed to the use permit application, and not to the Draft EIR. Nevertheless, the comments are listed below.

**Comment BB-1.** The project is identified as a “terrace mine” but should be considered a “flood plain” mine. Have the studies been done from the perspective of a flood plain mine?

**Comment BB-2.** A Pacific Williams study referred to in the applications refers to a 1,000 foot setback recommendation. Sonoma County requires a 450 foot setback. The proposed project setbacks may be inadequate.

**Comment BB-3.** There is no precedent for such a mine within close proximity to a City and within a floodplain.

**Comment BB-4.** The project may devalue adjoining properties.

**Comment BB-5.** Commenter is concerned with the disposition of fine sediments during flood events.

**Comment BB-6.** There are four water wells on the Masonite property, with a hydraulic connection between the pit and the wells. Commenter is concerned with the lack of information on seasonal variation.

**Comment BB-7.** Information on current agricultural water usage is not included in the application documents.

**Comment BB-8.** The number of salmonids that could be entrapped is not provided in the application.

#### ***Speaker: Steven Ford, Mendocino County Department of Transportation***

**Comment BB-9.** The DEIR should consider roundabouts as mitigation at potential signal locations.

**Comment BB-10.** The DEIR should clarify that Kunzler is a private road. [Following up, Commissioner Ogle asked if Kunzler Road could be deeded to the County.]

**Speaker: Linda Turner, SCS Engineers, Masonite Project Manager**

**Comment BB-11.** The property is not “abandoned” as described in the application materials. Masonite has spent one million dollars on the property and will be submitting a grading plan.

**Speaker: Dennis Slota, Mendocino County Water Agency**

**Comment BB-12.** Speaker is concerned with pit capture and weir design.

**Comment BB-13.** The river-pond connection alternative is the environmentally superior alternative.

**Comment BB-14.** The benching design is sound, based on prior studies, but the speaker has several concerns with the EIR water quality analysis.

**Comment BB-15.** The water quality analysis is too general.

**Comment BB-16.** Concerned with sedimentation while revegetation is being established. How will hydroseeding hold up to sheering?

**Comment BB-17.** Turbidity monitoring should be required upstream and downstream. Otherwise, this responsibility is placed on the RWQCB.

### ***Planning Commission Comments***

Following the close of the public comments, the Commissioners provided their comments.

#### **Commissioner Little**

**Comment BB-18.** Commissioner would like to see consideration of the railroad and the viability of using rail. Rail would provide a mitigation for truck traffic.

#### **Commissioner Warner**

**Comment BB-19.** Regarding the discussion of diesel, “TAC” should be added to the list of acronyms.

**Comment BB-20.** Is the condition of N. State Street discussed?

**Comment BB-21.** Regarding Section 3.3-2, Air Quality, why is particulate matter so high in 2008? [Applicant responded that it was most likely due to the severe wildfires that year.]

#### **Commissioner Ogle**

**Comment BB-22.** “LOS” should be included in the acronym list.

**Comment BB-23.** Should Impacts 3.8.3, 3.8.4 and 3.8.5 be identified as significant?

**Commissioner Holtkamp**

**Comment BB-24.** Page 3.8-10 notes that groundwater levels in the project vicinity rebound to approximately post-drought conditions [following increased drawdown in drought conditions]. Is this finding still valid?

**Commissioner Hall**

**Comment BB-25.** EIR needs more cross-sections, particularly of Russian River.

**Comment BB-26.** What is “open space” [as used in the EIR]? Vegetation?

**Comment BB-27.** In the discussion of monitoring impacts to raptors and osprey, how realistic is it that work would actually be stopped?

**Commissioner Nelson**

**Comment BB-28.** The Commissioner requested an explanation of the river connection mining alternative. The applicant’s geohydrologist, Mitch Swanson, noted that the connection would be adjusted to the 10-year flood level during operation, and stabilized with geotextile. Following operations [reclamation phase] the connection height would be set (using gauge data) to occur during the 100 highest water days of the year.



# Chapter 3

## Response to Comments



# CHAPTER 3

## Response to Comments

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### 3.1 Summary

The Lead Agency has evaluated each comment identified in Chapter 2. This chapter provides the written responses to those comments. Where the response includes a minor revision to the Draft EIR text, those changes are included in Chapter 4, “Minor Revisions to the Draft EIR.” None of the comments received, or the responses provided here, constitute “significant new information” by CEQA standards (CEQA Guidelines Section 15088.5).

### 3.2 Response to Comments

The responses below correspond with each comment identified in Chapter 2. The section begins with master responses that have been prepared to address multiple comments related to a single given subject. The Lead Agency thanks all commenting parties for their contributions.

#### Master Responses

##### ***Master Response #1: Mercury***

Many comments on the Draft EIR (DEIR) expressed concern that the project could result in potential impacts related to mercury (e.g., exposing existing mercury, providing the conditions for the methylation of mercury, etc.). Specifically, the following comments pertain to this issue: E-8, H-4, R-6 through R-13, R-15 through R-20, W-24 through W-27, and W-29. This Master Response addresses the preceding comments, or that part of a particular comment pertaining to mercury.

Information concerning mercury was reviewed as part of the background research for the project and the DEIR. Based upon the information available it was determined that, for the Ukiah Valley area in general and the project site specifically, it is highly unlikely that mercury is present within the sediment or groundwater in concentrations that would be cause for concern. To date, no evidence or information has been found that would suggest otherwise.

Regionally (i.e., the northern California Coast Range), mercury is known to occur and could be derived from a number of sources. Mercury is ubiquitous in the air (e.g., emissions from volcanoes and coal-burning power plants) and can be carried vast distances before being deposited into oceans, lakes, rivers, and reservoirs (OEHHA, 2006). The Coast Range in northern California is also rich in mineral deposits, including cinnabar (mercuric sulfide), which was historically mined in the region. Other than atmospheric deposition, additional sources of mercury for the northern California Coast

Range include mercury-containing mine waste, natural weathering, and geothermal springs. Yet, more locally (i.e., the Ukiah Valley), the chance that mercury is present and that the project would significantly increase exposure or risks associated with mercury is remote.

Mercury deposits in the Russian River portion of the Coast Ranges are relatively small, particularly in the upper Russian River watershed near Ukiah, where there is little-to-no evidence of the presence of mercury. Consequently, existing information suggests that mercury derived from historic mining activities is not expected to occur in the vicinity or up-gradient of the project site. Maps depicting historic mercury mine locations in northern California do not show any mine locations in the Russian River watershed as far north as the Ukiah valley (Alpers et al., 2005; Rytuba, 2003). Alluvium deposited along the Russian River could include some mercury-containing minerals from limited, weathered, naturally-occurring exhalative mercury deposits (also known as silica-carbonate mercury deposits) in up-gradient Coast Range watersheds. However, most mercury-containing minerals from these deposits are in the form of cinnabar (mercuric sulfide) (Bailey et al., 1973; Albers, 1981). Cinnabar is a highly stable mineral and relatively insoluble in water (Schuster, 1991; Gabriel and Williamson, 2004). Therefore, in the vicinity of the project site, it is unlikely that the alluvium would be a source of environmental mercury.

Geothermal vents and thermal springs have been historically cited as potential sources of mercury. However, geothermal systems in the northern Coast Ranges are dry steam systems in which mercury is emitted as a vapor, recovered as a condensate, and re-injected into the system with no discharge to surface water (Robertson et al., 1997).

Mercury is unlikely to occur in surface water or groundwater at or near the project site. Groundwater wells adjacent to the project site (i.e., the wells on the Masonite property) have been sampled for mercury at various times since 1994 and it has never been detected (LSCE, 2006, Appendix C2; Greystone Environmental Consultants, Inc., 2002). Further, based upon data maintained by the California Department of Public Health (CDPH), mercury has been sampled multiple times in approximately 32 different public water supply wells or surface water intakes in the Ukiah Valley area since as early as 1982 and has been detected only twice at relatively low concentrations (LSCE, 2006, Appendix C2). These data are intermittent and the sampling depths and well completions are generally unknown; however, they cover a broad area (the Ukiah Valley and surrounding areas) and represent the best available information for the project site vicinity.

At this point, it is speculative to suggest or assume that the project would provide an aquatic environment amenable to the methylation of mercury (e.g., anaerobic conditions, organic material, etc.). The formation of anaerobic conditions would depend upon a number of factors, one of which, organic matter, would likely be limited (see also responses to comments H-5 and H-7). Further, as discussed above, the presence of mercury is unlikely. See response to comment H-7 for further discussion about how the potential for the development of anaerobic conditions would be monitored and mitigated.

The proposed project would not result in a significant increase in mercury exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury.

## ***Master Response #2: Flooding and Turbidity***

Many comments on the DEIR expressed concern that, during a large flood event (i.e., when the pit is inundated), the project could result in potential impacts related to turbidity (e.g., turbid pit water draining back to the Russian River if the pit fills to such a point). Specifically, the following comments pertain to this issue: K-6, O-1, R-24, R-26, R-27, W-17, W-20, W-36, and W-41. This Master Response addresses the preceding comments, or that part of a particular comment pertaining to flooding and turbidity.

Across the existing project site, flooding generates turbid overland flow as there are many areas within the vineyard comprised of bare or only partially vegetated soils. According to the hydraulic analysis completed for the project (SHG, 2007), there should be a decrease in the frequency of overland flow at the project location relative to the existing condition. This decrease is due to additional storage and flood protection provided by the proposed pit and channel improvements (SHG, 2007). The additional floodplain storage capacity would result in additional sequestration of sediment within the pits for a given flood. (Note: removal of the floodplain benching component would reduce the additional capacity, but would not create any flooding impacts relative to the baseline condition. The pit would still increase capacity during large events as explained below.)

Further, only during extreme flood events (i.e., 20-year events and larger) would flood flows be directed into the pit. Under existing conditions, during large storms and high river flows the Russian River would already be very turbid. Upon a flow-through condition being obtained (i.e., the pit fills with water a flow begins to return to the Russian River at the downstream end), which would occur very infrequently, the pit return flow (and whatever turbidity condition is associated with such flow at the time) would likely be rapidly diluted or overwhelmed by the concurrent flood discharge of the Russian River. Regardless, it should be reiterated that pit connection would occur with very low frequency, and the existing processes and subsequent water quality degradation issues related to turbidity and suspended sediment concentrations on the Russian River occur with far greater frequency.

## **Letter A (DOC - Office of Mine Reclamation)**

### ***Response to Comment A-1:***

The commenter acknowledges their review of the DEIR, summarizes prior project review, and summarizes the project description.

No response required.

### ***Response to Comment A-2:***

The commenter states that the scales on Figures 2-3a, 2-3b, and 2-3c are incorrect and should be revised.

The commenter is correct; the scales on Figures 2-3a, 2-3b, and 2-3c should read 200-feet, not 2000-feet. Revised mining and reclamation plans are included in the Revised Reclamation Plan (December 2009), attached to this Final EIR.

***Response to Comment A-3:***

The commenter states that no advanced design-level documents are provided for either pit capture reclamation option and that the reclamation plan should be revised and re-submitted if an alternative to the weir and fuse plug is proposed.

Comment acknowledged. Since the release of the Draft EIR, a revised reclamation plan for the river-pond connection alternative (Alternative 3) has been prepared by the applicant, dated December 2009, and submitted to the County and OMR. Design-level (engineering) documents will be prepared prior to construction of the project.

***Response to Comment A-4:***

The commenter states that permit requirements that affect reclamation should be incorporated into the mining and reclamation plan prior to its approval.

Comment acknowledged. Conditions of approval (by County and other responsible agencies) will be included in the surface mining permit, and, where appropriate, into the final reclamation plan.

***Response to Comment A-5:***

The commenter states that the DEIR is unclear whether or not a DFG Streambed Alteration Agreement (SAA) will be required for reclamation work and that the reclamation plan should be revised based on any conditions included in a SAA.

It is assumed that an SAA would be required for the floodplain benching component of the proposed project. A revised Alternative 3 has been prepared that would eliminate the floodplain benching. An SAA may be still required for the river-pond connection in Alternative 3. Upon approval of the project alternative by the County, consultation with DFG will proceed. Should any of the conditions imposed by DFG result in design changes to the project, those changes would be incorporated into the reclamation plan.

***Response to Comment A-6:***

The commenter states that the complete reclamation plan is not included in Appendix E of the DEIR.

The commenter is correct in that the complete reclamation plan was omitted from the DEIR appendix. The complete reclamation plan was available for review at the County's Department of Planning and Building Services office. The complete revised reclamation plan, dated December 2009, (Alternative 3 in the DEIR) has been included as part of this FEIR.

**Response to Comment A-7:**

The commenter recommends that the reclamation plan not be finalized or approved until mitigation measures recommended through the CEQA process are approved.

The lead agency has proceeded in that manner: the CEQA process should be concluded prior to preparation of a final reclamation plan in order to incorporate necessary environmental mitigation measures. A revised reclamation plan (December 2009) has been prepared and submitted to the County and OMR by the applicant after the DEIR review period. Any additional changes resulting from the CEQA or permitting process will be incorporated into the reclamation plan.

**Response to Comment A-8:**

Commenter makes a closing statement.

No response required.

**Letter B (Public Utilities Commission)****Response to Comment B-1:**

The commenter details their agency's responsibilities and summarized issues relating to rail corridors.

No response required.

**Response to Comment B-2:**

The commenter states that the project would generate a substantial amount of traffic and notes that the LOS at the North State Street/Kunzler Rand Road intersection already operates at a deficient LOS for the PM peak hour.

Comment reflects information provided on pages 3.2-7 and 3.12-12 of the DEIR; no further response required.

**Response to Comment B-3:**

The commenter states that the DEIR does not address potential safety issues at the Kunzler Ranch Road at-grade railroad crossing. Furthermore, the commenter states that rail service on the currently unused North Coast Railroad Authority (NCRA) line is expected to resume in the near future and that NCRA and the PUC should be contacted in order to determine appropriate protective measures.

The traffic analysis in the DEIR reflects existing conditions (the environmental baseline). As noted, the NCRA line is currently inactive. An active truck operation has existed on the current project site without major impacts to the rail line. As a condition of the crossing easement, the property owner (applicant) will work with the PUC and NCRA should the rail line be returned to active use during the life of the mining operation.

***Response to Comment B-4:***

Commenter makes a closing statement.

No response required.

**Letter C (Mendocino County Farm Bureau)**

***Response to Comment C-1:***

The commenter states that they have taken no position on the proposed project.

This comment will be considered by the Planning Commission in their consideration of the project.

**Letter D (Native American Heritage Commission)**

***Response to Comment D-1:***

The NAHC states that they have reviewed the Notice of Completion (NOC) and then summarizes CEQA & the lead agency's responsibilities as they pertain to historical and archaeological resources.

Comment noted. The methodology used to assess potential cultural impacts is described in Sections 3.5.3 and 3.5.4 of the DEIR.

***Response to Comment D-2:***

The commenter recommends that the appropriate regional archaeological information center be contacted for a records search and that there is a known archaeological site in the area.

The applicant's cultural consultant completed a record search in 2004 (File #04-1046). ESA completed an updated archival record search from the NWIC on November 11, 2008 (File #08-0554). Site CA-MEN-3111H is identified and discussed in Section 3.5.4 of the DEIR.

***Response to Comment D-3:***

The commenter states that if an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey and that this report should be submitted to the planning department and the appropriate regional archaeological information center.

An archaeological survey report was prepared for the project (Flaherty, 2005). The report was submitted to the Northwest Information Center (S-31268) and the planning department. No subsequent archaeological inventory survey has been prepared.

***Response to Comment D-4:***

The commenter recommends that the NAHC be contacted for a sacred lands file check and for a Native Americans contacts list.

ESA prepared a sacred lands file check and received a response from the NAHC on November 13, 2008. Appropriate tribal representatives were contacted, and their responses are detailed in Section 3.5.4 of the DEIR.

***Response to Comment D-5:***

The commenter states that the lack of surface evidence of archaeological resources does not preclude their subsurface existence and that lead agencies should include in their mitigation plan provisions for the identification and evaluation of discovered archaeological resources, native artifacts, and human remains.

Measures described in the comment are included in the DEIR. See Mitigation Measures 3.5.1b and 3.5.2.

**Letter E (Mendocino County Water Agency)**

***Response to Comment E-1:***

Commenter states that the project conforms to the recently adopted County General Plan and that the agency supports Alternative 3 as the environmentally superior alternative.

Comment noted; no further response required.

***Response to Comment E-2:***

The commenter generally states that specific mitigation measures for this project are lacking in detail, particularly the water quality section. The commenter then states that specific comments are to follow.

Comment noted; responses to specific comments can be found below.

***Response to Comment E-3:***

The commenter states that the EIR only includes reporting mechanisms in the case of turtle or bird relocation and that the Mendocino County Water Agency (MCWA) requests copies of all pre-construction surveys for all biological and riparian resources as well as a log of the on-site biological monitoring activities.

Mitigation Measures 3.4.1 and 3.4.2 require preparation of reports for the Department of Fish and Game and/or County review. These reports will be provided to MCWA. Measure 3.4.3 will be revised to include preparation of a monthly monitoring report to the County. Although MCWA is itself a County agency, the mitigation measures have been revised to ensure MCWA will be included in any reports, as well as any other public agency that requests this information. See Chapter 4 for the revised language.

**Response to Comment E-4:**

The commenter states that the EIR does not provide any reporting mechanism to document the number and species of trees removed or replanted and therefore requests that the MCWA receive a copy of the arborist survey and documentation of the vegetation removed and replanted.

The Reclamation Plan has detailed plans for restoration of the project site, including revegetation of 7.2 acres of habitat. This plan also includes performance standards for revegetation that will ensure successful restoration of the riparian areas and other habitats. Chapter 3.4 Mitigation Measure 3.4.5 of the FEIR will be updated to require the arborist survey to be documented in a report which details the number of trees to be removed as well as the trees' species, DBH, and condition. This mitigation measure will also be updated to require that the arborist report and annual monitoring of the revegetation areas will be submitted to MCWA and any other interested parties. See Chapter 4 for the revised language.

**Response to Comment E-5:**

The commenter states that the Russian River is listed as impaired under the Clean Water Act for temperature and sediment and that based on information contained in the EIR, the commenter is surprised that Impact 3.8.1 is considered "less-than-significant." The commenter continues on to say that rather than detailing the special care that will occur during construction, the EIR refers to existing laws such as preparation of a SWPPP and that the project will be operating under the old General Construction Permit standards that are considered old and ineffective; also that the EIR does not discuss the need for any turbidity or temperature monitoring.

Concerning work that may occur or equipment that may need to be operated within the creek bed, the potential impact to water quality and relevant mitigation are addressed in Chapter 3.4 of the DEIR. Beyond this, adherence to the provisions described within the General Construction Permit is considered adequate to protect water quality.

The FEIR will be updated to include reference to Chapter 3.4, Mitigation Measure 3.4.3, as well as to clarify that the statement above is in reference to what would likely occur without adherence to the existing regulatory permit provisions. Please see Chapter 4 of this FEIR for revisions.

**Response to Comment E-6:**

The commenter states that the EIR says that Granite will control erosion in the floodplain area during the first two years of project implementation by hydro seeding although revegetation may take a few years to become established, and then asks the following questions: What measures will be taken if after two years the vegetation hasn't reestablished and hydro seeding has concluded? Is hydro seeding an effective erosion control measure under inundation conditions? How does hydro seeding perform under bankfull shear stress conditions? If hydro seeding proves ineffective under inundation conditions, what is the backup erosion control measure?

As discussed in the DEIR (pages 3.8-24 through 3.8-26), during flood events (i.e., when the widened part of the channel would be inundated) the reach of Ackerman Creek that would include the proposed floodplain bench (i.e., the mouth of the creek) is expected to be a depositional environment.

As evidenced both by hydraulic modeling and observed high water marks recorded by the Federal Emergency Management Agency (FEMA) (SHG, 2007), the water surface slope at high flows through this reach of Ackerman Creek is relatively flat. In part, this is due to the backwater effect caused by the Russian River. In this hydraulic and geomorphic environment, it is more likely that sediment would be deposited on the proposed floodplain bench as opposed to being eroded.

Shear stresses over the floodplain bench would be relatively low under bankfull flow conditions and the erosion control measures proposed by the applicant (e.g., hydro-seeding) would be adequate. For example, during a simulated 10-year flow event, velocities over the bench area ranged from 1 to 3 feet per second (ft/s) with a corresponding shear stress of approximately 0.5 pounds per square foot (psf) (SHG, pers. comm.). This magnitude of shear is below the estimated shear tolerance for such erosion control measures as natural vegetation, grasses, and hydraulic mulches; permissible shear stress values for these types of measures generally range from 0.7 to 2.0 psf (USEPA, 1999; Fischenich, 2001). Hydro-seeding would occur early enough in the growing season to become established. Further, the FEIR will be updated to clarify that the hydro-seeding mix would include a mixture of annual and native perennial species (e.g., creeping wild rye or other deep-rooted species). Please see Chapter 4 of this FEIR for revisions.

Revised Alternative 3 would eliminate the channel widening component of the project.

#### ***Response to Comment E-7:***

The commenter states that the EIR doesn't discuss mined spoils and asks what volume of spoils is anticipated, where will it be stored, how will spoils be protected from erosion, and what is the end use of the spoils material?

As discussed on page 2-7, due to the nature of the mining operation, no "spoil" in the traditional sense would be created. Topsoil and overburden would be limited: it is shown on the mining plan (Figure 2-3), and would be protected by standard erosion control measures (such as hydroseeding). The topsoil and overburden would be used in reclamation of the site per the reclamation plan. Excess topsoil may also be sold and delivered off-site.

#### ***Response to Comment E-8:***

The commenter states that the EIR doesn't discuss the consequences of creating an anoxic zone in the pit or the potential problem of mercury sequestration in the pit; the commenter wants these issues to be examined in the EIR.

Under the existing condition, the groundwater underlying the proposed pit area is likely low in dissolved oxygen content. Creation of a zone whereby the existing dissolved oxygen content of the groundwater is reduced further would depend upon a number of factors, including biological activity, available nutrients, available organic matter, turbidity (i.e., the ability of light to penetrate the water column at depth), groundwater inflow rate, and water temperature; further, these factors would need to be considered in balance with the likely increase in dissolved oxygen content in the upper part of the pit upon exposure of the water through excavation. Such an occurrence (i.e., a decrease in dissolved oxygen content) would likely be localized and limited to the pit itself given the continuous

dilution by the inflow of groundwater and the fact that, when dissolved oxygen levels would likely be lowest (i.e., during the summer and fall), dilution would also be provided by surface water from the Russian River and Ackerman Creek (i.e., the pit water surface elevation would be below the water surface elevation of these channels). There would be no potential impact beyond the extent of the proposed pit.

See also responses to comments H-5, H-7, and Master Response #1.

***Response to Comment E-9:***

The commenter recommends that construction and post-construction turbidity monitoring be required and that the MCWA be consulted prior to discontinuing turbidity monitoring.

Turbidity impacts for the proposed project were found to be less than significant. Under both the General Construction Permit and the General Industrial Permit, standard best management practices (BMPs) and measures would be required as part of project construction and operation activities.

Revised Alternative 3 would eliminate the floodplain benching component of the project.

See also response to comment E-6.

***Response to Comment E-10:***

The commenter recommends establishing a monitoring program in consultation with NOAA Fisheries, DFG, RWQCB and MCWA that is designed to detect if desired habitat and geomorphic changes are occurring.

Recommendation noted. No additional monitoring beyond Mitigation Measure 3.4.3 is required. Please note that the revised Alternative 3 would eliminate the floodplain benching and avoid geomorphic changes to Ackerman Creek and the Russian River.

***Response to Comment E-11:***

The commenter concludes by summarizing the comments noted above.

Comment noted; see responses above, no further response required.

**Letter F (Tony Linegar - Mendocino County Agricultural Commissioner)**

***Response to Comment F-1:***

The commenter states that potential impacts to agriculture from the project are negative and that the Class 1 & 2 soils on the site are excellent for agriculture. The commenter expresses concern about taking prime farmland out of production forever.

The DEIR determined that the impact to prime agricultural land is significant and unavoidable. Impact 3.2.1 on page 3.2-9 of the DEIR discusses the permanent conversion of agricultural land

on the project site. Should the project be approved, the County would be required to make a Statement of Overriding Consideration for this impact, per the requirements of CEQA.

***Response to Comment F-2:***

The commenter expresses concern about the effect of the project on water resources. The commenter states that farmers in the area rely on wells and underflow from the river to irrigate and frost protect their crops and that the impact of the project on the aquifer is uncertain. The commenter also states that there is no guarantee that the underflow of the river and the wells in the area won't be negatively impacted.

The DEIR included a detailed discussion and analyses concerning the potential impacts to groundwater resources (see pages 3.8-27 through 3.8-35). Based on the best available data and information, the analyses conducted for the EIR determined that the potential impacts to water resources, including groundwater, would be less than significant (see the discussion and analysis for Impacts 3.8.3, 3.8.4 and 3.8.5).

***Response to Comment F-3:***

The commenter states that they think the project is well designed and that the applicant has gone out of their way to lessen impacts, however, they cannot support the project due to the net negative loss of agriculture.

All comments regarding the net benefit of the project will be considered by the Planning Commission in their deliberations on the project.

**Letter G (Pinoleville Pomo Nation)**

***Response to Comment G-1:***

The commenter claims standing to comment on the project based on the fact that the project site is within one mile of the PPN reservation and that they have been approved by the U.S. National Park Service to review projects and make recommendations.

The commenter was contacted by the County's consultant during the preparation of the DEIR. Their standing to comment on the DEIR is acknowledged.

***Response to Comment G-2:***

The commenter states that they are concerned about the project because the area is in a sensitive area of known village sites and that the village of *c̄ȳō'ł* is nearby. The commenter states that *c̄ȳō'ł* could help us understand changes in diet, health, social life, arts, livelihoods, settlement patterns, and trade routes during colonization.

The base maps at the Northwest Information Center of the California Historical Resources Information System do not include the location of the village of *c̄ȳō'ł*. However, additional research was conducted and new text has been added that includes a discussion of this village site (see text

changes). The village of *c̄ȳō'ʹl* is located outside the project area. The DEIR recognizes the general sensitivity of the vicinity for archaeological resources.

### ***Response to Comment G-3:***

The commenter states that important archaeological and ethnographic resources are likely to be found on the project area due to its proximity to Ackerman Creek and the Russian River.

Two meetings were held between the Mendocino Planning Department, the Mendocino County Archaeological Commission, the PPN, and the project applicant regarding expressed concerns about the potential for cultural resources in the project area, especially the potential for deeply buried archaeological resources. The adequacy of previous investigations as well as the potential need for additional investigations regarding subsurface archaeological deposits was discussed. The surface survey did not locate archaeological materials within the project area; however the report generated from that survey did not address the village of *c̄ȳō'ʹl* or the prehistoric archaeological site CA-MEN-3115 (Flaherty, 2005; see text changes in Response to Comment G-2 above).

Ground disturbances from vineyard planting in the late 1990s included ripping the ground crosswise with large Caterpillar tractors to approximately 3-feet deep. Shallow subsurface deposits would therefore have been brought to the surface during this activity; however archaeological materials below 3 feet would not have been disturbed by this activity. See Response to Comment G-4 below.

### ***Response to Comment G-4:***

The commenter states that the area has been subject to deposition and erosion that makes predicting where archeological materials may be found difficult especially because the historical confluence may not map the same as today's confluence.

At the request of the PPN, a peer review and additional archaeological assessment was completed by PPN archaeological subconsultant Michael Newland of the Anthropological Studies Center at Sonoma State University. Mr. Newland reviewed the previous archaeological investigation and drill log core profiles prepared by the applicant and used by SHN Consulting Engineers and Geologists Inc. in their geotechnical report of the project. Mr. Newland concluded that the proximity of the site to archeological site CA-MEN-3115 and the presence of organic clay layers in the subsurface warrant additional investigation into the possibility of buried cultural materials.

Mr. Newland recommended additional subsurface exploration in the vicinity of cores 1, 7, and 8 to determine whether the clay layers represent a buried stable landform. In addition, Mr. Newland recommended archaeological monitoring at 30–35 feet in depth, where cores 6 and 7 indicate the presence of an organic clay layer. Finally, he recommended avoidance of a substantial buried organic clay layer, which extends across most of the project area at a depth of 57 to 82 feet, unless C14 samples dates the layer to be older than the period of early human occupation (more than 16,000 years old).

In general, organic clay layers can be deposited in any active river system under many circumstances, and may be preserved in the geological record without implicating a stable landform or paleosol. Paleosols are subsurface features that indicate an ancient ground surface that was exposed long enough to develop topsoil. As such, Paleosols within Holocene and latest Pleistocene sediment may have been occupied by native peoples and are thus considered sensitive for buried cultural materials. Paleosols are typically laterally continuous within the subsurface, and are identified by a layer of highly organic peat, humus or other detritus; caliche; and/or buried soil horizons (e.g. O-, A-, B-horizons).

For the reasons above, the organic clay layers cited by Mr. Newland do not provide sufficient evidence supporting the presence of a buried stable landform. In addition, the available information does not suggest paleosols younger than 16,000 years are present at depth. Each of Mr. Newlands recommendations are discussed below:

- **Near-surface organic clay-layers in the vicinity of cores 1, 7, and 8:** Generally, the potential for buried cultural material decreases with depth, and may be more likely in low-energy deposits (such as silt or clay). On March 8, 2010, ESA conducted additional subsurface investigation in the project area to determine whether archeological materials exist at depth, and to identify any paleosols, if present. Representatives from Mendocino County and the PPN Tribal Historic Preservation Officer were present during the investigation. The investigation concluded that there were no cultural materials or paleosols present within the depths excavated (approximately 8 feet) (ESA, 2010). As previously indicated, the presence of a paleosol would be laterally continuous, and would be obvious in the field. The potential for buried archeological materials in the area is thus low.
- **Archaeological monitoring at 30–35 feet in depth, where cores 6 and 7 indicate the presence of an organic clay layer:** As indicated earlier, the presence of organic clay layers does not necessarily implicate a stable landform. In addition, the organic clay in cores 6 and 7 are thin and isolated, and are not continuous across the site. Finally, the deepest buried archeological site in the southern North Coast Ranges is at a depth of 2.5 meters (about 7.5 feet), and the depth of this clay layer is over four times deeper (Meyer and Rosenthal, 2007). Therefore, the potential for these layers to represent a previously stable landform is low.
- **Substantial buried organic clay layer, which extends across most of the project area at a depth of 57 to 82 feet:** Although this clay layers is largely continuous across all the core logs, it is too deep and too old to contain buried archeological materials and does not necessarily contain a paleosol. Groundwater investigations which used the same data tied this layer to Plio-Pleistocene continental deposits (LSCE, 2008). Thus, this layer predates the oldest archeological site ever discovered in the northern Coast Ranges (Meyer and Rosenthal, 2007).

The available evidence indicates the potential to yield subsurface cultural materials at the site is low, and it is not expected that subsurface excavations would yield cultural material. Thus, unanticipated discovery measures (Mitigation Measure 3.5-1c), as described on page 3.5-13 of the Draft EIR, are adequate to mitigate the potential impact.

**Response to Comment G-5:**

The commenter states that the surface investigations conducted to date are inadequate given the sensitivity of the area and uncertainty of where materials may be and subsurface investigations should be required.

Comment noted. See the responses to Comments G-3 and G-4.

**Response to Comment G-6:**

The commenter recommends that no action be taken until a peer review of the archaeological investigation can be conducted and notes an expert that may be willing to participate.

Comment noted. Following consultation with PPN, an outside review of previous archaeological investigation and a subsurface archaeological investigation in the project area have been conducted. See the responses to Comments G-3 and G-4.

**Response to Comment G-7:**

The commenter recommends that a subsurface investigation be conducted prior to project approval and recommends someone capable of doing the investigation.

Comment noted. See the responses to Comments G-3 and G-4.

**Response to Comment G-8:**

The commenter recommends that any staging areas be included in the subsurface investigation to assure that movements of waterways (and their confluence) prior to engineering are accounted for.

Comment noted. Staging areas are included in the project area.

**Response to Comment G-9:**

The commenter recommends that a subsurface investigation and an archival review be conducted for the *c̄iyō'ł* village site to determine its historical role, geographic extent and potential influence over the project area.

The village of *c̄iyō'ł* is documented outside of the project area. The lead agency does not have the authority to require an off-site investigation unless it can be reasonably shown that the proposed project would adversely affect the off-site resource.

**Response to Comment G-10:**

The commenter recommends that should the project be approved without a discreet feature having been found during preliminary investigations, that a Native American cultural monitor from the PPN and/or other area tribes be present at key points during excavation. The commenter also recommends that the monitoring schedule be worked out through consultation with the PPN's Tribal

Historic Preservation Officer, the County's Archaeological Commission, and any consulting archaeologists.

Mitigation Measure 3.5.1b specifies that a monitoring plan be prepared, in conjunction with local Native American representatives. The PPN will be consulted by the County, per this comment. See text changes to Mitigation Measure 3.5.1b that addresses additional geological and cultural information.

***Response to Comment G-11:***

The commenter recommends that the PPN Tribal Historic Preservation Officer be included in any planning or mitigation discussion related to cultural and archaeological resources associated with the project.

Comment noted. See the response to Comment G-10.

***Response to Comment G-12:***

The commenter asks that their office be contacted to discuss their recommendations and states that they are anxious to work in order to protect important cultural resources from any damage or loss.

Comment noted. See the response to Comment G-10.

**Letter H (NOAA)**

***Response to Comment H-1:***

The commenter gives thanks for the opportunity to comment on the DEIR and states that they have been working with the applicant for over two years to develop the project to minimize impacts to salmonids.

Comment noted; no further response required.

***Response to Comment H-2:***

The commenter gives a brief description of the proposed project.

No response required.

***Response to Comment H-3:***

The commenter thanks the applicant for working cooperatively to minimize impacts to salmonids and notes that Alternative 3 includes specific actions to minimize stranding of salmonids and provide low velocity winter rearing habitat. The commenter recommends that large wood elements of engineered log jams be incorporated into the design to insure the suitability of the low velocity winter refuge areas.

We agree with the commenter that incorporation of wood structures would increase habitat suitability for salmonids in the reclaimed pit. Implementation of this measure is encouraged, but is not required as it does not directly relate to the reduction or avoidance of a significant impact.

***Response to Comment H-4:***

The commenter notes that the project proposed to provide a connection between the pond and the Russian River during winter high flow events. The commenter is concerned that pit mine depths will result in standing groundwater depths greater than 35 feet which will create conditions detrimental to any salmonids that become trapped in the ponds. The commenter goes on to explain why depths greater than 35 feet create conditions that prevent suitable habitat for salmonids.

See responses to comments H-5 and H-7, below. See also Master Response A.

***Response to Comment H-5:***

The commenter states that they believe the pond has the potential to be used as productive off-channel rearing habitat after reclamation but that it will be important that the reclaimed ponds do not result in anaerobic conditions. Furthermore, the commenter states that the precise depths of the reclaimed ponds will need to be determined based on site specific conditions.

We agree with the commenter that further site-specific information regarding final water depths and concomitant water quality effects will need to be determined. While the commenter notes that depths greater than 35 feet have been shown to result in stratification, anoxia, and mercury methylation in other pits, it is unclear whether such effects would occur at the proposed project. Site reclamation pursuant to Alternative 3 is expected to result in benefits to listed salmonid species, but it is currently unclear whether or not those benefits may be outweighed by adverse water quality and/or non-native predator issues. However, the mining phase of proposed project would extend for approximately 20 years. This period would allow the applicant, in consultation with NMFS and CDFG, to conduct site-specific assessments of water depths and water quality conditions prior to the implementation of the reclamation plan. See Response to Comment H-7, below.

***Response to Comment H-6:***

The commenter gives a list of off-channel habitat attributes that contribute to salmonid productivity in reclaimed mining ponds.

We agree with the commenter that the listed off-channel habitat attributes would increase habitat suitability for salmonids. Implementation of these measures is encouraged, but is not required as it does not directly relate to the reduction or avoidance of a significant impact. See Response to Comment H-7, below.

***Response to Comment H-7:***

The commenter notes that some of the attributes they listed have been incorporated into Alternative 3, however they request that the attributes be incorporated into the preferred alternative which would

require either reducing the initial depth of excavation or stockpiling sufficient overburden material to place into the pond during reclamation to achieve suitable depths.

We agree with the commenter that Granite should maintain the ability to adaptively manage the final pit depth for reclamation based on expected water quality conditions. The commenter raises concerns regarding anoxic conditions below 35 feet. It is estimated that the groundwater level varies between 15 feet (spring conditions) and 25 feet (fall conditions) (see page 3.8-10 of the DEIR). This would equate to a pit depth of 50 feet (compared to the proposed pit depth of 65 feet). Therefore, based on Comments H-3 through H-7, Mitigation Measure 3.4.4 of the Draft EIR has been revised as follows:

**Measure 3.4.4:** The following measures will avoid or minimize potential mining-related impacts to special-status salmonids present in the vicinity of project site.

#### **Mining Phase**

For the duration of the estimated 20-year mining phase of the proposed project, Granite shall develop and implement a salmonid rescue and relocation program in consultation with NMFS and CDFG. The program shall be implemented subsequent to overtopping events. Mining activities shall be halted until salmonid rescues have been completed. This measure will minimize entrapment of salmonids in the pit to greatest extent feasible.

#### **Reclamation Phase**

~~Option A. Prior to completion of reclamation, Granite shall, in coordination with NMFS and CDFG, evaluate the results of the biological feasibility, and design and construct an alternative reclamation design consistent with the extended hydrologic connection concept discussed above during the 5 year reclamation phase (see also Chapter 4, Project Alternatives). If, during coordination with NMFS and CDFG, regulatory agency staff determine that the potential adverse water quality within the pit would outweigh the expected benefits to salmonid habitat, Granite shall not implement this mitigation measure. The applicant shall implement the river-pond connection described in Alternative 3 of the EIR; or~~

Option B. Granite shall maintain a salmonid rescue and relocation program in consultation with NMFS and CDFG until it is determined by those agencies that such a program is no longer necessary.

Consistent with the revised mitigation above, additional measures are added to Alternative 3 (page 4-12 of the DEIR):

#### **Measure 3.4.4-ALT 3:**

The applicant shall implement one of the following options:

(a) Limit the reclaimed depth of the pit to 50 feet or less (below existing surface grade); or

(b) Prior to reclamation an assessment of water quality conditions throughout the year shall be performed to determine if anoxic conditions occur at depths greater than 50 feet. Depending on the findings of the water quality assessment, Granite will either limit the

final pit depth to 35 feet below groundwater (50 feet below surface grade) or a greater depth if supported by the findings of the study, in consultation with NOAA.

Response to Comment H-8:

The commenter states that they are committed to working with the applicant to develop a plan that meets project alternatives and minimizes impacts to salmonids. The commenter believes that a well designed project incorporating their recommendations can restore and recreate floodplain and off-channel habitats for salmonids.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

***Response to Comment H-9:***

The commenter makes a closing statement.

No response required.

**Letter I (City of Ukiah)**

***Response to Comment I-1:***

The commenter gives thanks for the opportunity to comment on the DEIR and notes that they have reviewed the document.

Comment noted; no further response required.

***Response to Comment I-2:***

The commenter asks how much of the project site is located within the 100-year floodplain and states that any part of the site within the floodplain should be shown on a map.

The 100-year floodplain, with the project site outlined, is shown on Figure 3.8-4. The proposed mining pits are within the floodplain, while the processing plant would be located outside of the floodplain. Flooding impacts have been considered in the project design and in the analysis of this EIR.

***Response to Comment I-3:***

The commenter states that the City's Ranney Collector should be shown on Figure 3.8-12.

The Ranney Collector referred to by the commenter is not within the area shown on Figure 3.8-5 of the DEIR. The proposed project would not significantly increase erosion or turbidity (see DEIR Chapter 3.8 and Master Response #2, above) and would not have an impact upon the City of Ukiah's Ranney Collector. It is therefore not necessary to depict the location of this facility on a figure in the DEIR.

**Response to Comment I-4:**

The commenter asks why a previous groundwater well study didn't include an analysis for Volatile Organic Compounds (VOC's). The commenter notes that the City's primary water source is located 1-mile downstream and that they are concerned about existing VOC content in the wells as well as the potential for added VOC's from the proposed project. The commenter states that the EIR should generate additional technical information about VOC's and other pollutants on the site.

It is inconsequential for purposes of the EIR as to why the previous groundwater study (LSCE, 2006) did not include an analysis of VOCs. The particular constituent set to be sampled depends on the specific purpose and objective of the study.

Recent sampling efforts related to development of the project site (e.g., re-sampling of Phase I and II investigations) did not detect any petroleum hydrocarbons in project site groundwater and the North Coast Regional Water Quality Control Board has concurred that no further action is required at this site concerning this issue. Further, the Spill Prevention, Control, and Countermeasure Plan (SPCCP) developed as part of the project (see Section 3.7, "Hazards and Hazardous Materials," of the DEIR), as well as Mitigation Measure 3.8.2, are adequate to ensure that implementation and operation of the project does not significantly impact groundwater with respect to the potential presence of VOCs.

**Response to Comment I-5:**

The commenter recommends that the revegetation program use mixed *native* riparian vegetation as opposed to just mixed riparian vegetation.

The reclamation plan revegetation language specifies use of native plants, in conformance with SMARA. In addition, Mitigation Measure 3.4.5 is revised to reflect this (see Chapter 4 of this FEIR for the complete Mitigation Measure):

**Measure 3.4.5:** The following measures will avoid or minimize potential construction-related impacts to riparian habitat:

3. To ensure that there is no net loss of riparian habitat, Granite shall create or restore riparian habitat that is of a like function and value to the habitats lost. This mitigation shall include compensation for the loss of 1.7 acres of riparian habitat. This mitigation shall include the planting of 2.7 acres of floodplain/mixed native riparian, 1.3 acres of mixed native riparian, and 1.5 acres of oak woodland...

Also note that Alternative 3 has been revised to remove the floodplain benching component, which would substantially eliminate removal of existing riparian vegetation.

**Response to Comment I-6:**

The commenter agrees with the potentially significant impact resulting from wet mining and is concerned about inadvertent releases of substances migrating and infiltrating Ukiah's primary water supply 1-mile downstream.

The SPCCP would address the inadvertent release of petroleum and other hazardous materials and, together with Mitigation Measure 3.8.2, would set forth all necessary requirements and measures needed to prevent and control the spill or leakage of oil and gas products.

***Response to Comment I-7:***

The commenter states that there is no technical information or explanation as to how the conclusion that a majority of inadvertent spills to the surface would be absorbed into surface soils and not represent a threat to the environment was made (Impact 3.8.2).

This statement is simply saying that most of the inadvertent, small-quantity spills would not represent a potentially significant impact. That is not to say that such spills are exempt from the clean-up protocols that would be outlined in the SPCCP (i.e., the SPCCP would still be implemented and followed). Hydrocarbons such as fuels and lubricants are not water soluble and, in small quantities, once absorbed into surface soils they are not easily mobilized.

***Response to Comment I-8:***

The commenter states that the mitigation measure for Impact 3.8.2 falls short in addressing inadvertent spills. The commenter has concluded that this impact will remain significant unless the mitigation measure is expanded to include procedures to minimize the threat of spills from equipment. Procedures recommended include routine equipment maintenance, reporting of maintenance, and procedures to stop work and clean up spills.

The SPCCP (including the incorporation of Mitigation Measure 3.8.2) is considered adequate for addressing inadvertent spills and reducing the potential water quality impacts stemming from spills or leaks of petroleum hydrocarbons to a less-than-significant level.

***Response to Comment I-9:***

The City recommends the installation of groundwater recharge fields to replace the on-going loss of 30 acre feet/year of groundwater.

There would be no change in the net groundwater balance as a result of the proposed project and, therefore, this potential impact would be less than significant. As such, the commenter's recommendation is not necessary.

***Response to Comment I-10:***

The commenter states that the discussion of Impact 3.8.5 should be expanded to include an analysis of chemical contamination draining into the pit and should be based on technical information.

Potential water quality impacts related to contamination from petroleum hydrocarbons is discussed in Impact 3.8.2 (pages 3.8-26 and 3.8-27). The SPCCP would address the inadvertent release of petroleum and hazardous materials and, together with Mitigation Measure 3.8.2, would set forth

all necessary requirements and measures needed to prevent and control the spill or leakage of oil and gas products.

***Response to Comment I-11:***

The commenter states that the discussion on page 3.8-33 should be expanded to address potentially significant turbidity impacts to Ukiah's Ranney Collector and that feasible mitigation measures should be identified for any significant impacts.

The discussion cited by the commenter (on pages 3.8-31 through 3.8-34) concludes that nearby groundwater wells would not be impacted by turbidity because 1) fine particles have ample time to settle-out within the pit, 2) the alluvial materials surrounding the pit would further filter any suspended sediments, and 3) the nearby well screens are situated below the relatively impermeable clay layer. The commenter has overlooked and/or neglected to reference the first two points (above). Because fine particles would generally settle-out within the pit and be filtered by the surrounding alluvial material, and because the larger regional aquifer, as well as infiltration of river surface flow, would result in substantial dilution of groundwater that comes into contact with the pit area, there would be no turbidity impacts at a point as far as one mile away (i.e., at the City's Ranney Collector).

***Response to Comment I-12:***

The commenter states that there is no explanation as to how the assumption that subsurface inflow (recharge) and precipitation are null and requests that a statement be added to explain the assumption and conclusion.

The assumption of no subsurface inflow or precipitation is used in order to produce a conservative estimate with respect to the effect that pit evaporation may have upon total dissolved solids (TDS) concentrations (i.e., the calculation is assuming no dilution from groundwater, surface water, or precipitation). In other words, the TDS estimate presented should be considered a "high-end" estimate. Further, as stated on page 3.8-28 of the DEIR, based upon the long-term consistency in regional groundwater levels summarized in previous work (LSCE, 2006; DWR, 2004), subsurface inflow to the pit is assumed to equal outflow. As such, the assumption of no net input (i.e., no subsurface inflow) is not only conservative but valid. Further, the TDS calculation was made for the average dry-season volume of the pit, a time of year during which there is typically no rainfall. Therefore, the assumption of no precipitation input is not only conservative but valid.

***Response to Comment I-13:***

The commenter makes a closing statement.

No further response required.

## **Letter J (County of Mendocino Department of Transportation)**

### ***Response to Comment J-1:***

The commenter states that they addressed the Planning Commission at the public hearing for the project and that they have further comments.

Comment noted; no further response required.

### ***Response to Comment J-2:***

The commenter states that the final draft needs to clarify that Kunzler Ranch Road is not a County maintained road and that arriving at a cost sharing agreement is the responsibility of the applicant and those property owners having rights to its use.

The commenter is correct that Kunzler Ranch Road is a private road; see Chapter 4 of this FEIR for clarification.

### ***Response to Comment J-3:***

The commenter states that roundabouts should be included as an alternative mitigation measure at all intersections where potential traffic impacts might justify signals now or in the future and that the applicant's fair share costs need to be stated as well as the reasons behind them. The commenter states that ongoing maintenance requirements of signals are a reason why roundabouts are an attractive alternative.

In some cases roundabouts may serve as a viable alternative to signalization as mitigation for a significantly impacted intersection. The choice of a roundabout rather than a signal is dependant on a number of factors chief among them being adequate right-of-way, travel speed requirements and peak hour capacity demand. The project traffic analysis conducted for the DEIR Traffic section represents a planning level approach and therefore reflects mitigation measures that are thought to be reasonably feasible. The data necessary to analyze the use of roundabouts as mitigation was not available and therefore not considered in the analysis of project traffic impacts. It is noted that a number of the project study unsignalized intersections that meet signalization warrants may be candidates for roundabouts. Further study would be required to make that determination. Mitigation Measures 3.12.1, 3.12.2 and 3.12.3 are revised to clarify that roundabouts could be considered on a case by case basis. See Chapter 4 of this FEIR for revised text.

### ***Response to Comment J-4:***

The commenter reiterates that Kunzler Ranch Road is a private road and recommends revising Mitigation Measure 3.12.4. to read: Consistent with Civil Code Section 845, in the absence of a road maintenance agreement, Granite shall be required to pay its fair share of the cost and expense incurred for traffic-related repairs of Kunzler Ranch Road. Traffic-related repairs on Kunzler Ranch Road shall be initiated when the owners of the road and users of the easement reach a decision that such repairs are necessary. Granite's fair share shall be calculated based on the proportion of Granite's heavy truck trips to the total number of heavy truck trips on the road that year.

Mitigation Measure 3.12.4 is revised as follows:

**Mitigation Measure 3.12.4.** Traffic-related repairs on Kunzler Ranch Road shall be initiated when the owners of the road and users of the easement reach a decision that such repairs are necessary. Granite's fair share shall be calculated based on the proportion of applicant's heavy truck trips to the total number of heavy truck trips on the road that year. Consistent with Civil Code Section 845, in the absence of a road maintenance agreement, applicant shall be required to pay its fair share of the cost and expense incurred for traffic-related repairs of Kunzler Ranch Road.

~~The applicant shall improve Kunzler Ranch Road as needed (e.g., overlays or reconstruction) per the April 28, 2009 Kunzler Ranch Road study and the Caltrans Design Manual standards.~~

~~Prior to operations the project applicant shall enter into a *Roadway Maintenance Agreement* with Mendocino County providing their proportionate share of the responsibility to maintain the proposed haul roads.~~

#### **Response to Comment J-5:**

The commenter believes that increased truck traffic generated by the project will not have a significant effect on County maintained roads and therefore no road maintenance agreement with the County is required.

Mitigation Measure 3.12.4 is revised to reflect this comment. See response to comment J-4, above.

#### **Response to Comment J-6:**

Regarding Mitigation Measure 3.12.2b: #6, the commenter recommends that Alternative A require all outbound haul trucks to turn right onto North State Street during all hours of operation rather than just the PM peak hour until a roundabout or traffic signal is installed at the intersection.

A right-hand turn restriction during the peak traffic hours is one possible method to mitigate traffic impacts at Kunzler Ranch Road and North State Street. If, in the future, safety issues at this intersection become a concern, the County could require right-hand restrictions at additional times.

#### **Response to Comment J-7:**

The commenter states that in general they support the development of new aggregate sources within the County, however, per County policy they cannot advocate for specific projects and notes that they enclosed a paper prepared by Caltrans detailing aggregate supply and economic impacts.

All comments will be considered by the Planning Commission in their deliberations on the project. The attached paper from Caltrans, dated March 2008, identifies state-wide economic benefits related to the availability of local aggregate sources.

***Response to Comment J-8:***

The commenter makes a closing statement.

No further response required.

**Letter K (Millview County Water District)**

***Response to Comment K-1:***

The commenter states that they are currently in negotiations with Masonite and DDR for the acquisition of Masonite well #6 for use as a public water supply. Furthermore, the commenter states that they have received preliminary approval from the Department of Health Services to use the well only requiring chlorine for treatment.

Comment noted; no further response required.

***Response to Comment K-2:***

The commenter states the DEIR indicates there are no anticipated impacts to the water quality of well #6 due to a continuous clay layer and asks what is the location and number of borings that demonstrates a continuous clay layer exists and extends from the excavation site to well #6.

The lithologic sequence underlying the project site was determined by a previous subsurface investigation and drilling program, as well as from review of existing well drillers reports (including one for well 6). This information, including the location of wells and borings used in the investigation, is summarized in the hydrogeology report (LSCE, 2006) prepared for the project site and submitted as part of Granite's permit application package. This report is referenced in the DEIR as a source of information regarding the hydrogeology of the project site.

***Response to Comment K-3:***

The commenter states that the City of Ukiah drilled several deep ground water wells believed to be pumping from the same aquifer as the Masonite well and asks if a hydrologic investigation has been completed that proves or disproves the belief that the Masonite well and the City's new ground water wells are hydraulically connected and drawing from the same aquifer.

It is unknown whether or not a hydrologic investigation has been initiated or completed with respect to the hydraulic connectivity of the Masonite well and the City's new groundwater wells. However, with respect to the DEIR and the analysis of the proposed project, such an investigation is not necessary.

***Response to Comment K-4:***

The commenter asks if excavation of the pit breaches the clay layer or operation of the mine facility degrades or contaminates the water of the aquifer from which well #6 pumps, how does the applicant propose to mitigate the effects on water quality and loss of the aquifer? Also, how would this impact the City's ground water supply and their ability to serve customers?

The project proposes only to mine aggregate (sand and gravel) from the upper aquifer materials (i.e., from above the clay layer) and would not breach the clay layer. The clay layer ranges in thickness from 3 to 21 feet at the project site (LSCE, 2006) and it would be obvious if this layer is encountered. The DEIR examined the potential impacts of the project upon groundwater quality and determined that the impacts would be less than significant (see pages 3.8-29 through 3.8-35); other than measures included in the DEIR, no additional mitigation is necessary concerning potential impacts upon water quality.

***Response to Comment K-5:***

The commenter says the DEIR states that there has been no flooding within the upper main stem of the Russian River since completion of the Coyote Dam, however the commenter states that in December 2007 the Russian River over flowed its banks in several locations. The commenter sites several instances of flooding in the area and asks what are the effects of diverting water of displacing floodwaters around the project site? The commenter also asks if there will be a bypass constructed to divert floodwaters to minimize damage to adjacent properties.

Contrary to the commenter's assertion, the DEIR does not claim that there has been no flooding within the upper main stem of the Russian River since the completion of Coyote Dam. The anecdotal information concerning past flood events is noted.

During floods (i.e., approximately the 20-year event and larger), water would not be diverted or displaced around or by the embankments (i.e., flow would not be constricted by the embankments as is sometimes the case in this type of situation), but rather flood flows would be diverted into the pit by means of the proposed weir and fuse-plug design. Thereby, concerns over flood flows being concentrated, or flood elevations being raised on adjacent properties, are alleviated. The potential flooding impacts were examined through modeling completed by Swanson Hydrology and Geomorphology (SHG) (2007) and summarized and discussed in the DEIR (see page 3.8-38).

***Response to Comment K-6:***

The commenter states that during large storm events and high river flows large plumes of muddy water originating from Granite's existing site on Redemeyer Road have been observed flowing down stream and asks how will Granite ensure such events do not occur at the proposed excavation site?

The physical setting and design of the Redemeyer Road site are different from those at, and proposed for, the Kunzler site.

See also Master Response #2.

***Response to Comment K-7:***

The commenter makes a closing statement.

No response required.

## **Letter L (Mendocino County Health and Human Services Agency)**

### ***Response to Comment L-1:***

The commenter gives thanks for the opportunity to comment on the project.

No response required.

### ***Response to Comment L-2:***

The commenter states that noise compatibility guidelines established in the County General Plan are expressed in a 24 hour day and night A-weighted noise exposure level (Ldn) and that the projected future noise levels of the project need to be calculated for Ldn.

The noise impact analysis used Leq to assess the levels of noise. Leq, or the “equivalent sound level,” is used to describe noise over a specified period of time, typically one hour. Ldn, the 24-hour day and night A-weighted noise exposure level, adds a 10 dBA penalty to noise sources occurring between 10 PM and 7 AM to account for the greater annoyance of nighttime noises (see page 3.10-3 of the DEIR). The proposed typical hours of operation for the project are 5 AM to 5 PM, so there would be two hours that would be penalized. Based on the analysis of Impact 3.10.1, this would not change the significance of potential operational noise impacts. For traffic noise, Impact 3.10.2, it is noted that where the primary noise source is traffic-related, Leq is roughly equivalent to Ldn (Caltrans, 1998).

### ***Response to Comment L-3:***

The commenter states that there is no record for the existing septic system and that the system will need to be evaluated to determine compliance with existing regulations if planned for use.

A condition of approval will be added to the project, requiring an evaluation of the existing septic system be prepared and submitted to the Health and Human Services Agency. The lack of record for the system does not constitute a new environmental impact, and does not change the findings of the DEIR.

## **Letter M (California Department of Transportation)**

### ***Response to Comment M-1:***

The commenter gives thanks for the opportunity to comment on the DEIR and gives a short description of the project.

Comment noted; no further response required.

### ***Response to Comment M-2:***

The commenter states that the use of County standards for State facilities is inappropriate and State facilities that are projected to operate below LOS C/D as a result of project generated traffic will be responsible for their fair share of traffic mitigation.

The traffic analysis section recognizes the Caltrans required measures of effectiveness (MOE's) criteria for signalized intersections as a target level of service (LOS) between LOS C and LOS D. The traffic analysis evaluates peak hour operations at 13 intersections of which six are Caltrans facilities. The Caltrans intersections include:

2. West Lake Mendocino Drive / Southbound U.S 101 Ramps
3. West Lake Mendocino Drive / Northbound U.S 101 Ramps
8. North State Street / Northbound U.S. 101 Ramps
9. North State Street / Southbound U.S. 101 Ramps
12. Talmage Road / Northbound U.S. 101 Ramps
13. Talmage Road / Southbound U.S. 101 Ramps

Under the existing plus project, short-range (2015) and long-range (2030) cumulative conditions intersection analysis all project impacts are identified that would exceed Caltrans standards and in all cases it is noted that where appropriate the project would be responsible for their fair share of traffic mitigation.

The draft background study, *Kunzler Terrace Mine Project, Transportation Study*-May 2009, prepared for the County of Mendocino, (page 1-5) states that “*Mitigation measures would be required where appropriate LOS standards are not met based on the applicable Mendocino County and Caltrans thresholds.*”

### **Response to Comment M-3:**

The commenter states that Alternative B would limit the number of left-turns onto North State Street/Route 101 ramp intersections and that they anticipate that this will require signal coordination at North State Street with Ford Road, Kuki Lane and the Route 101 ramp intersections. Also, the commenter state that in order to adequately assess both the operation and effective mitigation of this segment of North State Street, a micro-simulation analysis will be needed.

Alternative B was analyzed at the request of the project sponsors. The background transportation study found that this would not likely be an effective alternative route. The report (page 4-29) states, “This alternative would require authorization to use private right-of-way for haul trucks and would require roadway surveys prior to use to insure that the existing facilities design (pavement type and thickness) and its current condition were adequate to accommodate heavy vehicles. Pending roadway survey results the proposed South Truck Route roads may require repaving and structural rehabilitation in places prior to use by heavy vehicles.

It is noted that the North State Street Interchange has been found to experience a higher than average (statewide) rate of vehicle collisions (particularly at the northbound ramps). Introduction of heavy trucks to this interchange would likely heighten the potential for collisions. Both North State Street / U.S. 101 ramp intersections are forecast to experience worsening levels of congestion under the near-term and future cumulative conditions and would require extensive improvements (documented in this report) in order to operate at acceptable service levels.”

Should this Alternative be considered for future project truck routing a number of additional engineering and operational studies would be required including a micro-simulation analysis of the North State Street segment.

**Response to Comment M-4:**

The commenter agrees that a fair share fee toward improvements should be assessed to the applicant. The commenter also notes that the Ukiah Valley Area Plan Transportation Impact Fee Nexus Study has not yet been adopted, therefore, the commenter requests to coordinate with the County and the applicant in the establishment of fair share traffic mitigation funds.

Comment noted. Caltrans would coordinate with the County and the project sponsor in the establishment of fair share traffic mitigation funds.

**Response to Comment M-5:**

The commenter states that the Transportation Study implies warrants are met after examining only one of the eight warrant criteria.

The draft transportation study, *Kunzler Terrace Mine Project, Transportation Study-May 2009*, prepared for the County of Mendocino, (page 1-5) states that, “In order to determine the need for traffic controls such a traffic signals or roundabouts, existing and future traffic volumes were assessed using the Traffix software peak hour signal warrant analysis feature. The warrant analysis is based on the *California Manual on Uniform Traffic Control Devices (CA-MUTCD)*. The CA-MUTCD provides guidelines, or warrants, which may indicate the need for a traffic signal at a two-way-stop-controlled intersection. As indicated in the Traffix signal warrant disclaimer, the peak hour signal warrant analysis should be considered solely as an “indicator” of the likelihood that of an unsignalized intersection warranting a traffic signal in the future. Other factors such as safety, adjacent intersection control and maintenance should be considered. For this study, Warrant 3, the peak hour volume warrant, was used as an initial indication of traffic control needs.”

**Response to Comment M-6:**

The commenter makes a closing statement.

No further response required.

**Letter N (DOC - Division of Land Resource Protection)**

**Response to Comment N-1:**

The commenter makes an introduction and explains their responsibilities.

Comment noted; no further response required.

**Response to Comment N-2:**

The commenter gives a brief description of the project.

No further response required.

**Response to Comment N-3:**

The commenter asks that the FEIR addresses the location and extent of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and other types of farmland within and adjacent to the project area as well as past agricultural use of the project area including data on the types of crops grown, crop yields, and farm gate sales values.

As noted in the DEIR, the project site includes 45 acres of Prime Farmland, with the balance of the site comprised of Farmland of Local Importance, Urban Land, and Water. Prime Farmland is located on adjacent parcels across the Russian River to the east and there is small strip of Prime Farmland adjacent to the site to the south. The majority of the 45 acres of Prime Farmland is planted in vineyards (yield and gate sales values not available). The lead agency has determined that the loss of the 45 acres of Prime Farmland is a significant impact.

**Response to Comment N-4:**

The commenter recommends the use of economic multipliers to assess the total contribution of the site's potential or actual agricultural production to the local, regional and state economics; the commenter then sites two sources of multipliers.

The lead agency has determined the physical loss of farmland represents an environmental impact. Since a determination of significance has been made based on physical change, the use of economic data is not necessary to describe the impact and determine the significance.

**Response to Comment N-5:**

The commenter wants the EIR to cover the type, amount, and location of farmland conversion resulting directly and indirectly from project implementation and growth inducement; impacts on current and future agricultural operations; incremental project impacts leading to cumulative impacts on agricultural land.

Direct impacts are described in Impact 3.2.1. Compatibility with existing agricultural zoning is described in Impact 3.2.3. Indirect impacts to adjacent agricultural land is described in Impact 3.2.3. See also comment X-3, regarding compatibility of mining and agricultural operations.

**Response to Comment N-6:**

The commenter states that impacts on agricultural resources may be both quantified and qualified by use of established thresholds of significance and goes on to describe the USDA Land Evaluation and Site Assessment Model (LESA).

The lead agency agrees that LESA is an appropriate methodology. However, given the presence of 45 acres of Prime Farmland, it was felt that a finding of significance could be made without running the model. This finding is supported by the Agricultural Commissioner (comment letter F).

***Response to Comment N-7:***

The commenter states that the loss of agricultural land represents a permanent reduction in the State's agricultural land resources, therefore, the commenter recommends the use of permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land. If Williamson Act contracts are terminated, or if growth inducing or cumulative impacts are involved, the commenter recommends that the ratio of lost agricultural land to conservation easement be increased.

No Williamson Act contracts are affected by the proposed project. The use of, and infeasibility of, agricultural conservation easements as mitigation for this particular project, are discussed on pages 3.2-9 and 3.2-10 of the DEIR.

***Response to Comment N-8:***

The commenter states that mitigation via agricultural conservation easements can be implemented by either purchasing the easement or donating fees to a local, regional, or statewide organization or agency whose purpose it is to acquire and manage conservation easements. The commenter also states that the search for replacement lands should be conducted regionally or statewide as opposed to lands strictly within the project's surrounding area.

See response to comment N-7.

***Response to Comment N-9:***

The commenter states that they have a listing of conservation tools available and notes where these tools can be found and also states that all feasible mitigation measure should be considered.

Comment noted; see also response to comment N-7.

***Response to Comment N-10:***

The commenter makes a closing statement.

No response required.

**Letter O (Regional Water Quality Control Board)**

***Response to Comment O-1:***

The commenter states that their main concern has to do with flooding events and turbidity and that if mining could be avoided during rain months (November-March) that their concerns would be alleviated.

See Master Response #2.

**Response to Comment O-2:**

The commenter states that source control, such as cleaning out any rock washing settlement ponds that may exist within the 100-year floodplain prior to winter rains can help to reduce the potential for turbid discharges to receiving waters in the even of pit flooding.

The washing and settlement ponds are located outside of (i.e., west of) the 100-year floodplain.

**Letter P (Mendocino County Archaeological Commission)****Response to Comment P-1:**

The commenter states that this is their official response of their review of Section 3.5 of the DEIR.

Comment noted; no further response required.

**Response to Comment P-2:**

The commenter notes that resource site CA-MEN-3115 is not included in Jay Flaherty's cultural resource study.

Comment noted. CA-MEN-3115 was not included in the cultural resource study provided by the applicant, but was included in the DEIR cultural resources discussion.

**Response to Comment P-3:**

The commenter notes the discussion of resource site CA-MEN-3115 in the DEIR and states that the Pinoleville Pomo Nation says the site is within an area of known village sites and is therefore concerned that the proposed mitigation measures may not be adequate to prevent damage to significant cultural resources that may be present within the project site.

The DEIR acknowledges the sensitivity of the area. See response to Comment P-4.

**Response to Comment P-4:**

The commenter acknowledges Mitigation Measure 3.5.1b and has determined that significant cultural resources may be present beyond the area within 200 feet of the Russian River and Ackerman Creek. The commenter requests that a qualified archaeologist be on-site during all initial ground disturbance activities during Phase I of the project.

Following a site visit by representatives of PPN and further examination of available information, including geological information on the historic meander of Ackerman Creek, Mitigation Measure 3.5.1b has been modified as follows: Monitoring will be required within the setback areas of Ackerman Creek and the Russian River. Under the revised Alternative 3, which eliminates the floodplain benching component, only the creation of the river-pond connection would result in potential disturbance. Monitoring will be required during the initial ground-disturbing activities

of the southernmost phase (Phase 2 of the proposed project, Phase 1 of the revised Alternative 3). See Chapter 4 for revised text.

***Response to Comment P-5:***

The commenter makes a closing statement.

No response required.

**Letter Q (Mendocino County Fair and Apple Show)**

***Response to Comment Q-1:***

The commenter notes what the letter is in regards to the Kunzler Terrace Mine DEIR.

Comment noted; no further response required.

***Response to Comment Q-2:***

The commenter states that the DEIR fails to clarify the benefits of having a local source of sand and gravel to support events like the Mendocino County Fair and Apple Show.

The economic and social benefits of a project are considered by the County in determining whether or not to approve a proposed project. However, as noted by the commenter, these benefits do not appear in the DEIR, which is limited to the discussion of direct, and reasonably foreseeable indirect, physical changes resulting from the project. Economic and social benefits may be considered by the lead agency when making a Statement of Overriding Consideration for environmental impacts found to be significant and unavoidable.

***Response to Comment Q-3:***

The commenter states that sand and gravel terrace mines in the Ukiah Valley have supported the Mendocino County Fair and Apple Show for several decades and gives an example of the support as reported in the Ukiah Daily Journal.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

***Response to Comment Q-4:***

The commenter asks that the benefits of having a local source of sand and gravel be recognized.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

## **Letter R (Russian Riverkeeper)**

### ***Response to Comment R-1:***

The commenter expresses concern over the proposed project and DEIR, and their opposition to floodplain mining in general.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

### ***Response to Comment R-2:***

The commenter states that they support the comments submitted by SCS Engineers.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

### ***Response to Comment R-3:***

The commenter states their mission and states that they have opposed open pit, or terrace pit mining along the floodplains of the Russian River for over 16 years due to impacts to wildlife and water quality.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

### ***Response to Comment R-4:***

The commenter states that they oppose open pit mining due to the permanent loss of prime agricultural lands, shallow groundwater, impacts to Chinook and Steelhead, mercury exposure to wildlife and humans, water pollution, and the public interest.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

### ***Response to Comment R-5:***

The commenter states that the project will result in the permanent loss of prime agricultural land and offers no mitigation for the impacts and that the Mendocino County General Plan contains policies meant to protect prime agricultural land.

The DEIR finds the loss of Prime Farmland to be a significant and unavoidable impact, consistent with the comment.

### ***Response to Comment R-6:***

The commenter states that the project results in potentially significant impacts not identified or analyzed in the DEIR such as the potential to cause an increase of mercury exposure to wildlife and humans as well as impairing water pollutants.

See Master Response #1.

**Response to Comment R-7:**

The comment states that elemental mercury is common throughout Ukiah Valley and can be absorbed when digested. The commenter states that mercury is likely in the deposits that the project intends to mine and that this mercury can be released into water during mining activities.

See Master Response #1.

**Response to Comment R-8:**

The commenter states that mercury contamination of fish is documented in every reservoir in the North Coast and that mercury contamination of fish can affect humans who consume them.

The information and comment presented are noted. The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury. See also Master Response #1.

**Response to Comment R-9:**

The commenter states that that the OEHHA Draft Health Advisory documents that past mining activities and natural erosion and geothermal vents are sources of Mercury and are present in the project vicinity.

The information and comment presented are noted. The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury. See also Master Response #1.

**Response to Comment R-10:**

The commenter states that that the OEHHA Draft Health Advisory documents the mercury cycle in aquatic environments such as the proposed project.

The information and comment presented are noted. The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury. See also Master Response #1.

**Response to Comment R-11:**

The commenter states that mercury accumulates in the sediments of impoundments or reservoirs due to its high molecular weight and is converted by sulfide reduction bacteria to methyl-mercury which works its way up the food chain where it concentrates in higher level predators such as bass and Osprey.

The information and comment presented are noted. The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury. See also Master Response #1.

**Response to Comment R-12:**

The commenter states that the project will create a new surface water body that will potentially accumulate mercury which is a potentially significant impact.

The information and comment presented are noted. The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury. See also Master Response #1.

**Response to Comment R-13:**

The commenter states that that all gravel pits in Sonoma County contain fish so we can assume that the project pit will eventually contain fish and that it is well documented that people fish in pits potentially exposing them to mercury contamination. The commenter also states that they have collected fish from various gravel pits and that they found mercury levels triple the EPA Health Advisory limit and that they attached the results.

As designed, the gravel pit would allow no surface water inflow (overland) except during very large and infrequent flood events (i.e., a 20-year event). Further, after such an event, the pit would be drained back to the river in order to allow trapped fish species to escape the pit. As such, the potential for fish to be sequestered within the pit is extremely limited. In addition, neither fishing nor stocking of fish would be allowed within the pit waters. Under Alternative 3, a designed river-pond connection would allow movement of both surface water and fish during 100 days of the year.

The information concerning mercury contamination of fish within the Russian River watershed is noted. The commenter states that fish contaminated with mercury have been found in the Russian River and former gravel pits adjacent to the Russian River. However, as the commenter seems to imply, this information as presented does not establish a substantial or reasonable causal mechanism linking the gravel pits to mercury contamination in fish. The commenter neglects to mention other, likely sources of mercury contamination, including atmospheric deposition and even wetland environments. The commenter provides no additional information concerning the fish samples collected (e.g., the condition or nature of the hydrologic connection of the pit, whether or not the pit receives additional inputs of runoff or potential contamination).

See also Master Response #1.

**Response to Comment R-14:**

The commenter states that the mercury issue was raised in the Syar Phase VI gravel pit EIR and that they have filed a law suit against the Syar EIR because they didn't sample pit sediments for mercury.

Comment noted; no further response required.

***Response to Comment R-15:***

The commenter asks if the potential exist for the project to create new exposure to mercury contamination.

See Master Response #1.

***Response to Comment R-16:***

The commenter asks why the DEIR hasn't sampled either fish tissue or sediments from other Ukiah area gravel pits for mercury.

Every gravel pit is unique considering the associated physical, biological and chemical processes and characteristics. The sampling of sediment and fish tissue from other pits in the Ukiah area was not necessary for the analysis of potential project impacts. The utility of such sampling, and the implied applicability (or extrapolation) of the results to the proposed project, is highly questionable.

See also Master Response #1.

***Response to Comment R-17:***

The commenter asks why the DEIR hasn't analyzed the project's potential for creating new pathways for mercury exposure.

See Master Response #1.

***Response to Comment R-18:***

The commenter asks what the potential impacts to wildlife from the new exposure pathways are.

See Master Response #1.

***Response to Comment R-19:***

The commenter asks what effect the potential new sources of mercury will have on raptors that prey on fish and other aquatic life that will end up in the pits from river overtopping and unauthorized fish stocking.

See response to comment R-13 and Master Response #1.

***Response to Comment R-20:***

The commenter asks how the project will protect humans who will fish in the pits once fish are present.

See response to comment R-13 and Master Response #1.

**Response to Comment R-21:**

The project asks how the project will mitigate the impacts from causing water to be exposed to airborne mercury.

All surface waters within the Russian River watershed, including the Russian River, are exposed to airborne mercury. Further, the groundwater near the Russian River is, in large part, recharged by surface water seepage from the Russian River and its tributaries. The creation of a 30-acre open water pit does not represent a substantial increase in the potential exposure of groundwater or surface waters within the Russian River watershed to airborne mercury.

**Response to Comment R-22:**

The commenter states that the Russian River in Ukiah is listed as impaired under the Clean Water Act for sediment pollution for fine-grained sediment and that any increase in impairing pollutants would be a significant impact.

The proposed project would not cause further degradation of water quality with respect to suspended sediment and turbidity; this was assessed and discussed in the DEIR (see pages 3.8-24 through 3.8-26, and 3.8-32 through 3.8-35).

**Response to Comment R-23:**

The commenter states that sediment pollution poses a serious impact to ESA listed Chinook Salmon and Steelhead Trout and any cause of sediment would be a significant impact.

The proposed project would not cause further degradation of water quality with respect to suspended sediment and turbidity; this was assessed and discussed in the DEIR (see pages 3.8-24 through 3.8-26, and 3.8-32 through 3.8-35).

**Response to Comment R24:**

The commenter states that because of the project's location within the 100-year flood plain that the project site will occasionally be inundated and that pit mining allows for an increase in erosion as compared to existing uses. The commenter mentions that they have attached photos of Sonoma County gravel pits during and after flood events and describes the photos to show how vulnerable pits are to erosion in flood events.

The commenter's ascertain that, during pit inundation, the susceptibility of the project site to erosion would increase substantially as compared to the existing condition is speculative and unfounded.

With respect to turbidity and sedimentation, it is not clear from the photos submitted by the commenter what the causal relationship (if any) may be between the selected pits and the Russian River (i.e., they seem to show a turbid Russian River and turbid pits). Further, the proposed project would be designed differently than the pits observed in the commenter's photographs.

See also Master Response #2.

**Response to Comment R-25:**

The commenter states that the attached photos are only two of the five overtopping events in the last 11 years at Sonoma County gravel pits and the pits were designed to withstand floods but are vulnerable to flooding and erosion.

The proposed project would be designed differently than the pits observed in the commenter's photographs. Contrary to how the commenter describes the design of the pits in the photographs, the proposed project would not be designed to completely withstand large floods. Rather, the project would be designed such that the pit is allowed to flood (i.e., during 20-year events or those greater in magnitude) in order to substantially alleviate the erosive force acting upon the pit berms and sidewalls.

**Response to Comment R-26:**

The commenter asks that given no allowance for contributing new sources of impairing pollutants to impaired waterways, how the project will ensure that no sediment is released into the river during flooding events.

The proposed project would not cause further degradation of water quality with respect to suspended sediment and turbidity; this was assessed and discussed in the DEIR (see pages 3.8-24 through 3.8-26, and 3.8-32 through 3.8-35).

See also Master Response #2.

**Response to Comment R-27:**

The commenter asks what the impact of the project on sediment delivery to the Russian River compared to pre-project conditions is.

The proposed project would not cause further degradation of water quality with respect to suspended sediment and turbidity; this was assessed and discussed in the DEIR (see pages 3.8-24 through 3.8-26, and 3.8-32 through 3.8-35).

See also Master Response #2.

**Response to Comment R-28:**

The commenter asks how the project will protect buffers, separators, and levees during flood events.

See response to Comment R-25.

**Response to Comment R-29:**

The commenter asks how sediment-holding ponds at processing sites will be protected from flooding.

The washing ponds are located outside of the 100-year floodplain.

**Response to Comment R-30:**

The commenter asks that if berms are used to protect pits, processing areas, or sediment holding ponds, then how will those berms affect floodplain capacity during flood events.

The berms would have no effect on floodplain capacity. The pit would be designed to flood and thereby would generally increase the floodplain capacity.

**Response to Comment R-31:**

The commenter makes a closing statement.

Comment noted; no further response required.

**Letter S (Glenn McGourty - UC Cooperative Extension)****Response to Comment S-1:**

The commenter states that it is unfortunate that the project parcels have been zoned for industrial uses because Mendocino County has a limited amount of flat arable land with water available for agriculture.

Comment noted. All comments will be considered by the Planning Commission in their deliberations on the project.

**Response to Comment S-2:**

The commenter states that the mine will be left unfilled and unreclaimed, and will be a legacy scar on the landscape.

The commenter is incorrect in their assertion that the mining areas will not be reclaimed. Excavated areas will be reclaimed to revegetated open space suited for habitat and related allowed uses. See page 2-12 of the DEIR for a discussion of post mining reclamation.

**Response to Comment S-3:**

The commenter states that the pit will change the hydrology of the floodplain and will no longer allow water to percolate in a continuous strata from the surface. The commenter states that that this will change the dynamics during the wet season and could potentially affect more flooding down stream.

The proposed project would not significantly alter the groundwater table or gradient; this was assessed and discussed in the DEIR (see pages 3.8-29 through 3.8-31). The temporary (i.e., during flood events) storage capacity within the floodplain would be increased as a result of the proposed project.

**Response to Comment S-4:**

The commenter states that the project has the potential to lower water tables and may affect natural vegetation along the river.

The proposed project would not significantly alter the groundwater table or gradient; this was assessed and discussed in the DEIR (see pages 3.8-29 through 3.8-31). Further, there would be no net increase in the amount of groundwater extracted (e.g., through on-site use, evaporative loss, etc.) from the local aquifer as a result of the project; this was assessed and discussed in the DEIR (see pages 3.8-27 through 3.8-29).

**Response to Comment S-5:**

The commenter states that the site will become a potential “attractive nuisance” for children and trespassers seeking access to water for recreation or fishing and will thus require fencing.

Per page 2-10 of the DEIR, the proposed project includes fencing posted with “No Trespassing” signs.

**Response to Comment S-6:**

The commenter states that the site will become a potential breeding area for mosquitoes and other insects as well as aquatic and terrestrial weeds.

Careful design of the reclaimed pit, and appropriate re-vegetation, will minimize these potential effects. See revised reclamation plan (December 2009).

**Response to Comment S-7:**

The commenter states that there are already several large aggregate and rock quarries in the area that could supply the amount of material that this project would provide.

According to information from the State Geological Survey, aggregate production in the Ukiah area is no more than 0.5 million tons per year (Department of Conservation, State Geological Survey, *Aggregate Availability in California*, Map Sheet 52, updated December 2006). This is typical of areas within Mendocino Counties. While the State Geological Survey has not calculated the 50-year demand for aggregate, the project applicant’s processing plants would increasingly rely on imports from adjacent counties (based on analysis done for the No Project alternative).

**Response to Comment S-8:**

Commenter makes a closing statement.

No further response required.

## **Letter T (Greg Giusti - UC Cooperative Extension)**

### ***Response to Comment T-1:***

Commenter notes that they have reviewed the project EIR.

Comment noted; no further response required.

### ***Response to Comment T-2:***

Commenter states that Figure 2-3c show a surface level drop of approximately 48 feet; as this relates to salmonid resources the commenter asks the following questions: Will the decrease in surface elevation (that will eventually fill with water) create negative hydrologic pressure from surrounding ground water sources, and if so, will this potentially affect water table levels, and if so, will this potentially lead to early season de-watering of either Ackerman Creek and the Russian River?

The proposed project would not significantly alter the groundwater table or gradient; this was assessed and discussed in the DEIR (see pages 3.8-29 through 3.8-31).

## **Letter U (Granite Construction Company)**

### ***Response to Comment U-1:***

The commenter makes a general introduction and notes that they are submitting comments.

Comment noted; no further response required.

### ***Response to Comment U-2:***

The commenter states that the reference to an Initial Study Checklist on page ES-2 is incorrect.

The commenter is correct; the reference to the Initial Study Checklist was made in error. The correct statement is on page 1-4, which discusses the release of the NOP (without an initial study checklist). The revised Executive Summary included with this Final EIR deletes the reference to the initial study.

### ***Response to Comment U-3:***

The commenter states that on page 2-4 the DEIR should clarify that the processing plant is a principally permitted use that can occur by right in the I-2 General Industrial Zone and is therefore exempt from environmental review.

A stand-alone processing plant would be allowed without discretionary review on the project site under existing I-2 zoning. However, the potential for an environmental impact related to the use would require a "Development Review" under Chapter 20.188 of the County Code. In addition, the applicant has requested a conditional use permit (discretionary action) for surface mining which includes a processing plant. Under CEQA Guideline Section 15268, "where a project involves an approval

that contains elements of both a ministerial action and a discretionary action, the project will be deemed to be discretionary and will be subject to the requirements of CEQA.” This is consistent with CEQA’s mandate to consider the whole of an action, not simply its constituent parts (CEQA Guidelines Section 15003[h]).

***Response to Comment U-4:***

The commenter states that on pages 3.1-6 and 3.9-3 the DEIR fails to point out that the project is consistent with the Mendocino County 2009 General Plan Action Item RM 65-4, which promotes off-stream terrace mining or hard rock quarrying operations over in-stream operations.

Comment is correct. The complete Resources Management element policy is as follows:

Policy RM-65: Environmental protection is a high priority during mineral extraction and associated processing operations, and in site reclamation. Recovery of mineral resources is not allowed when the County finds that adverse environmental impacts outweigh the public benefit.

Action Item RM-65.1: Identify and protect resources/areas that may provide opportunities for mineral extraction, including rock quarries and gravel.

Action Item RM-65.2: Continue to administer the California Surface Mining and Reclamation Act (SMARA).

Action Item RM-65.3: Evaluate the effectiveness of Surface Mining and Reclamation regulations and project conditions in achieving County goals.

Action Item RM-65.4: Promote offstream terrace mining or hard rock quarrying operations over instream operations.

The proposed project is consistent with Action Item RM-65.4. As discussed on page 3.9-7, the DEIR finds the project to be consistent with the general plan. Note, however, that ultimately it is up to the decision making body of the lead agency, in this case the Planning Commission, to find whether or not a project is consistent with the general plan as a whole.

***Response to Comment U-5:***

The commenter states that on page 3.2-9 the DEIR incorrectly states agricultural production has ceased on the project site.

The commenter is correct, the DEIR was incorrect in stating that agricultural production had ceased on the project site; the language has been removed; please see Chapter 4 of this FEIR for revisions.

***Response to Comment U-6:***

The commenter states that the scales shown on Figures 2-3 and 2-4 are incorrect and that the DEIR accurately describes mining setbacks as being 150 feet from Ackerman Creek and 250 feet from the Russian River.

The commenter is correct that the scales on Figures 2-3a, 2-3b, and 2-3c are incorrect and should read as 200-feet, not 2000-feet. Figure 2-4 appears to be correct. Appendix A of this FEIR includes revised mining and reclamation drawings.

***Response to Comment U-7:***

The commenter states that the word “construction” is used frequently throughout Chapter 3.4, however it fails to specifically state what specific activities the term “construction” is referring to.

Construction refers to the initial site preparation, including clearing, grubbing, and removal of any topsoil, and the construction of structural facilities (such as the processing plant). Construction would also include development of the floodplain benching and construction of the flood control weir (in the proposed project), or development of the project life connection and fuse plug (in Alternative 3). Construction is differentiated from operation, which refers to the ongoing mining activity: the phased removal and processing of aggregate. We apologize for any confusion regarding the term.

***Response to Comment U-8:***

The commenter states that there is a typographical error on page 3.4-31 in Condition 11 in reference to off-site water. The commenter states that there is no reason to prohibit on-site water sources from supplying dust control and that on-site water sources are adequate to serve the project.

Condition 11 is a standard riparian habitat protection measure, but commenter is correct: using existing on-site sources, existing well and surface water pumps, would not have a significant impact. Condition 11 is deleted. See Chapter 4 of this FEIR for the revised mitigation measure.

***Response to Comment U-9:***

The commenter states that there are two typographical errors on page 3.6-11, copies the erroneous sentence, and states that the sentence should read “The proposed project will excavate and remove sand, gravel and overburden to a maximum depth of 65 feet below ground surface.”

The commenter is correct; please see Chapter 4 of this FEIR for revised language.

***Response to Comment U-10:***

The commenter states that there are inconsistent references to the flood recurrence interval throughout section 3.8 and that the discussion appears to intertwine the original and alternative reclamation designs.

The commenter is accurate, the recurrence intervals referred to in the DEIR (page 3.8-6) are incorrect (in describing when the project site would experience flooding, the stated 10-year recurrence interval should be a 20-year recurrence interval). The passages on page 3.8-6 and 3.8-27 will be changed to reflect the correct recurrence interval. Please see Chapter 4 of this FEIR for revisions.

**Response to Comment U-11:**

The commenter states that the word “construction” is used frequently throughout Chapter 3.8, however it fails to specifically state what specific activities the term “construction” is referring to.

See response to Comment U-7.

**Response to Comment U-12:**

In reference to page 3.10-15, the commenter states that the DEIR is correct in assuming that noise from the Redemeyer Mine is representative of what will occur at the proposed mine, but that the proposed project will use a dragline that is much newer and quieter than the yarder that was measured during the previous noise assessment.

Comment is noted. Impact 3.10.1 would represent a worst case scenario. Notably Impact 3.10.1 is less than significant even if employing older equipment (similar to Redemeyer).

**Response to Comment U-13:**

In reference to the Comparison of Alternatives in Table 4-1 on page 4-14, the commenter states that the No Project Alternative could result in potentially significant impacts to Air Quality that would be greater than the proposed project.

The information in Table 4-1 is true with regards to operational impacts to nearby receptors (i.e. impacts in the immediate vicinity). With regards to mobile sources (i.e. haul trucks), commenter is correct: the No Project could result in greater emissions, as materials would be hauled from a greater distance to processing facilities and end users in the Ukiah Valley. This is noted in Table 4-1 for greenhouse gas emissions, but on a regional level, would apply to other criteria pollutants including NO<sub>x</sub>, ROG, and PM.

**Response to Comment U-14:**

In reference to the Comparison of Alternatives in Table 4-1, Alternative 1: No Project, Impact 3.12, the commenter states that the table incorrectly identifies that the No Project Alternative would contribute less to the degradation of pavement on public roads than the proposed project. The commenter contends that the No Project Alternative would have greater and potentially significant impacts to public roadways because other aggregate sources that would serve Granite’s existing facilities are located further away. The commenter also states that existing activities on the project site (i.e., trucking operation and vineyard) utilize heavy trucks on the proposed transportation routes.

The proposed project was found to only adversely impact Kunzler Ranch Road (a private road). Impacts to public roads were found less than significant. Under the No Project alternative, there would be no impacts to Kunzler Ranch Road. It is assumed that impacts to highways and major regional roadways are not significant, just as they are not significant under the proposed project. If local and private roadways not currently used to haul aggregate were to be used, this impact could be significant under Alternative 1. However, as it is not known what, if any, roads would be affected this impact was not identified as significant under Alternative 1.

**Response to Comment U-15:**

The commenter states that on page 5-3 the reference to 190-600 cubic yards per year should actually be 190,000 to 600,000 cubic yards per year.

The commenter is correct; please see Chapter 4 of this FEIR for revisions.

**Response to Comment U-16:**

The commenter states that to their knowledge, the Upper Russian River Aggregate Resources Management Plan was not peer reviewed nor was it adopted by the Mendocino County Water Agency Board of Directors.

The commenter is correct; the management plan was not adopted. The plan was used only for background information and was not used for any specific analysis, nor was it considered as an applicable plan for purposes of plan consistency.

**Response to Comment U-17:**

The commenter makes a closing statement and gives contact information.

Comment noted; no further response required.

**Letter V (Douglas Parkinson and Associates)****Response to Comment V-1:**

The commenter states that they have attached a report of fishery issues associated with the proposed project, gives a brief description of the project, and then lists the sources used to form the basis of their evaluation.

Comment noted; no further response required.

**Response to Comment V-2:**

The commenter states that the most significant potential impact to anadromous salmonids would be from pit capture resulting from flooding thereby preventing the salmonids from returning to the Russian River.

Comment noted; see Impact 3.4.4 of the Draft EIR for a detailed analysis of this potential impact.

**Response to Comment V-3:**

The commenter states that their review is based on their understanding based on reviews of the publications listed in the second paragraph, personal experience, and a site visit. They state that any omissions about important features is their responsibility.

Comment noted; no further response required.

***Response to Comment V-4:***

The commenter asks to be contacted for any clarifications to the report and makes a closing remark.

Comment noted. DPA will be added to the environmental notification list for the proposed project.

***Response to Comment V-5:***

The commenter provides a description of the project and states that Responsible and Trustee agencies identified pit capture as a long range and significant impact associated with the project.

Comment noted; no further response required.

***Response to Comment V-6:***

The commenter states that three species of salmonids are listed under the Endangered Species Act (California Central Coast Steelhead, California Coast Chinook Salmon, and the California Central Coast Coho Salmon), and details when each of the species spawn.

Comment noted. The listing statuses and life histories of the three salmonid species are summarized on pages 3.4-14 through 3.4-16 of the Draft EIR.

***Response to Comment V-7:***

The commenter states that the most recent surveys performed by CDFG found stickleback, suckers, pike minnow, and steelhead trout in Ackerman Creek and that no other salmonids have been found in Ackerman Creek.

Comment noted; no further response required.

***Response to Comment V-8:***

The commenter states that Chinook and Coho Salmon are present in the upper Russian River.

As discussed on page 3.4-16 of the Draft EIR, Chinook salmon are known to occur in the mainstem Russian River within the vicinity of the project site. However, as described on page 3.4-15 of the Draft EIR, coho salmon once occupied many tributaries throughout the Russian River Basin, but are now restricted to a few tributaries in the lower watershed and are therefore not expected to occur within the project area or its vicinity.

***Response to Comment V-9:***

The commenter states that the rearing and out migrating juvenile salmonids have distinct habitat requirements for rearing and survival and that they will gravitate to those preferred areas which are related to stream velocity and cover characteristics. The commenter then goes into detail about juvenile salmonid behavior.

The natural tendencies of salmonids to seek velocity refuge within floodplains, and the concomitant risk of becoming stranded when flood flows recede, is discussed on page 3.4-32 of the Draft EIR.

***Response to Comment V-10:***

The commenter states that the enlarging of the riparian zone at the mouth of Ackerman Creek with the creation of a larger flood plain will provide more off channel refuge in this constructed flood plain during high flow events in the Russian River and that it is likely that juvenile fish and post spawning adult steelhead would be at risk of entrapment during breaching of the weir because the fish would be passively moving downstream.

Comment noted. See response to comment V-11.

***Response to Comment V-11:***

Commenter states that the proposed constructed flood terrace and widening of Ackerman Creek will enlarge the backwater area and refuge area and provide an attraction for rearing or out migrating juvenile salmonids and asks if this will increase the risk of entrapping more juvenile fish if the weir plug releases.

An enhanced backwater area may attract salmonids, although it is unclear if this would lead to increased capture during high water events. Impacts related to fish capture are addressed by Mitigation Measure 3.4.4. Since publication of the Draft EIR, Granite Construction Company has prepared a revised reclamation plan (December 2009). The revised plan eliminates floodplain benching from Alternative 3. Therefore, under revised Alternative 3, the likelihood of salmonids being within the project area during flood events under the proposed project will be essentially identical to existing baseline conditions, and the designed connection would reduce the impacts of fish entrapment to a less-than-significant level.

***Response to Comment V-12:***

The commenter states that the Sonoma County Water Agency removes juvenile salmonids from their off channel infiltration ponds and asks what the species composition of the entrapped fish is and can this be an indication of what could be trapped during the breaching of the weir during a flood event?

Steelhead and Chinook salmon, as well as Sacramento sucker, tule perch, hardhead, sticklebacks, California roach, pikeminnow, large- and smallmouth bass, and carps have been rescued from SCWA infiltration ponds (SCWA, 2000; NMFS, 2008). A similar species composition would be expected to be entrained in the pit mine during fuse plug erosion events.

National Marine Fisheries Service (NMFS). 2008. Biological Opinion for Water Supply, Flood Control Operations, and Channel Maintenance conducted by the U.S. Army Corps of Engineers, the Sonoma County Water Agency, and the Mendocino County Russian River Flood Control and Water Conservation Improvement District in the Russian River watershed. NMFS Southwest Region, F/SWR/2006/07316, September 24.

Sonoma County Water Agency (SCWA). 2000. Results of the Sonoma County Water Agency's Mirabel Rubber Dam/Wohler Pool Reconnaissance Fish Sampling Program 1999.

***Response to Comment V-13:***

The commenter states that the proposed maximum pit depth is 65 feet and asks how much residual pool will remain following draw down after weir breaching. Also, the commenter asks if the residual pool depth will encourage salmonids to remain and or provide additional area for smallmouth bass or pike minnow both predators on juvenile salmonids to remain.

The residual pool depth remaining within the pit following breaching and subsequent drawdown depends on the pit depth at the time of breaching. As such, residual pool depth would be expected to be lower for breaching events that occur during an early mining phase than for those events that occur in the later stages of the project. At the proposed maximum pit depth of 65 feet, the bottom elevation of the pit would be at approximately 547'. The bottom elevation of the project life connection channel (to be used during the mining phase) would be at approximately 605'. Thus, the maximum residual pool depth within the pit during the mining phase would be approximately 58 feet. The reclamation phase connection channel will have a bottom elevation of approximately 592'. Thus, the maximum residual pool depth within the pit during the reclamation phase would be approximately 45 feet. Regardless of the actual residual depth after any given hydrologic connection event, the pit would be expected to provide habitat for any fish species that may enter, including listed salmonids, non-listed native species, and non-native predator species. See Response to Comment V-12 above for a partial list of potential fish species, and Response to Comment H-7 for revisions to Mitigation Measure 3.4.4.

***Response to Comment V-14:***

The commenter states the ESA listed coho is present in the northwestern tributaries of the upper Russian River and that out migrating juveniles could be at risk of entrapment during high flow events as they seek refuge in the backwater of Ackerman Creek and asks what the outmigration timing is and if there are any estimates of the numbers of juvenile coho moving past the proposed project to determine potential risk associated with entrapment.

Unfortunately, the commenter did not provide any references that would allow verification of the claim that coho salmon are present in the northwestern tributaries of the upper Russian River watershed. As described on page 3.4-15 of the Draft EIR, coho salmon once occupied many tributaries throughout the Russian River Basin, but are now restricted to a few tributaries in the lower watershed. We are not aware of any recent reports of coho salmon occurrences in the upper Russian River watershed. Regardless of the current presence or absence of the species, however, ongoing and future coho salmon recovery efforts will hopefully result in the return of self-sustaining populations of the species in the upper watershed. Juvenile coho salmon in California migrate to the ocean between March and June, with peak migrations typically occurring in April and May. Due to the lack of current information on coho salmon in the upper watershed, estimates of the number of potential outmigrants from that region area are currently not available.

**Response to Comment V-15:**

The commenter states that the proposed culvert to drain the pit following breach of the weir may be an attractor for predators to congregate and prey on trapped salmonids out migrating from the pond and asks if this feature can be modified to minimize risk of predation for the juvenile fish out migrating from the pit.

The commenter raises a valid point regarding the potential for non-native predator species to congregate near the culvert drain outfall. Unfortunately, any culvert outlet design would result in concentrated releases of water and salmonids and thus present an increased predation potential. However, the revised reclamation plan prepared by Granite (see Response to Comment V-11) for Alternative C also replaces the culvert system on Ackerman Creek with a connection channel to the Russian River for both the mining and reclamation phases (the designs for the channel are slightly different for the two phases). The connection channel under Alternative C would be considerably wider than the culvert design under the proposed project, and would therefore be expected to result in a lower potential for increased predation.

**Letter W (SCS Engineers)****Response to Comment W-1:**

The commenter states that they submit their letter on behalf of Dan Thomas, Charlie Sawyer, Masonite Corporation, and Developers Diversified Realty in response to the DEIR. The commenter also states that they have identified a number of concerns and questions as to the accuracy of data and validity of conclusions made from the data.

Comment noted; no further response required.

**Response to Comment W-2:**

The commenter states that the proposed mine site is a floodplain that is currently zoned as industrial and contains land that will be forever lost to other, more sustainable, productive uses should the proposed mine and its reclamation plan be approved.

Comment noted. The Planning Commission will consider comments in opposition to the proposed project in their deliberations.

**Response to Comment W-3:**

The commenter states that the DEIR indicates that there is no mitigation available to avoid the loss of future beneficial use of the mine site, however the commenter states that it is common practice in many western states to return the land to “approximate original contour” as specified in the Surface Mining Control and Reclamation Act (SMCRA). The commenter goes on to say that it is clear from the reclamation plan that the site will not be returned to approximate original contour which will result in the permanent loss of beneficial use of the land. The commenter concludes by stating that according to the Office of Surface Mining, section 515(b)(3) of SMCRA

requires that all surface mining operations “backfill, compact and grade the mine site in order to restore the approximate original contour of the land and eliminate all highwalls.”

SMCRA is a federal law pertaining to coal mining. As such, it is not relevant to the proposed project.

***Response to Comment W-4:***

The commenter states that it is possible to require full reclamation of the mined pit with suitable materials subsequent to each phase of mining and that complete reclamation of the pit would avoid the need of long-term maintenance of the fuse plug, would eliminate concerns over pit capture, would mitigate concerns over impacts to the aquifer and wells, and allow for future beneficial uses of the land. The commenter goes on to list successful reclamation projects.

It is acknowledged that restoration of original contour would potentially mitigate an impact that is identified as significant in the DEIR: loss of prime farmland. This measure is not considered feasible at this time. It is not known if the examples shown were restored to the original contour of the land, or if they were successful reclamation efforts of mining pits.

***Response to Comment W-5:***

The commenter asks if the requirements set forth in SMCRA, whereby mine sites are required to be returned to approximate original contour have been fully considered and adhered to.

As discussed in response to comment W-3, SMCRA is not relevant to the proposed project. The State Surface Mining and Reclamation Act (SMARA) and the County’s mining ordinance are the controlling regulations. The proposed end use is allowed by state and local regulation, and will be considered by the Planning Commission.

***Response to Comment W-6:***

The commenter asks if the requirements of mine reclamation (i.e., backfilling the open pits after each phase of mining) in order to return the land to productive use has been considered.

The requirements of mine reclamation and complete backfilling of open pits are not synonymous. The applicant has considered feasible end uses, and applied for approval of reclamation to open space in the mining area and industrial uses in the processing plant area. This is an allowable end use that will be considered by the Planning Commission.

***Response to Comment W-7:***

The commenter states that the cumulative effects of the proposed mining operation in the context of other mining operations that are currently or have operated in or near the Russian River channel have not been addressed or considered in the DEIR.

Please refer to Section 5.2 of the DEIR for a consideration of cumulative impacts.

**Response to Comment W-8:**

The commenter asks how will the watershed scale cumulative impacts be analyzed or addressed to ascertain the overall health of the Russian River system in its current state and projected conditions if this operation and future similar operations are approved and completed.

Please refer to Section 5.2 of the DEIR for a consideration of cumulative impacts.

**Response to Comment W-9:**

The commenter states that proposed setbacks from the tops of the banks of the Russian River and Ackerman Creek are inadequate and may not reasonably protect against pit capture or impacts to water quality associated with flood water entering and exiting the pit. In the case of the Russian River, the commenter believes the appropriate setback distance would be 750 feet from the top of the bankfull channel and gives an explanation of why they believe this to be the case.

The DEIR considered the proposed setbacks in its analysis of project impacts. No potentially significant impacts were identified that would be reduced or avoided by increasing the setbacks. Commenter does not offer specific impacts that would be avoided by increasing the setbacks.

**Response to Comment W-10:**

The commenter states that page 14 of Appendix B of the CUP Application, notes that 1000-foot setbacks for pit mining along the Russian River are proposed in Mendocino County, and although the 1000-foot setback was not adopted, that the Sonoma County Aggregate Resource Management Plan requires 450-foot setback from the ordinary high water mark for terrace mining projects. The commenter then reiterates that they believe the project to be a floodplain mining project and not a terrace mine and states that there is little justification for the setbacks proposed.

See response to comment W-9. The project site is described as a raised river terrace that borders both the Russian River and Ackerman Creek. Much of the project is located within the 100-year floodplain, as thoroughly described in the DEIR. Terrace mining refers to the mining of off-channel deposits (as opposed to in-channel mining) that may or may not be within the official floodplain. The setbacks, as proposed, were considered in the environmental impact analysis of the DEIR.

**Response to Comment W-11:**

The commenter states that Figure 2.7 in Appendix B of the CUP Application illustrates that a 25-year flood event would almost completely inundate the mine site and that pit capture would occur. Furthermore, the commenter states the Figure 2.10 illustrates the high degree of variability in historical channel planform geometry for the Russian River where maximum variations are on the order of 500 within one river mile of the project reach; thus there is no justified reason for the proposed 250-foot setback.

The 150 foot and 250 foot setbacks were considered in the Hydrologic and Hydraulic Analysis of the Kunzler Ranch Gravel Extraction Project (Swanson, 2007), the Geomorphic Analysis of Kunzler Ranch Gravel Extraction Project (Swanson 2008), and the Report on Upper Russian

River Potential Pit Capture, Kunzler Ranch (MBK 2006). These documents were independently reviewed and considered and in preparation of the DEIR.

***Response to Comment W-12:***

The commenter asks what calculations are used to justify the 150-foot and 250-foot setbacks from Ackerman Creek and the Russian River.

See response to Comment W-11.

***Response to Comment W-13:***

The commenter asks if setback considerations have been fully reviewed and compared with industry standards and have long-term geomorphic processes been fully recognized in the context of the permanent mine feature and associated lake that would be created if the mining operation is approved.

See response to Comment W-11.

***Response to Comment W-14:***

The commenter states that the disposition and fate of fine particles at the mine site have not been adequately addressed and have potential to violate the Clean Water Act and that it is not apparent what the source of wash water for the proposed project is.

Water supply for aggregate washing is described on pages 2-9 and 2-10 of the DEIR. The processing area, including wash ponds, is separated from the Russian River and Ackerman Creek.

***Response to Comment W-15:***

The commenter states that it is unclear how fines will be used in reclamation if no waste is retained on site and that it is implied that topsoil will be stockpiled long-term on-site; furthermore, the commenter states that there appears to be no consideration given to the mobilization and potential for loss of the material during flooding as well as impacts of sediment loading into Ackerman Creek and the Russian River.

Per page 33 of the Reclamation Plan, accumulated silt will be dredged as necessary and then spread and mixed with topsoil for use in reclamation. All reclaimed areas will be hydroseeded with a native erosion control mix prior to October 15 of each year.

***Response to Comment W-16:***

The commenter states that fine-grained topsoil may be disturbed by wind and that the loss of this material may affect sediment loading into adjacent waters and could also affect air quality; and that no mitigation measure address this issue in the reclamation plan or elsewhere in the application.

This comment refers to the project application and not to the EIR. Air quality, including fugitive dust, is addressed in the DEIR, page 3.3-21. Sedimentation is considered in both the biological

chapter (3.4) and water quality chapter (3.8). In addition, all exposed areas will be hydroseeded to prevent erosion, per page 34 of the Reclamation Plan, contrary to the comment.

***Response to Comment W-17:***

The commenter asks what level of fine particle entrainment is expected in an overtopping event if mining operations are allowed to proceed during or immediately prior to flooding events.

See Master Response #2.

***Response to Comment W-18:***

The commenter asks what is the source of wash water for operations at the site.

Wash water is provided by on-site wells and if necessary, riparian water rights, as described on pages 2-9 and 2-10 of the DEIR.

***Response to Comment W-19:***

The commenter asks if fine particles are used for reclamation purposes, will those fines be stored and used at the termination of the project or staged, returning fines to the ponds.

Initial storage (Phase 1) is shown on Figure 2-3a of the DEIR. Long term usage will be on-site phased reclamation.

***Response to Comment W-20:***

The commenter asks if fine particles are stored on-site and returned to the ponds after mining activities have ceased, what impacts would remobilization of these fine particles have during an overtopping event, particularly at outfall locations.

After mining activities have ceased, the pit slopes and shallower areas would be planted according to the reclamation plan. The vegetation, once relatively established, would greatly reduce the potential for any fine material to be remobilized during the rare instances in which the pit is flooded.

See also Master Response #2.

***Response to Comment W-21:***

The commenter states that the short-term and long-term potential severity of fish entrapment under overtopping event scenarios does not appear to have been addressed in the DEIR and that no estimate of how many individual salmonids may become entrapped during an overtopping event. Furthermore, the commenter states that no consideration is given to entrapment after operations have ceased and reclamation has occurred.

The hydraulic, hydrologic, and geomorphic setting of the project site is very different from other locations in California where pit capture has occurred. The conditions at the project site, as well

as geomorphic and historical evidence, suggest that the risk of pit capture is extremely low; this was discussed in the DEIR (see pages 3.8-36 through 3.8-38).

Contrary to the comment, the issue of potential salmonid entrapment, both during project operation and after reclamation, was addressed in the DEIR (see pages 3.4-32 through 3.4-34). In addition, the issue of fish entrapment was the primary consideration behind the development of Alternative 3, the environmentally superior alternative.

***Response to Comment W-22:***

The commenter asks how many salmonids might be expected to become trapped in the pit should an overtopping event occur and how many studies have been completed involving what type of salmonid populations that are being used to support pit capture at the site.

See response to Comment W-21.

***Response to Comment W-23:***

The commenter states that it is common knowledge that bird species do not prefer to nest in or near active mining operations due to noise, heavy equipment movements, etc., and asks what, if any, mitigation measures are in place that will ensure that bird species are able to utilize the existing site while mining operations are occurring (i.e., the first 20 years of the proposed project, prior to reclamation).

The FEIR contains Mitigation Measure 3.4.1 which ensures that construction of the project does not adversely affect nesting raptors and other nesting birds by requiring a pre-construction survey of all suitable nest habitat within 30 days prior to the start of construction within 500 feet of construction activities. This measure mitigates potentially significant adverse impacts to nesting raptors and other birds. The impact discussion regarding effects to raptors and birds will be updated to discuss impacts to nesting habitat in the vicinity of the project site. However, existing land uses in the area are predominantly industrial and include a lumber yard immediately north of Ackerman Creek, a truck maintenance and repair shop on the northwest corner of the site, and a beverage distributor warehouse immediately to the west. Noise levels for the Kunzler Terrace Mine are conservatively projected to be between 51dBA and 55dBA, which is within range of existing noise levels in the immediate project vicinity, which ranged from 49dBA to 60dBA during measurements taken for the noise study conducted for the project (see Chapter 3.10, “Noise and Acoustics”). Therefore, since the operation of the mine is not expected to have an increase in noise levels in the area as compared to the existing conditions no additional mitigation will be required.

***Response to Comment W-24:***

The commenter states that it is common knowledge that mercury (both natural and anthropogenic) is an environmental concern in watersheds near the proposed mine site and that elevated concentrations of mercury have been found in the alluvial deposits of the Russian River system near Healdsburg. Furthermore, the commenter states that Section 3.7, “Hazards and Hazardous Materials” of the DEIR makes no mention of naturally occurring mercury in alluvial sediments at the project site.

The information and comment presented are noted. The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury.

See also Master Response #1.

***Response to Comment W-25:***

The commenter asks if the alluvial deposits proposed for mining at the project site have been tested for mercury and if not, why.

See Master Response #1.

***Response to Comment W-26:***

The commenter asks to what extent might proposed mining operations disseminate, through agitation of sediments, processing (e.g., crushing and creating airborne particulates), and transportation or work products, mercury that may harm the environment or human health through various exposure pathways.

The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury.

See also Master Response #1.

***Response to Comment W-27:***

The commenter asks how the potential for mercury in mined deposits will be addressed with respect to exposure factors/pathways and potential human and ecological impacts.

The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury.

See also Master Response #1.

***Response to Comment W-28:***

The commenter asks to what extent mercury laden fine sediments could be remobilized to the active channels during an overtopping event.

The assumption that the project would result in mercury laden fine sediments within the pit is highly speculative.

See also Master Responses #1 and #2.

***Response to Comment W-29:***

The commenter asks how watershed scale cumulative impacts of mercury mobilized during mining operations will be analyzed or addressed to ascertain the overall health of the Russian River system in its current state and projected conditions if this operation and future similar operations are approved and completed.

The proposed project would not result in a significant increase in mercury emissions or exposure, nor would the proposed project otherwise result in any adverse impacts related to mercury. As such, assessing the watershed-scale cumulative impacts of mercury mobilization and/or exposure is not necessary for the DEIR.

See also Master Response #1.

***Response to Comment W-30:***

The commenter states that the DEIR suggests that the adjacent properties are vacant and implies that there will be no future use and that the adjacent property owner (Masonite Corporation) is actively redeveloping the site. The commenter goes on to discuss investments and actions taken by the owners to redevelop the site.

This site referred to in this comment is located to the south and is zoned for industrial uses. The DEIR identifies this as a vacant industrial site (page 3.9-2). This characterization is technically correct and does not in any way imply abandonment or a lack of care by the property owner. The property owner's investments have no bearing on the DEIR, which assumes that future industrial uses could occur on the site per the existing zoning. It should be noted that a ballot measure to re-zone the Masonite property to allow a mixed-use development on the property was defeated by voters on November 3, 2009; thus any redevelopment effort is assumed to be industrial in nature, per the existing general plan and zoning designations.

***Response to Comment W-31:***

The commenter states that there are several wells adjacent to the project site and that the DEIR is incorrect in its assertion that Masonite Well 6 is not being actively used. The commenter also states that Wells B-D only appear to be in disrepair because they have been vandalized and that plans are being prepared to repair the damage caused by the vandals.

The information presented by the commenter regarding the existing and historic use of the wells located on the Masonite property to south is noted. Pending any additional information to the contrary, the FEIR will be updated such that it does not imply that Masonite Well 6 is currently inactive. The analysis of the potential impact of the project upon the wells on adjacent properties, as presented and summarized in the DEIR (pages 3.8-27 through 3.8-35), remains unchanged. Please see Chapter 4 of this FEIR for revisions.

**Response to Comment W-32:**

The commenter states that any development projects planned for adjacent parcels would be directly impacted by project operations and that use of 220 acres of adjacent land rely on the use of Masonite's wells, in particular Well 6, which lies 100 feet from the edge of the mined slope.

The proposed project would not have a significant impact upon the wells on adjacent properties; this was analyzed and discussed in the DEIR (see pages 3.8-27 through 3.8-35).

**Response to Comment W-33:**

The commenter states that page 9 of the DEIR notes that groundwater levels are estimated to fall by 3 feet due to the proposed project and that several current and future uses that do and would rely on the wells for water may be negatively impacted. Also, the commenter states that any fall in groundwater levels may have a significant economic impact on current and future use of adjacent property.

The proposed project would not have a significant impact upon the wells on adjacent properties; the potential impact of the project upon the elevation and gradient of the water table, and the subsequent implications for nearby groundwater wells, was analyzed and discussed explicitly in the DEIR (see pages 3.8-29 through 3.8-31).

**Response to Comment W-34:**

The commenter states that the groundwater analysis contained in Appendix E does not appear to directly address the extent to which a hydraulic subsurface connection may exist between the proposed mine site and adjacent properties and that although a clay layer may separate the upper aquifer, there may be a connection between two aquifers.

The analysis in the DEIR adequately addressed the nature of the subsurface hydraulic connection with the adjacent properties and relied upon data obtained from the hydrogeology and groundwater impact assessment (LSCE, 2006; Appendix E of the permit application). Refer to pages 3.8-29 through 3.8-34 in the DEIR for this analysis. The hydrogeology and groundwater impact assessment (LSCE, 2006) contained in Appendix E of the permit application directly and adequately addresses the nature of the subsurface hydraulic connection with the adjacent properties. The lower aquifer, in reality, is not completely confined and most such aquifers are considered "leaky" aquifers. However, the permeability of the confining clay layer is nonetheless substantially lower than that of the overlying materials (i.e., sand and gravel), and the net hydraulic gradient is overwhelmingly in the horizontal direction; the vertical leakage is negligible in comparison. Further, it is often the case that, even in semi-confined or "leaky" aquifers, the piezometric surface (i.e., the elevation to which the water would rise if not held under pressure) of the lower aquifer is above the confining layer of the upper aquifer.

**Response to Comment W-35:**

The commenter states that no specific calculations were presented or defensible arguments made to support the finding that expected changes in the quality of the recycling pond and wet pit

waters would be minimal and the potential for groundwater quality to be impacted is remote. Concerning the water quality assessment conducted by LSCE (2006; Appendix E of the permit application), the commenter questions the applicability of the data and sites presented by LSCE to the project site.

A number of specific calculations were, in fact, presented in the DEIR (e.g., evaporation rates and the concentration of total dissolved solids, settling velocities and times for fine sediment, groundwater inflow/outflow rates, etc.; see pages 3.8-28, 3.8-29, and 3.8-32 through 3.8-35), and a defensible argument was presented as to why the project would not have a significant impact upon groundwater quality.

The studies cited by LSCE (2006) do provide water quality information relevant to aggregate mining in general. In recognition of the potential limitations of the data, the groundwater *quality* assessment presented by LSCE (2006) was not used as the primary analysis or basis of conclusion in the DEIR (as compared to the hydrogeology and groundwater hydraulics assessment presented by LSCE [2006], which was relied upon to a much larger degree in the DEIR). The conclusions presented in DEIR with respect to the quality of groundwater were supported, for the most part, by information and calculations independent of the groundwater quality studies cited by LSCE (2006) (see pages 3.8-31 through 3.8-35 of the DEIR).

#### ***Response to Comment W-36:***

The commenter states that it is difficult to understand how dragline operations that result in agitation of sediments would not impact surface water quality during storm events when river water begins to mix with pit water and that turbid waters may present an issue to water quality during peak flows.

The potential for pit capture was explicitly addressed in the DEIR, and this potential impact was determined to be less than significant (see pages 3.8-36 through 3.8-38). In addition, the proposed project would not cause further degradation of water quality with respect to suspended sediment and turbidity; this was assessed and discussed in the DEIR (see page 3.8-35 of the DEIR).

See also Master Response #2 regarding flooding and turbidity.

#### ***Response to Comment W-37:***

The commenter asks what assurances can be made that there are no impacts to the production volume or quality of water that is produced from wells on adjacent property.

CEQA does not require that an “assurance of no impacts” be made. Rather, CEQA requires one to demonstrate that the potential environmental impacts of the project would be less than significant (or otherwise make a finding of significance). The potential impacts to neighboring groundwater wells were explicitly addressed in the DEIR on pages 3.8-29 through 3.8-35. The analyses presented were based upon the best available data; the data was deemed technically adequate and was of sufficient detail to evaluate the potential impacts of the project. The analyses determined that the proposed project would not have a significant impact upon the wells on adjacent properties.

See also response to Comments W-34 and W-35.

***Response to Comment W-38:***

The commenter asks that if there is a connection between the upper and lower aquifers, and between the aquifer below the mine site and the aquifer below adjacent properties, what are the probable impacts of mining operations on the aquifer and how may they impact the ability of adjacent land owners to develop their land.

The proposed project would not have a significant impact upon the wells on adjacent properties; this was analyzed and discussed in the DEIR (see response to comments W-34 and W-35).

***Response to Comment W-39:***

The commenter asks if the DEIR has provided sufficient site specific hydrogeologic information that demonstrates that no significant negative impacts will occur to the adjacent wells.

The DEIR has provided sufficient information to demonstrate that the project would not have a significant impact upon the wells on adjacent properties. Information concerning the existing hydrogeology of the project site is presented on pages 3.8-9 through 3.8-11 in the DEIR. Further, the potential impacts to neighboring groundwater wells were explicitly addressed in the DEIR on pages 3.8-29 through 3.8-35.

***Response to Comment W-40:***

The commenter asks if impacts to adjacent wells do occur as a result of the proposed mining operations then how will these impacts be addressed as mining operations proceed and conclude.

The proposed project would not have a significant impact upon the wells on adjacent properties; this was analyzed and discussed in the DEIR (see response to Comments W-34 and W-35).

***Response to Comment W-41:***

The commenter asks what impacts might occur to surface water quality during an overtopping event during mining operations.

Potential impacts to surface water quality were addressed and analyzed in the DEIR (see pages 3.8-24 through 3.8-27, and 3.8-35). Concerning sediment issues, the proposed project would not cause further degradation of water quality with respect to suspended sediment and turbidity.

See also Master Response #2.

***Response to Comment W-42:***

The commenter states that the DEIR says nine intersections are potentially impacted by the project; however the data collected for the traffic analysis is outdated by approximately 5 years during which time traffic pressures have likely increased.

All traffic count data used in the analysis of the project is current. All intersection and peak period counts and daily directional counts on Kunzler Ranch Road were collected in February of 2009.

**Response to Comment W-43:**

The commenter notes intersection traffic issues and that increased traffic volumes would exacerbate intersection deficiencies. Furthermore, the commenter notes that the Masonite site is in the process of development and that the economic impact that increased heavy truck traffic and use restrictions needs to be addressed.

The Draft EIR Transportation section and the background transportation report prepared for Mendocino County (*Kunzler Terrace Mine Project, Transportation Study, May 2009*) analyze and document the impacts of project traffic on the local roadway network under existing and cumulative conditions. Future traffic that may be generated by development of the Masonite site is accounted for in the Ukiah Valley Area Plan (UVAP) regional travel demand model which was used to estimate future traffic volumes in the project area.

**Response to Comment W-44:**

The commenter notes that page 21 of the Traffic Analysis assumes that a loaded truck is equivalent to 3 passenger cars and an unloaded truck is equivalent to 2 passenger cars, which underestimates the potential damage to public roadways by increased heavy truck traffic. Furthermore, the commenter calls into question the values used in the application that were based on unknown studies conducted at other quarries and the resulting fair share calculations.

It is not clear what document the commenter is referencing. There is no page 21 in either the 2009 DEIR section or the 2009 background transportation report. The passenger car equivalents used in the current studies were for the purpose of measuring peak hour operations only. Each project truck was analyzed as the equivalent of three passenger vehicles (both unloaded and loaded). This was a conservative approach which recognized that haul trucks require more space and distance in which to operate (acceleration, deceleration and stopping distance) than do typical passenger vehicles.

An in-depth analysis was conducted by the project sponsor and in the background traffic study on the potential roadway wear that may be caused by project generated truck traffic. To evaluate the potential project impact on roadway condition and maintenance, the estimated TI for current and project conditions was calculated for roadway segments on Kunzler Ranch Road and North State Street, the proposed project haul routes. The TI is a logarithm-based scale that indicates the ability of the pavement structure to support the repetitive wheel and axle loads of large trucks, given a sound structural roadway subbase. The TI was calculated in accordance with the procedures specified in the Caltrans *Highway Design Manual* on the basis of a 20-year roadway design period (the standard period used by Caltrans) and average daily truck traffic volumes (Caltrans, 2007b).

**Response to Comment W-45:**

The commenter states that no fair share costs are provided for required mitigation.

Fair share costs will be determined where appropriate by the County and Caltrans and included as conditions of approval on the proposed project. It should be noted that the DEIR does not assume that all required mitigation measures can be constructed, or that additional funding (the costs not covered by the applicant's fair share) can be obtained within a reasonable timeframe, and traffic impacts are therefore assumed to be significant and unavoidable.

***Response to Comment W-46:***

The commenter states that the Traffic Analysis does not address traffic concerns and road usage requirements on Kunzler Ranch Road and that Kunzler Ranch Road is inadequate for the proposed project based on road width, road quality, and existing utilities.

The Draft EIR Transportation section and the background transportation report prepared for Mendocino County provide a detailed analysis of project peak hour traffic operations on Kunzler Ranch Road based on current data and required County and State traffic analysis methodologies. The transportation analysis findings were used to develop mitigation measures to insure that operations on Kunzler Ranch Road and elsewhere in the study area would meet appropriate County and State criteria for safe operations of project traffic.

***Response to Comment W-47:***

The commenter asks if Kunzler Ranch Road meets County standards for the proposed use.

Kunzler Ranch Road is a private facility and therefore County standards are not applicable. The road currently serves industrial, manufacturing and agricultural land uses.

***Response to Comment W-48:***

The commenter asks if all necessary improvements on public roads have been fully addressed for the proposed project.

The DEIR has assessed the potential impacts of project generated haul traffic on Kunzler Ranch Road and on North State Street between the U.S. 101 interchanges located at Lake Mendocino Drive and State Route 222 (Talmage Road) and has proposed mitigation (improvement) measures where appropriate.

***Response to Comment W-49:***

The commenter asks if cost sharing measures are equitable given the large amount of daily heavy truck traffic over public roads and bridges.

Traffic improvement fair share measures will be determined by the County of Mendocino and Caltrans. Fair share for roadway maintenance is based on heavy trucks, while level of service is based on the total number of vehicles.

***Response to Comment W-50:***

The commenter states that a terrace is above the floodplain, that the project is within the 100-year floodplain, and that the significance of the project being located within the floodplain may not have been accurately assessed in the DEIR.

The DEIR recognized and disclosed that much of the project site is situated within the 100-year floodplain as delineated by the Federal Emergency Management Agency (FEMA) (see page 3.8-6). Potential impacts concerning flooding and the location of the project were analyzed in the DEIR (see pages 3.8-36 through 3.8-38). The term “terrace” is used in the title of the project, and helps differentiate the project from in-channel mining. The DEIR nowhere relies upon the project location as being a geologic terrace for purposes of impact analysis.

***Response to Comment W-51:***

The commenter states that Swanson’s Hydrological Analysis (Appendix C) fails to present key data, methods, and discussion relating to modeling efforts that were undertaken and fails to address certain aspects of peak flow hydraulics along Ackerman Creek and the Russian River.

ESA peer reviewed the Swanson Hydrology + Geomorphology (SHG) hydrology and hydraulics report (SHG, 2007) for technical adequacy in use as a supporting document. The SHG (2007) report is considered to be accurate and adequate for the purposes of analyzing the potential impacts of the project under CEQA. The approach to each of the geomorphic, hydrologic, and hydraulic assessments presented by SHG (2007; 2008) utilized widely accepted methodologies and models.

***Response to Comment W-52:***

The commenter states that Swanson’s Hydrological Analysis (Appendix C) does not appear to mention how their HEC-RAS model matches upstream and downstream in the project area with starting boundary conditions presented in the FEMA models.

SHG (2007) conducted an independent assessment of hydrology and hydraulics related to the potential impacts of the project. The hydraulic model developed by SHG (2007) was calibrated using accepted methodologies. It was not required, necessary, nor particularly appropriate that SHG (2007) “build-off” or incorporate input data or boundary conditions used by FEMA in their model. With respect to water surface elevations, SHG (2007) explicitly discuss how their hydraulic model results compare to water surface elevations presented by FEMA. The FEMA model covers a much larger reach and area, so the boundary conditions are likely not readily comparable between the two and the FEMA model would likely be less accurate for a site-specific analysis.

See also response to Comment W-51.

**Response to Comment W-53:**

The commenter states that Swanson's Hydrological Analysis (Appendix C) does not discuss how releases from Coyote Dam might change in the future and potential resulting impacts, also that the model does not appear to build off the FEMA model. Furthermore, the commenter states that Swanson's Analysis does not appear to have defined how they determined 20 year recurrence interval, nor did they develop a stage-discharge curve at Ackerman Creek or for the Russian River.

Defining and analyzing future changes in the release schedule of Coyote Dam would be highly speculative at this point; substantial changes to future operations are very unlikely given the proposed fish releases stipulated by an existing Biological Opinion (BO). Flood recurrence intervals (i.e., flood frequency curves) are presented in the geomorphic analysis (SHG, 2008). Calculation of a stage-discharge relationship is automatic upon running a simulation in HEC-RAS and implicit in obtaining the results; concerning the accuracy and adequacy of the hydrology and hydraulics report (SHG, 2007), it is not necessary to present every HEC-RAS output option.

See also response to Comments W-51 and W-52.

**Response to Comment W-54:**

The commenter states that in 2005 the Army Corps of Engineers released water from Lake Mendocino which caused the Russian River to over top its banks and flood the proposed project site.

Comment noted; no further response required.

**Response to Comment W-55:**

The commenter asks how might variations in future releases from Coyote Dam affect future flooding within the project area.

See response to Comment W-53.

**Response to Comment W-56:**

The commenter asks how might discharges from Coyote Dam contribute to increases in flooding in the project area.

Coyote Dam is operated for flood control by the U.S. Army Corps of Engineers (USACE) according to a set of rules established by the USACE. Any existing variation in the discharge from Coyote Dam is accounted for in the downstream flow records and measured hydrographs which, subsequently, were used in deriving the flood frequency estimates presented by SHG (2007; 2008).

See also response to Comment W-53.

**Response to Comment W-57:**

The commenter asks how Swanson's model can be accurately evaluated if the cross-section data, which is a key component used in their HEC-RAS model, is missing.

SHG (2007) used topographic data from recent surveys in constructing the HEC RAS model. The hydraulic results were presented by SHG (2007). Cross section data from the model can be generated at any time, but since they can be voluminous they were excluded from the SHG (2007) report.

The model was subject to review and quality assurance/control by SHG; the hydrology and hydraulics report was also reviewed by ESA. The model can be evaluated by assessing its predictions relative to known conditions, and by calibrating the model to better match known conditions (if necessary). The hydraulic model developed by SHG (2007) was calibrated using industry-accepted methodologies. SHG (2007) clearly defined where cross-sections were located and from where the data were obtained. Specific cross-section data (i.e., station and elevation) were not presented as part of the report (SHG, 2007), yet this in no way detracts from the adequacy or accuracy of the results and conclusions.

See also response to Comment W-51.

**Response to Comment W-58:**

The commenter states given that Swanson's model does not appear to match the FEMA model, does Swanson's model accurately represent existing and post-project conditions with respect to base flood elevations and that if it doesn't match, what explains the discrepancy and how might that discrepancy affect conclusions drawn from the model.

The hydraulic study (SHG, 2007) was developed for the benefit of engineering design and to document the flood performance of the proposed pit and the potential hydraulic changes. SHG (2007) did not endeavor to change the FEMA base flood elevations, which would not change as a result of the project. Existing ground elevations at the project within the 150 and 250 foot buffers would remain unchanged. The project hydraulic study (SHG,2007) is more conservative in the assumed peak discharges and more detailed in cross section density and accuracy than the FEMA model.

As stated and discussed in the DEIR, per the Mendocino County Inland Zoning Code, Granite would obtain and comply with the necessary County permit(s) related to specific development activities within special flood hazard areas and floodways. Issuance of this permit is ultimately at the discretion of the County.

See response to Comments W-51 and W-52.

**Response to Comment W-59:**

The commenter states that half of the model section in MBK Engineers' analysis of pit capture do not extend across the Russian River, which poses a serious technical challenge to the model and draws into question the validity of the model input.

The report authored by MBK Engineers (2006) is considered to be accurate and adequate for the purposes of analyzing the potential impacts of the project under CEQA. The approach to the hydrologic and hydraulic assessments presented by MBK Engineers (2006) utilized widely accepted methodologies and models. With respect to flood frequency and flood elevations, the DEIR relied mostly upon the analysis completed by SHG (2007). The modeled scenario that the commenter refers to (i.e., one in which an increase in water surface elevations is expected) does not reflect the proposed project design (i.e., incorporation of the overflow weir), and is therefore not relevant to assessing the potential impacts of the proposed project on water surface elevations. Cross-sections that do not extend completely across the floodplain only result in slightly more conservative estimates with respect to the water surface elevation (i.e., slightly higher elevations); this does not effect the technical adequacy of the model.

***Response to Comment W-60:***

The commenter states that the MBK report does not run scenarios for a 50 or 100 year event and that a very turbulent environment will be created when the pit is drained after an overtopping event, also that this volume of water exceeds the 5-10% of total stream flow that typically attract fish.

With respect to pit capture, the critical time period occurs when the pit walls are initially overtopped, as this is the point where the potential for erosion of the pit walls due to hydraulic forces is at it highest. MBK Engineers (2006) assessed the potential for erosion of the pit walls, and the subsequent potential for pit capture, following an overtopping event during project operation. The fact that MBK Engineers (2006) did not run scenarios specifically for a 50-year and 100-year event is irrelevant to the assessment of the potential impacts of the project. Concerning the draining of the pit through the outlet culvert, as stated in the DEIR (page 3.4-33): The length, discharge velocities, and construction design of the culvert and apron would constitute a highly effective barrier and keep fish from entering the pit while it is in operation (Stillwater Sciences, 2007).

***Response to Comment W-61:***

The commenter asks if complete cross-sections would produce radically different modeled results, if so, would those results impact design criteria of the outfall, weir, berm, or other design structures.

No, complete cross-sections across the relatively flat and featureless floodplain would not produce radically different results. See also response to Comment W-59.

***Response to Comment W-62:***

The commenter asks what the extent, depth, and velocities of floodwaters under 50 and 100-year flood events are.

During such extreme events (i.e., a 50- or 100-year flood event), much of the project site would be submerged, the pit would be filled with water and connected back to the Russian River, and the hydraulic conditions across the project site (e.g., flow depth, velocity, etc.) would be much the same as occur under existing conditions during such extreme events. Thus, with respect to the project site, the commenter's question is not relevant to the assessment of potential project impacts.

Potential impacts concerning the risk of pit capture and the stability of the pit walls upon being overtopped during flood events were addressed in the DEIR on pages 3.8-36 through 3.8-38. Potential impacts upon the 100-year flood water surface elevation in Ackerman Creek and the Russian River were addressed on page 3.8-38 of the DEIR.

***Response to Comment W-63:***

The commenter asks what the stability of the fuse plug under greater than 20-year flood event is.

As described in the DEIR (see page 3.8-37), the fuse-plug would be designed to erode away shortly after being overtopped during a 20-year flood event or larger.

***Response to Comment W-64:***

The commenter asks if the berm will be undermined or eroded away completely during a 50 or 100-year event.

The greatest risk of the pit walls and slopes being eroded or undermined would occur when the pit walls are initially overtopped (regardless of the magnitude of the flood event). This risk was explicitly addressed in the DEIR (see page 3.8-37) and the subsequent potential impact was determined to be less than significant. Project design (i.e., weir and fuse-plug) would minimize this risk, and SHN Consulting Engineers and Geologists, Inc. (SHN) (2008) confirmed that the project design provided for an acceptable factor of safety regarding pit wall stability and side slopes.

***Response to Comment W-65:***

The commenter asks if the outfall/overflow pipe into Ackerman Creek will produce an attraction flow for fish, thereby negatively impacting fish populations that might seek to enter the pit waters.

See response to Comment W-60.

***Response to Comment W-66:***

The commenter states that the DEIR discusses widening of the Russian River by 80-120 feet over 4 acres along the project area and that artificial and unwarranted improvements such as those proposed serve to upset the equilibrium of the fluvial system for the financial benefit of one land owner. Furthermore, the commenter states that this proposed widening has the potential to destabilize downstream banks and increase the potential for flooding and that the application presents no analysis of potential impacts or design criteria that may result from the proposed channel widening.

The proposed channel widening would restore the floodplain and not affect the low-water or bankfull channel. Widening the channel would tend to reduce hydraulic force and decrease the amount of bank area subject to erosion and failure. Most of the channel widening (and, as such, most of the 4 acres mentioned by the commenter) would occur along Ackerman Creek, with only a small section along the Russian River. The commenter seems to imply that all of the channel widening would occur along the Russian River, and this is not correct. Further, the commenter seems to

imply that only “natural” processes are responsible for the existing morphology of the Russian River in the project vicinity and that the fluvial system, as it exists today, is in equilibrium. We disagree with these assumptions; most scientific evidence, agency studies, and/or information found in the literature would suggest otherwise. The fact that the Upper Russian River Hydrologic Area (HA) is listed by the North Coast Regional Water Quality Control Board (NCRWQCB) as impaired due to excessive sedimentation is only one indication that the fluvial system is likely not in equilibrium.

Ackerman Creek has been straightened, narrowed and deepened by land use activities prior to the proposed project; this has led to a trend of deepening or incision, which has caused erosion along the channel historically (installation of past bank protection and grade control structures attest to the trend of incision). The main channel of the Russian River has experienced down-cutting as well, beginning in the late 1950s when sediment supply losses occurred from closure of Coyote Dam and deep gravel mining upstream on Forsythe Creek by the California Department of Transportation (CalTrans). The down-cutting has stabilized in recent decades and the channel banks have become stable with dense riparian vegetation. Little bank erosion occurs now and this would remain unchanged with the proposed project since channel widening would decrease erosive forces and bank vegetation would not be disturbed under the project (with or without the channel widening component). The proposed channel widening would occur above the approximate bankfull elevation, thus channel forming processes would not be significantly affected. The commenter’s list of potential negative impacts is speculative and no specific, causal mechanism for such impacts is given. In addition, revised Alternative 3 would eliminate the floodplain benching (channel widening), thus eliminating this concern altogether.

Please also see the response to Comment E-6.

***Response to Comment W-67:***

The commenter states that although channel widening may have a positive localized impact on salmonid habitat, there is little or no geomorphic or scientific justification for such a proposal. The commenter goes on to list human activities that have manipulated and impacted Ackerman Creek and the Russian River.

Ackerman Creek is clearly incised in the vicinity of the proposed project. Widening the creek and installing a floodplain bench would likely provide ecological and geomorphic benefits. The channel widening was designed using geomorphic principles of channel evolution following incision and down-cutting; widening and development of new floodplain surfaces within the incised channel is a natural process in the recovery of a down-cutting reach or system. The potential impacts of the proposed channel widening were analyzed and discussed as part of the DEIR (see pages 3.8-24 through 3.8-26).

See also responses to Comments E-6 and W-66.

**Response to Comment W-68:**

The commenter states that it is unclear why an already impacted major public waterway should be unnecessarily and significantly modified to benefit one property owner while potentially negatively impacting adjacent property owners.

There were no identified negative effects of the proposed channel widening for adjacent landowners. The proposed floodplain creation, widening of the riparian corridor, and positive ecological changes would benefit the Russian River system as such habitats are rare.

See also responses to Comments E-6, W-66, and W-67.

**Response to Comment W-69:**

The commenter states that Page 14 of Appendix B states that there is no documentation of significant channel stability problems resulting from mining pits along the floodplain of the Russian River, however a lack of evidence is not in and of itself evidence, also that no channel stability studies are cited in the consultant prepared report to support the above statement.

This comment does not concern nor acknowledge the adequacy or accuracy of the information disclosed in the DEIR. The statement referred to by the commenter is simply summarizing the outcome of a particular aspect of the geomorphic assessment (SHG, 2008) and is accurate. SHG (2005) found that the present Russian River channel is highly stable due to the increase in dense bank vegetation and decreased flood flows caused by the operation of Coyote Dam. Hydraulic studies of the potential for pit capture (i.e., the actual re-directing of the Russian River channel bed into the pit) demonstrated that the potential is very low given the proposed project design, implementation of relatively large buffers, and the hydraulic design of the pit (i.e., to minimize the hydraulic gradient across the pit walls during overtopping events). A geomorphic study (SHG, 2005) showed that very little lateral erosion occurs within the project reach (e.g., none over 50 feet according to the geomorphic assessment). Results of the earlier geomorphic study (SHG, 2005) were summarized in the more recent study (SHG, 2008), which was included in Granite's application and cited multiple times in the DEIR (see pages 3.8-1, 3.8-6, 3.8-8, 3.8-9, and 3.8-36).

**Response to Comment W-70:**

The commenter states that channel widening or other modifications are unnecessary and have not been assessed with respect to channel stability and potentially negative impacts to downstream landowners and land uses and that professional opinions and scientific data are not presented that demonstrate effects channel widening might have on the stability of banks up and downstream.

As designed, the channel widening component of the project retains all bank vegetation and the bankfull channel geometry. Thus, there would be little change in the sediment transport capacity and stability of the bankfull channel. Further, the hydraulic assessment (SHG, 2007) indicates that flow velocity and shear stress values over the floodplain bench would be relatively low, even during large flood events (e.g., 10-year flood or greater). On Ackerman Creek the reach proposed for widening is within the backwater of the Russian River during large flows events (i.e., events carrying a relatively large coarse sediment load), yet Ackerman Creek clearly exhibits an incised

channel morphology. This indicates that the coarse sediment supply to this reach is low. Given these aspects, the risk of destabilizing (i.e., substantial aggradation or degradation) the channel is considered to be very low.

Please also see the responses to Comments and E-6, W-66, and W-67.

***Response to Comment W-71:***

The commenter asks if a geomorphic or hydraulic study has been prepared to specifically show potential ramifications to long-term channel and bank stability of the suggested channel widening and is the reasoning for such an action justified.

Based on the existing channel morphology and sediment dynamics, as well as on information presented in the geomorphic, hydrologic, and hydraulic assessments completed for the proposed project, there would be no negative, long-term ramifications concerning channel and bank stability. The justification for the channel and floodplain widening is directed towards creating wide floodplain areas that are rare in the Russian River and Ackerman Creek and are ecologically valuable for terrestrial and aquatic wildlife (e.g., providing high velocity refugia for salmonids).

Please also see the responses to Comments W-66, W-67, and W-70.

***Response to Comment W-72:***

The commenter makes a closing statement and gives contact information.

Comment noted; no further response required.

**Letter X (Beckstoffer Vineyards)**

***Response to Comment X-1:***

The commenter gives a description of their operation and notes that they are the largest seller of luxury premium wine grapes in the north coast.

Comment noted; no further response required.

***Response to Comment X-2:***

The commenter states that they own and manage the Russian River Vineyard that is located between the Russian River and Redemeyer Road in Ukiah contiguous to Granite's Redemeyer sand and gravel terrace mine, including the use of a common driveway (an unpaved haul road for truck traffic).

Comment noted; no further response required.

***Response to Comment X-3:***

The commenter states that since Granite took ownership of the terrace mine in 2002, they have found them to be a good neighbor. The commenter notes that they produce fine wine grapes side

by side with Granite's mining operation and the haul road for sand and gravel trucks and that it has been their experience that Granite's operation has been compatible with their agricultural operation.

Comment noted; all comments will be considered by the Planning Commission in their deliberations on the project.

## **Letter Y (Pinky Kushner)**

### ***Response to Comment Y-1:***

The commenter thanks a County staff member for answering their questions.

Comment noted; no further response required.

### ***Response to Comment Y-2:***

The commenter states that the planned hours of operation for the proposed project are unreasonable and that noise will reverberate throughout Ukiah Valley affecting all residents.

Noise impacts to sensitive receptors (including residential uses) were analyzed in Impact 3.10.1. Impacts resulting from operations are less than significant.

### ***Response to Comment Y-3:***

The commenter states that noise is a cumulative issue and that the noise produced early in the morning and on Saturdays is unacceptable and unreasonable. The commenter suggests that operations begin no earlier than 7am and that there be no operation on Saturday. The commenter also states that noise should be mitigated during the normal workday.

Hours of operation are considered in the noise analysis. Cumulative truck noise is considered in Impact 3.10.2.

### ***Response to Comment Y-4:***

The commenter states that because the effects of the proposed operation will extend widely into the community that the notification list should include all persons that commented on the UVAP DEIR.

Notification for the proposed project includes a 300 foot mailing list and publication in the newspaper. In addition, notice is sent to all those who have requested it.

### ***Response to Comment Y-5:***

The commenter makes a closing statement and gives their contact information.

Comment noted; no further comment required.

## Letter Z (SCS Engineers)

### **Response to Letter Z:**

This comment letter from SCS Engineers is commenting on the project proponent's application materials and the not the DEIR prepared for the project; therefore no response is required in this Final EIR.

## Letter AA (Department of Fish and Game)

### **Response to Comment AA-1:**

The commenter states that they are responding to a request for comments, however due to reduced work schedules, the Department of Fish and Game (DFG) was not able to submit a formal response.

Comment noted; no further response required.

### **Response to Comment AA-2:**

Regarding Section 3.4 of the DEIR, the commenter states that they are unclear if a protocol level botanical survey was completed at the site, and if not, that it will be necessary to determine the presence/absence of listed and/or sensitive plants.

Protocol-level rare plant surveys were completed by Natural Resource Management Corporation (NRM) in the proposed project area in 2005. Results of this rare plant survey are detailed in *Rare Plant Survey and Vegetation Baseline for the Proposed Kunzler Terrace Mine Project Area, Ukiah, CA* (NRM, 2006) (Appendix G in the Kunzler Terrace Mine CUP and Reclamation Plan Application submitted to Mendocino County by Granite Construction Co. in February 2008).

### **Response to Comment AA-3:**

The commenter states that Table 3.4-2 is no longer accurate in its assertion that the Sonoma canescent Manzanita exists outside the range of the project site because a recent population of the species has been documented at the Willits Airport.

Table 3.4-2 in the FEIR will be updated to reflect the project area is within the known range of Sonoma canescent manzanita. However, this species was not encountered during rare plant surveys conducted in project area in 2005 and the project area provides no suitable habitat, therefore the likelihood of occurring in the project area (unlikely) will not change and there will be no impact to this species.

### **Response to Comment AA-4:**

The commenter states that Foothill yellow-legged frogs are likely to exist along riparian areas of Ackerman Creek and the Russian River and that the potential to occur in the study area column in Table 3.4-2 should be changed from "low" to "high."

Table 3.4.2 will be updated to reflect the known occurrence of Foothill yellow-legged frog in the Russian River approximately three miles southeast of the project area. In addition, the FEIR will be revised to include a Foothill yellow-legged frog life history account, impact discussion, and mitigation measures for any potentially significant impacts. Note that implementation of revised Alternative 3 would eliminate the floodplain benching component and substantially reduce potential impacts to Foothill yellow-legged frog.

***Response to Comment AA-5:***

The commenter states that the potential for the proposed terrace pit pond to serve as effective habitat for anadromous salmonids remains unknown at this time, as such, two critical variables that need additional study are on expected water temperature/water quality in the pit pond and expected occupancy of native and exotic predators (i.e., Sacramento pikeminnow, black bass, and other Centrarchids) in the pit ponds.

Refer to Response to Comment H-7.

***Response to Comment AA-6:***

The commenter states that the FEIR should include a detailed plan for eradicating and controlling invasive plant and animal species considering the present condition and the proposed management of the affected parcel.

The Kunzler Terrace Mine Reclamation Plan includes a revegetation plan for the project site. All exposed soils will be hydroseeded with a native seed mix. In addition, the revegetation plan calls for restoration of riparian and oak woodland habitats using native species. The reclamation plan addresses the issue of weed control as required under SMARA standards (California Code of Regulations section 3705[k]). See the revised reclamation plan (December 2009), page 24, for weed control standards.

***Response to Comment AA-7:***

The commenter makes a closing statement and gives their contact information.

Comment noted; no further response required.

**Comments BB – Public Hearing**

***Response to Comment BB-1:***

Commenter states the project is not a terrace mine and asks if studies been done from the perspective of a floodplain mine.

The project site is considered a terrace mine within the general meaning, although it is noted that the project is within a floodplain. All hydrologic studies note this and have considered flood frequency in the analysis.

**Response to Comment BB-2:**

Commenter states proposed setbacks may be inadequate.

See response to Comment B-11.

**Response to Comment BB-3:**

Commenter states there is no precedent for such a mine within close proximity to a City and within a floodplain.

Off-channel aggregate mines are often located within the floodplain. Proximity to an incorporated City is also not unprecedented. Both of these factors are considered in the DEIR.

**Response to Comment BB-4:**

Commenter states the project may devalue adjoining properties.

Economic effects are not normally considered within the range of effects analyzed in an EIR (see CEQA Guidelines 15131[a]). However, economic factors will be considered by the Planning Commission in their deliberations on the project.

**Response to Comment BB-5:**

Commenter is concerned with the disposition of fine sediments during flood events.

See response to Comment W-20.

**Response to Comment BB-6:**

Commenter is concerned with the lack of information on seasonal variation in groundwater levels.

Refer to page 3.8-10 of the DEIR.

**Response to Comment BB-7:**

Commenter states that information on current agricultural water usage is not included in the application documents.

This comment refers to the project application and not to the EIR. Current agricultural water usage was estimated as part of the DEIR analysis. Refer to page 3.8-28 of the DEIR.

**Response to Comment BB-8:**

The number of salmonids that could be entrapped is not provided in the application.

This comment refers to the project application and not to the EIR. Salmonid entrapment is analyzed in the DEIR. Please refer to discussion of Impact 3.4.4.

**Response to Comment BB-9:**

Commenter states the DEIR should consider roundabouts as mitigation at potential signal locations.

See response to Comment J-3. The traffic mitigation will allow for roundabouts where feasible and effective.

**Response to Comment BB-10:**

Commenter notes that Kunzler is a private road.

See response to Comment J-2.

**Response to Comment BB-11:**

Commenter states the Masonite property is not “abandoned” as described in the application materials. Masonite has spent one million dollars on the property and will be submitting a grading plan.

This comment refers to the project application and not to the EIR. The DEIR identifies the Masonite property as a vacant industrial site (page 3.9-2).

**Response to Comment B-12:**

Speaker is concerned with pit capture and weir design.

Pit capture is a potentially significant impact (prior to mitigation) identified in the DEIR. More specific comments follow.

**Response to Comment BB-13:**

Commenter states the river-pond connection alternative is the environmentally superior alternative.

This comment is consistent with the alternatives analysis in the DEIR.

**Response to Comment BB-14:**

Commenter states the benching design is sound, based on prior studies, but the speaker has several concerns with the EIR water quality analysis.

Comment noted. Specific comments follow.

**Response to Comment BB-15:**

Commenter states water quality analysis is too general.

Comment noted. Specific concerns follow.

**Response to Comment BB-16:**

Commenter is concerned with sedimentation while revegetation is being established. How will hydroseeding hold up to sheering?

See response to Comment E-6.

**Response to Comment BB-17:**

Commenter states turbidity monitoring should be required upstream and downstream. Otherwise, this responsibility is placed on the RWQCB.

See response to Comment E-9.

**Response to Comment BB-18:**

Commissioner would like to see consideration of the railroad and the viability of using rail. Rail would provide a mitigation for truck traffic.

North Coast Rail Authority Line is currently unused. Applicant could consider use of the rail in the future.

**Response to Comment BB-19:**

Commenter notes that regarding the discussion of diesel, "TAC" should be added to the list of acronyms.

Please see revised list of Acronyms in Chapter 4.

**Response to Comment BB-20:**

Commenter asks if the condition of N. State Street discussed?

N. State Street traffic conditions are discussed in Chapter 3.12.

**Response to Comment BB-21:**

Commenter asks why (in air quality section) particulate matter is so high in 2008.

Applicant responded that it was most likely due to the severe wildfires that year. This is most likely the reason.

**Response to Comment BB-22:**

Commenter states "LOS" should be included in the acronym list.

Please see revised list of Acronyms in Chapter 4.

**Response to Comment BB-23:**

Should Impacts 3.8.3, 3.8.4 and 3.8.5 be identified as significant?

The DEIR found these impacts to be less than significant, after considering standard regulatory requirements, and applicant-proposed measures contained within the Reclamation Plan. Less than significant should not be considered inconsequential or “no effect”, but the impact does not rise to the level of significance defined in the methodology.

**Response to Comment BB-24:**

Commenter refers to page 3.8-10 which notes that groundwater levels in the project vicinity rebound to approximately post-drought conditions [following increased drawdown in drought conditions]. Is this finding still valid?

There has been no recent information that contradicts the 2004 Department of Water Resources study.

**Response to Comment BB-25:**

Commenter states the EIR needs more cross-sections, particularly of Russian River.

Complete reclamation plan, with figures, is included in this FEIR.

**Response to Comment BB-26:**

Commenter asks what is “open space” [as used in the EIR]. Vegetation?

Open space refers to unimproved land. It may include vegetated (such as riparian) land, or open water. The proposed end use of the project includes open water and a vegetated shore area.

**Response to Comment BB-27:**

Commenter asks, regarding the discussion of monitoring impacts to raptors and osprey, how realistic is it that work would actually be stopped?

Mitigation Measure 3.4.1 is fully enforceable by both the County and the Department of Fish and Game.

**Response to Comment BB-28:**

The Commissioner requested an explanation of the river connection mining alternative. The applicant’s geohydrologist, Mitch Swanson, noted that the connection would be adjusted to the 10-year flood level during operation, and stabilized with geotextile. Following operations [reclamation phase] the connection height would be set (using gauge data) to occur during the 100 highest water days of the year. No further response is required.

## Chapter 4

### Minor Revisions to the Draft Environmental Impact Report



# CHAPTER 4

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## Minor Revisions to the Draft Environmental Impact Report

This chapter contains minor revisions and additions to the Draft EIR, issued September 2009. None of the changes identified in this chapter constitutes significant new information or results in any new significant impacts.

### 4.1 Revisions

Revisions to the Draft EIR are listed in the order they appear. New text is indicated by underline and deletions are shown in ~~strikethrough~~.

#### Changes to Chapter 2, Project Description

The EIR is amended to read as follows on page 2-7:

Stockpile management is discussed later under “~~Reclamation Plan~~” and its location is shown on Figure 2-3a, “Mining Plan Phase 1.”~~Exhibit 6A: Reclamation Phasing.~~

The EIR is amended to read as follows on page 2-8:

~~(See Exhibit 4 of the Reclamation Plan, “Setbacks for site layout and circulation flow”.)~~

The EIR is amended to read as follows on page 2-12:

The reclamation plan is for the mining and processing of sand and gravel on a 65.3-acre project site (see Figures 2-3a, 2-3b, and 2-3c~~Exhibits 1 and 2~~).

Section 2.1.6, List of Permits and Approvals, is amended on page 2-19 to include the following:

- **Mendocino County Water Agency** – The Mendocino county Water Agency is the County lead Agency for the Mendocino county National Pollutant Discharge Elimination System (NPDES) Phase II permit with the RWQCB. Although NPDES permitting is conducted through the RWQCB, issues regarding water quality and storm water runoff are directed to the Water Agency, which will be conducting storm water inspections on a regular basis of not less than once a year.

## Changes to Section 3.2, Agricultural Resources

The following sentence is deleted from page 3.2-9:

~~Active agricultural production has ceased on the project site due to poor quality and low production.~~

## Changes to Section 3.3, Air Quality

On page 3.3-18, the significance thresholds for criteria pollutants is revised as follows:

MCAQMD considers impacts to be significant if emissions of any pollutant exceed one half the level defined as significant for stationary sources in Regulation 1, Rule 130 of the District. Specifically, emissions would be considered significant if they exceed the following: significance criteria (as defined in Rule 1-130) are based on the potential of a new or modified source to emit air contaminants that would equal or exceed any of the following:

- NO<sub>x</sub> or ROG – ~~220~~ 110 pounds per day;
- CO – ~~550~~ 275 pounds per day;
- SO<sub>2</sub> – ~~220~~ 110 pounds per day; and
- PM<sub>10</sub> – ~~80~~ 40 pounds per day.

Table 3.3-5 is renumbered 3.3-5A and revised as shown below. Table 3.3-5A corrects the MCAQMD thresholds of significance and specifies that the emission levels shown are prior to any mitigation measures.

**TABLE 3.3-5A  
PROPOSED PROJECT MINING OPERATIONAL UNMITIGATED AIR POLLUTANT EMISSIONS<sup>1</sup>**

Mining Operations	Criteria Pollutant Emissions (lbs/day)					
	ROG	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Year 2009	11	57	172	0	70	15
Year 2010	12	56	170	0	70	15
Year 2011	13	55	167	0	70	15
Year 2012	15	57	176	0	70	15
Year 2013	16	56	174	0	30	7
Year 2014	17	55	172	0	70	15
Year 2015	17	51	161	0	70	16
Year 2016	18	51	161	0	70	16
Year 2017	19	51	161	0	70	16
Year 2018	21	54	173	0	70	16
Year 2019	22	54	174	0	31	8
Year 2020	23	54	175	0	31	8
Year 2021	24	51	173	0	71	17
Year 2022	24	49	165	0	71	17

**TABLE 3.3-5A**  
**PROPOSED PROJECT MINING OPERATIONAL UNMITIGATED AIR POLLUTANT EMISSIONS<sup>1</sup>**

Mining Operations	Criteria Pollutant Emissions (lbs/day)					
	ROG	CO	NOx	SO2	PM10	PM2.5
Year 2023	26	50	167	0	71	17
Year 2024	27	51	169	0	72	17
Year 2025	29	55	183	0	72	17
Year 2026	30	55	185	0	32	10
Year 2027	32	55	187	0	33	10
Year 2028	33	56	190	0	33	10
Year 2029	34	57	192	0	33	10
Year 2030	16	44	120	0	29	7
Year 2031	16	44	121	0	29	7
Year 2032	17	44	121	0	30	7
Year 2033	17	45	122	0	30	7
Year 2034	18	46	123	0	30	7
<b>Thresholds (pounds/day)</b>	<b><u>220110</u></b>	<b><u>550275</u></b>	<b><u>220110</u></b>	<b><u>220110</u></b>	<b><u>8040</u></b>	<b><u>8040<sup>2</sup></u></b>
<b>Significant (Yes or No)?</b>	<b>No</b>	<b>No</b>	<b><u>NoYes</u></b>	<b>No</b>	<b><u>NoYes</u></b>	<b>No</b>

1. Emissions were modeled using several models and emission factors, including the URBEMIS2007 model (for off-road equipment, haul truck exhaust, and fugitive dust from grading), U.S. EPA AP-42 (for processing plant fugitive dust (section 11.19.2 - Crushed Stone Processing and Pulverized Mineral Processing), unpaved roads (section 13.2.2 - Unpaved Roads), and aggregate handling and storage piles (section 13.2.4 - Aggregate Handling and Storage Piles)), and EMFAC2007 for worker commute trips. These emission factors and modeling are described in more detail in Appendix B.

2. PM2.5 is not included in the MCAQMD definition of significance under Rule 1-130. For this analysis, it is assumed that if the threshold of PM10 is exceeded then PM2.5 would also be significant.

SOURCE: ESA, 2009.

Table 3.3-5B is added to the EIR. Table 3.3-5B shows the emission levels of criteria pollutants after Measure 3.3.1 is considered.

**TABLE 3.3-5B**  
**PROPOSED PROJECT MINING OPERATIONAL MITIGATED AIR POLLUTANT EMISSIONS<sup>1</sup>**

Mining Operations	Criteria Pollutant Emissions (lbs/day)					
	ROG	CO	NOx	SO2	PM10	PM2.5
Year 2009	11	57	96	0	37	8
Year 2010	12	56	95	0	37	8
Year 2011	13	55	94	0	37	8
Year 2012	15	57	99	0	37	8
Year 2013	16	56	97	0	16	4
Year 2014	17	55	96	0	37	8
Year 2015	17	51	90	0	37	8
Year 2016	18	51	90	0	37	8
Year 2017	19	51	90	0	37	8
Year 2018	21	54	97	0	37	8
Year 2019	22	54	97	0	16	4
Year 2020	23	54	98	0	16	4
Year 2021	24	51	97	0	38	9
Year 2022	24	49	92	0	38	9

**TABLE 3.3-5B  
PROPOSED PROJECT MINING OPERATIONAL MITIGATED AIR POLLUTANT EMISSIONS<sup>1</sup>**

Mining Operations	Criteria Pollutant Emissions (lbs/day)					
	ROG	CO	NOx	SO2	PM10	PM2.5
Year 2023	26	50	94	0	38	9
Year 2024	27	51	95	0	38	9
Year 2025	29	55	102	0	38	9
Year 2026	30	55	104	0	17	5
Year 2027	32	55	105	0	17	5
Year 2028	33	56	106	0	17	5
Year 2029	34	57	108	0	17	5
Year 2030	16	44	67	0	15	4
Year 2031	16	44	68	0	15	4
Year 2032	17	44	68	0	16	4
Year 2033	17	45	68	0	16	4
Year 2034	18	46	69	0	16	4
<b>Thresholds (pounds/day)</b>	<b>110</b>	<b>275</b>	<b>110</b>	<b>110</b>	<b>40</b>	<b>40<sup>2</sup></b>
<b>Significant (Yes or No)?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

1. Emissions were modeled using several models and emission factors, including the URBEMIS2007 model (for off-road equipment, haul truck exhaust, and fugitive dust from grading), U.S. EPA AP-42 (for processing plant fugitive dust (section 11.19.2 - Crushed Stone Processing and Pulverized Mineral Processing), unpaved roads (section 13.2.2 - Unpaved Roads), and aggregate handling and storage piles (section 13.2.4 - Aggregate Handling and Storage Piles)), and EMFAC2007 for worker commute trips. These emission factors and modeling are described in more detail in Appendix C.

2. PM2.5 is not included in the MCAQMD definition of significance under Rule 1-130. For this analysis, it is assumed that if the threshold of PM10 is exceeded then PM2.5 would also be significant.

SOURCE: ESA, 2009.

Mitigation Measure 3.3.1 is added:

**Mitigation Measure 3.3.1:** Implement Mitigation Measure 3.3.3 and comply with MCAQMD fugitive dust control requirements (Rule 1-430).

**Significance after Mitigation:** The mitigation presented above would reduce NOx emissions from off-road equipment and diesel trucks by approximately 44 percent. In addition, implementation of the mitigation measure would reduce particulate matter (exhaust and fugitive dust) by at least 47 percent, which would be a conservative estimate. Therefore, with implementation of the mitigation measure presented above, criteria pollutant emissions from the project would be reduced to less-than-significant.

Note that Mitigation Measure 3.3.1 consists of measures already required. Dust control is required by air district Rule 1-430. Mitigation Measure 3.3.3 is required to reduce the emissions of diesel particulate matter. So, although the thresholds of significance for criteria pollutants have been lowered for purposes of the Final EIR, the resulting impact is less than significant when enforceable emission controls are considered. The revised thresholds of significance and the implementation of Mitigation Measure 3.3.1 have been done in consultation with the MCAQMD.

Mitigation Measure 3.3.3 is revised as follows:

**Mitigation Measure 3.3.3:** The applicant shall implement one of the following:

- ~~50~~ Approximately 55 percent of off-road mining equipment with 50 horsepower or greater used in mining operations shall be equipped with CARB verified Level 3 emission control technologies. Such technology would reduce particulate matter emissions by 85 percent or greater or to a level of less than 0.01 g/bhp-hr; or
- Utilize a conveyer belt system to transport aggregate from the ~~pits~~ mine to the processing area.

**Significance after Mitigation:** The mitigation measure presented above would reduce DPM emissions from off-road equipment by up to ~~40~~ 47 percent. It can be assumed that at a minimum, emissions would be reduced by the 15 percent needed to reduce impacts to a less-than-significant level at the nearest off-site workers. Therefore, with implementation of the mitigation measure presented above, impacts from exposure to DPM would be less-than-significant.

On page 3.3-27 of the EIR, Footnote 1 of Table 3.3-6 is amended as follows:

Emissions were modeled using several models and emission factors, which is described in more detail in Appendix BC.

## Changes to Section 3.4, Biological Resources

The EIR is amended to read as follows in Table 3.4.2 on page 3.4-9:

<i>Rana boylei</i> Foothill yellow-legged frog	<del>---/CSC/---</del>	<b>Breeds in shaded stream habitats with rocky, cobble substrate, usually below 6,000 feet in elevation. Absent or infrequent when introduced predators are present.</b>	<b><u>Low-High – Ackerman Creek and the Russian River may provide limited habitat (slow/low flow portions). Predator species present in both Ackerman Creek and Russian River. However, recent surveys at the Russian River bridge crossing at Talmage (approximately 3 miles southeast of the study area) documented FYLF presence.</u></b>
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The EIR is amended to read as follows in Table 3.4.2 on page 3.4-10:

<i>Arctostaphylos canescens</i> ssp. <i>sonomensis</i> Sonoma canescent manzanita	<del>---/1B.2</del>	Found in lower montane coniferous forest and chaparral habitat.	Unlikely – Study area <del>is outside of species range and</del> provides no suitable habitat. Species not observed during plant surveys performed in 2005.
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The EIR is amended to read as follows on page 3.4-13:

### **Foothill Yellow-legged Frog**

The Foothill yellow-legged frog (FYLF) is a gray, brownish, or olive colored frog that tends to match the background of its habitat. It can be plain or mottled with dark spotting and it does not have a mask through its eyes. Foothill yellow-legged frogs have a light-colored

band across the top of their head and the ventral part of their rear legs and lower abdomen is yellow.

Adults eat both aquatic and terrestrial invertebrates. Adult insects appear to be favored, but snails, and pieces of molted skin have also been found in stomach samples. Tadpoles probably graze on algae and diatoms along rocky stream bottoms.

Adults often bask on exposed rock surfaces near streams. When disturbed, they dive into the water and take refuge under submerged rocks or sediments. During periods of inactivity, especially during cold weather, individuals seek cover under rocks in the streams or on shore within a few meters of water. Egg clusters are attached to gravel or rocks in moving water near stream margins.

The FYLF occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles Co., in most of northern California west of the Cascade crest, and along the western flank of the Sierra south to Kern Co. Isolated populations are known from the mountains of Los Angeles County. Its elevation range extends from near sea level to 1940 m (6370 ft) in the Sierra. The foothill yellow-legged frog is found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types.

Suitable habitat for the FYLF exists on the project site in Ackerman Creek, the Russian River, and riparian corridors adjacent to these waterways. The nearest CNDDDB occurrence is from 2001 and is approximately one and one-half mile south of the project site in the Russian River (CDFG, 2009b). Rick Macedo, a staff environmental scientist for the North Branch CDFG reports a recent occurrence of FYLF in the Russian River at the bridge crossing at Talmage which is approximately 3 miles southeast of the project site (Pers. Comm. 2009).

The following paragraph is added to Impact 3.4.1 (following the first paragraph) on page 3.4-28 of the EIR:

Operation of the mine has the potential to impact nesting birds and raptors through indirect impacts from disturbances due to noise. Suitable nesting habitat occurs along the Russian River corridor north and south of the project site and along portions of Ackerman Creek. However, existing land uses in the area are predominantly industrial and include a lumber yard immediately north of Ackerman Creek, a truck maintenance and repair shop on the northwest corner of the site, and a beverage distributor warehouse immediately to the west. Noise levels for the Kunzler Terrace Mine are conservatively projected to be between 51dBA and 55dBA, which is within range of existing noise levels in the immediate project vicinity, which ranged from 49dBA to 60dBA during measurements taken for the noise study conducted for the project (see Chapter 3.10 Noise and Acoustics). Therefore, the operation of the mine is not expected to have an increase in noise levels in the area as compared to the existing conditions no additional mitigation will be required.

Mitigation Measure 3.4.1 is amended as follows:

**Measure 3.4.1:** The following measures shall be implemented to reduce potential impacts on nesting ~~birds~~ osprey and other raptors:

1. If project activities (construction including clearing and grubbing, and initial grading, mining, and reclamation) will begin between March 1 and September 30 (nesting season). A qualified biologist shall conduct a preconstruction survey of all potential nesting habitats within 30 days prior to the start of project activities (~~grubbing, dirt moving, mobilization, or other construction related activities~~) and within 500 feet of ~~construction~~ project-activities on the west side of the Russian River. If ~~ground-disturbing~~ project activities are delayed or suspended for more than 30 days after the pre-construction survey and during the nesting season, the site shall be resurveyed. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if special-status birds are documented) and/or Mendocino County. This memorandum shall be made available to MCWA and to other agencies upon request.
2. If an active nest is found during the preconstruction survey, coordination with the California Department of Fish and Game will be required to determine the appropriate protective measures.
3. If the preconstruction survey indicates that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by birds or that are located more than 500 feet from active nests may be removed (500 feet is the distance regularly recommended by DFG to prevent impacts to active raptor and other avian nests). This distance may be modified in consultation with DFG.
4. If an active nest is located within 250 feet of ~~the proposed project activities site,~~ a biologist shall monitor the nest weekly during ~~mining, reclamation, restoration, and benching project~~ activities to evaluate potential nesting ~~disturbances caused by construction activities.~~ The biological monitor will have the authority to stop work if work appears to be resulting in nest abandonment or forced fledging. No trees with active nests shall be removed until the nest is determined to be inactive. This monitoring requirement may be modified in consultation with DFG.
5. The biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.

Mitigation Measure 3.4.2 on page 3.4-29 of the EIR is revised as follows:

**Measure 3.4.2:** To reduce impacts to northwestern pond turtle, the following measures shall be implemented:

1. No more than two weeks prior to the commencement of ground-disturbing activities within the aquatic or riparian areas, the applicant will retain a qualified biologist to perform surveys for northwestern pond turtle within affected suitable aquatic and ~~upland~~ riparian habitat on the project site. Surveys will include northwestern pond turtle nests as well as individuals. The biologist (with the appropriate agency permits) will temporarily relocate any identified northwestern pond turtles upstream of the

construction site, and temporary barriers will be placed around the construction site to prevent ingress.

2. Construction shall not proceed until the work area is determined to be free of northwestern pond turtles and their nests. A biologist will monitor all ground-disturbing project activities within the aquatic or riparian areas. The biologist will be responsible for relocating adult northwestern pond turtles that move into the construction zone after construction has begun. If a nest is located within a work area, the biologist (with the appropriate permits from the CDFG) may move the eggs to a suitable facility for incubation, and release hatchlings into the creek system in late fall. ~~The biologist will be present on the project site during initial ground clearing and grading, mining, reclamation, restoration, and floodplain benching, and during all other construction activities adjacent to drainages with the potential to support northwestern pond turtle.~~
3. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if northwestern pond turtles are documented) and/or Mendocino County. This memorandum shall be made available to MCWA and other requesting agencies. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.

Mitigation Measure 3.4.3 on page 3.4-31 of the EIR is revised as follows:

**Measure 3.4.3:** The following measures will avoid or minimize potential construction-related impacts to special-status salmonids present in the vicinity of project site:

1. All construction activities within the Russian River and Ackerman Creek will be restricted to low-flow periods of June 15 through October 15. Longer in-water work periods may be approved only in consultation with NOAA Fisheries.
2. If construction activities within actively flowing channels are necessary, water from around the construction area will be diverted around the construction area using a sheet pile coffer dam or similar technique. Measures 3, 4 and 5, shall apply to the use of a cofferdam.
3. Sediment curtains will be placed downstream of the construction zone to prevent sediment disturbed during coffer dam installation from being transported and deposited outside of the construction zone.
4. Prior to construction of the placement of the sediment curtains and installation of the coffer dam, a qualified fisheries biologist will conduct fish relocation activities, and immediately release captured fish to a suitable habitat near the project site. Capture and relocation activities will be conducted in accordance with the Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act (NMFS, 2000).
5. A qualified fisheries biologist shall monitor the construction site during placement and removal of the cofferdams, as well as during dewatering of the construction

site, to ensure that adverse effects to special-status fish species are minimized and to capture and relocate, if necessary, and special-status fish stranded within the coffer dam.

6. Silt fencing will be installed in all areas where construction occurs within 100 feet of Ackerman Creek and the Russian River and where construction runoff may flow into the channel. Spoil sites will be located so they do not drain directly into the waterways. If a spoil site drains into a water body, catch basins will be constructed to intercept sediment before it reaches the channels.
7. Spoil sites will be graded to reduce the potential for erosion.
8. A spill prevention plan for potentially hazardous materials will be prepared and implemented. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching the creek channels. See also Mitigation Measure 3.7.1.
9. Equipment and materials will be stored at least 50 feet from waterways. No debris such as trash and spoils will be deposited within 100 feet of waterways. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, will be located outside of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream will be positioned over drip pans. Any equipment or vehicles driven and/or operated within or adjacent to the stream will be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Vehicles will be moved away from the stream prior to refueling and lubrication.
10. Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the creeks. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e., away from sensitive drainages).
- ~~11. Water for dust abatement, if necessary, shall be acquired from an off site source.~~
- ~~11.1.~~ A qualified biological monitor will be on site during construction activities within actively flowing channels. The biological monitor will be authorized to halt construction if impacts to special-status salmonid species are evident.
- ~~11.2.~~ Current riparian vegetation will be retained to the extent feasible.
13. Should floodplain benching be included in the approved project, a hydro-seeding mix that includes a mixture of annual and native perennial species (e.g., creeping wild rye or other deep-rooted species), will be applied to reduce the potential for erosion.
14. A technical memorandum summarizing all fish relocation activities shall be submitted to NOAA Fisheries and/or Mendocino County. This memorandum shall be made available to MCWA and other requesting agencies. In addition, the

biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.

Mitigation Measure 3.4.4 is amended to read as follows on page 3.4-31:

**Measure 3.4.4:** The following measures will avoid or minimize potential mining-related impacts to special-status salmonids present in the vicinity of project site.

#### **Mining Phase**

For the duration of the estimated 20-year mining phase of the proposed project, Granite shall develop and implement a salmonid rescue and relocation program in consultation with NMFS and CDFG. The program shall be implemented subsequent to overtopping events. Mining activities shall be halted until salmonid rescues have been completed. This measure will minimize entrapment of salmonids in the pit to greatest extent feasible.

#### **Reclamation Phase**

~~Option A. Prior to completion of reclamation, Granite shall, in coordination with NMFS and CDFG, evaluate the results of the biological feasibility, and design and construct an alternative reclamation design consistent with the extended hydrologic connection concept discussed above during the 5-year reclamation phase (see also Chapter 4, Project Alternatives). If, during coordination with NMFS and CDFG, regulatory agency staff determine that the potential adverse water quality within the pit would outweigh the expected benefits to salmonid habitat, Granite shall not implement this mitigation measure. The applicant shall implement the river-pond connection described in Alternative 3 of the EIR; or~~

Option B. Granite shall maintain a salmonid rescue and relocation program in consultation with NMFS and CDFG until it is determined by those agencies that such a program is no longer necessary.

The EIR is amended to read as follows on page 3.4-37:

**Measure ~~3.4.5~~ 3.4.6:** The following measures will avoid or minimize potential construction-related impacts to riparian habitat:

1. Prior to removal of any trees, an ISA Certified Arborist shall conduct a tree survey in areas that may be impacted by construction activities. This survey shall document tree resources that may be adversely impacted by implementation of the proposed project. The survey will follow standard professional practices. The survey shall be documented in a report which details the number of trees to be removed as well as the trees' species, DBH, and condition. This report shall be submitted to Mendocino County and shall be made available to MCWA and other agencies upon request.
2. Current riparian vegetation will be retained to extent feasible. A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. The TPZ will be delineated by an ISA Certified Arborist. The TPZ shall be defined by the radius of the dripline of the tree(s) plus one foot. The TPZ of any protected

trees shall be demarcated using fencing that will remain in place for the duration of construction activities.

Construction-related activities shall be limited within the TPZ to those activities that can be done by hand. No heavy equipment or machinery shall be operated within the TPZ. Grading shall be prohibited within the TPZ. No construction materials, equipment, or heavy machinery shall be stored within the TPZ.

3. To ensure that there is no net loss of riparian habitat, Granite shall create or restore riparian habitat that is of a like function and value to the habitats lost pursuant to the reclamation plan. ~~This mitigation shall include compensation for the loss of 1.7 acres of riparian habitat. This mitigation shall include the planting of 2.7 acres of floodplain/mixed native riparian, 1.3 acres of mixed native riparian, and 1.5 acres of oak woodland. The planting associated with the floodplain benching is a component of Phase I of the project and shall occur as soon as possible after the removal of the existing riparian vegetation. See the *The Kunzler Terrace Mine Reclamation Plan* (Granite, 2008) for the floodplain construction and restoration plan specifics. This plan also includes performance standards for revegetation that will ensure successful restoration of the riparian areas and other impacted habitats. Annual monitoring of the performance standards for revegetated areas shall be documented in a report which details the results of the monitoring. This report shall be submitted to Mendocino County and shall be made available to MCWA and other agencies upon request.~~
4. ~~The project applicant will replace any trees removed to ensure no net loss of habitat functions or values. All trees planted will be purchased from a locally adapted genetic stock obtained within 50 miles of the project site. Oak species shall be replaced at a 3:1 ratio. All other species shall be replaced at a 2:1 ratio.~~

The following analysis is added to the EIR on page 3.4-37:

**Impact 3.4.7: Reclamation, floodplain benching, and mining operations have the potential to result in adverse impacts to Foothill yellow-legged frog; therefore this impact is considered potentially significant.**

The Russian River and Ackerman Creek provide potentially suitable aquatic habitat and adjacent riparian corridors provide suitable upland habitat for Foothill yellow-legged frog (FYLF). Granite proposes to improve floodplain function by widening the Ackerman Creek and Russian River channel. Construction will consist of creating a narrow (50- to 55-foot wide) floodplain that is approximately 7 feet and 11 to 12 feet above the low flow water surface elevations of Ackerman Creek and the Russian River, respectively. The sideslopes will be excavated at a 3:1 (horizontal:vertical) slope to the top of the bank. The footprint of the project would average 85 feet wide by 1,300 feet long on the south bank of Ackerman Creek and 70 feet wide by 425 feet long on the west bank of the Russian River. The base elevation of the constructed floodplain would be below the 2-year flood return interval. Construction associated with floodplain benching will impact potentially suitable FYLF upland and aquatic habitat. Native vegetation will be planted on the newly constructed floodplain and associated side slopes, high terrace buffer area, and pit/property line setback perimeter which will provide long-term habitat improvements

for FYLF; however short-term, construction-related impacts to FYLF may result. This is a potentially significant impact.

In-channel construction activities have the potential to adversely affect FYLF and their habitat in a number of ways. Deposition of soil and other material during construction activities into the creek and river could affect breeding and egg-laying habitat. Erosion of the excavated surface could introduce sediment into the channels which fills in cobbles required for egg attachment. Equipment operations may result in harm to FYLF individuals that may be in the vicinity. Loss of riparian trees could reduce canopy closure leading to increased water temperatures and loss of large woody debris recruitment. Therefore floodplain benching may result in significant impact to FYLF.

Construction of the proposed project and mining operations will impact potentially suitable upland habitat adjacent to the Russian River and Ackerman Creek which may result in a significant impact to FYLF. With implementation of Mitigation Measure 3.4.7 these potential impacts would be reduced to less than significant.

### **Mitigation Measure**

**Measure 3.4.7:** The following measures will avoid or minimize potential construction-related impacts to FYLF potentially present in the vicinity of project site:

1. Construction activities within FYLF habitat (within the channel of the Russian River and Ackerman Creek) shall be conducted between April 1 and November 1 (FYLF active period). A qualified biologist, holding all pertinent permits or authorization for handling FYLF shall conduct a pre-construction survey (for any and all life stages) of the proposed project site two weeks prior to the onset of construction activities, shall provide construction crew training on minimization measures pertinent to the project, and shall monitor the construction site for compliance with minimization measures during construction. The results of pre-construction surveys shall be documented in a technical memorandum that shall be submitted to the USFWS, Mendocino County, and other agencies upon request.
2. Silt fencing will be installed in all areas where construction occurs within 100 feet of Ackerman Creek and the Russian River and where construction runoff may flow into the channel (per Mitigation Measure 3.4.3).
3. Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the Creek/River. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e. away from sensitive drainages).
4. A qualified biological monitor will be on site during construction activities. The biological monitor will be authorized to halt construction if impacts to FYLF are evident. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring

log shall be submitted each month to the USFWS, Mendocino County and will be available for review by any other interested parties.

5. Current riparian vegetation will be retained to extent feasible.

**Impact Significance after Mitigation: Less than significant.**

The EIR is amended to read as follows on page 3.4-38:

CDFG. 2009b. California Natural Diversity Database (CNDDDB) Rarefind 3 computer program, California Department of Fish and Game, Wildlife Habitat Data Analysis Branch, Sacramento, California, ~~January~~ December 2009.

## Changes to Section 3.5, Cultural Resources

The EIR is amended to read as follows on page 3.5-3:

The Pomo cultural assemblage includes small corner-notched points, mortars and pestles, tule leggings and sandals, and a diversity of beads of haliotis shell and other ornamental objects such as incised ear tubes made of bird bone or wooden rods, as well as a highly developed basketry tradition (Kroeber 1925: 240). The nearest ethnographic village to the project area is *c̄ȳō'ʹ*. Early 20<sup>th</sup>-century ethnographer Samuel Barrett (1908) described *c̄ȳō'ʹ* as an uninhabited modern village on the north bank of Ackerman Creek at its confluence with the Russian River. At that time, the site was covered by a hop field on the Bartlett Ranch. According to one of Barrett's informants, the village was also situated on the east bank of the Russian River.

Mitigation Measure 3.5.1a on page 3.5-12 is revised as follows:

**Measure 3.5.1a:** CA-MEN-3111H (the rails, ties, and ballast of the NWPRR adjacent to the project site) shall be avoided during all project related ~~actions or~~ ground-disturbing activities. If avoidance is not possible, an assessment should be completed by a qualified Architectural Historian to determine whether CA-MEN-3111H is eligible for inclusion on the California Register of Historical Resources or the National Register of Historic Places. Tasks necessary for the completion of such an evaluation may include, and are not limited to, further documentary research, resource site visit and condition assessment, the identification and recordation of any associated structural features such as historic-period culverts or bridges, and the completion of eligibility applications (if necessary). A technical report detailing the methodology and results, as well as significance and eligibility assessment shall be drafted for submission. Normal use of the road easement (Kunzler Ranch Road) by vehicles, including haul trucks, to access the project site is excluded from this mitigation measure.

Mitigation Measure 3.5.1b on page 3.5-12 is revised as follows:

**Measure 3.5.1b:** An archaeological monitoring plan for ground-disturbing activities within the setback areas of the Russian River and Ackerman Creek shall ~~As a result of previous archaeological studies and recommendations, as well as recommendations made by consulted Native American individuals, an archaeological monitoring plan should be~~ developed and implemented by a qualified archaeologist who meets the Secretary of Interior's Standards, in consultation with the Lead Agency and local Native American representatives. Specific monitoring scheduling and protocols will be defined by the

archaeological monitoring plan; ~~at a minimum full-time archaeological monitoring should occur during all ground-disturbing activities within 200 feet of CA-MEN 3111H, Ackerman Creek, and the Russian River.~~ The archaeological monitor is responsible for the completion of daily monitoring logs and will likewise document and photograph any cultural materials discovered during ground-disturbing activities. Should previously unknown archaeological or historical resources be encountered, Mitigation Measure 3.5.1c must be implemented. Should previously unknown human burials or remains be encountered during project activities, Mitigation Measure 3.5.2 must be implemented.

## Changes to Section 3.6, Geology, Soils, and Seismicity

The EIR is amended to read as follows on page 3.6-11:

The proposed project ~~would involve excavation and removal of~~ will excavate and remove sand, gravel, and overburden to ~~depths averaging a maximum depth of 65 feet below ground surface for the north pit and 40 feet below ground surface for the south pit.~~

## Changes to Section 3.7, Hazards and Hazardous Materials

Mitigation Measure on page 3.7-11 is revised as follows:

**Measure 3.7.1:** The project applicant shall ensure, through the enforcement of contractual obligations, that all contractors transport, store, and handle construction related hazardous materials on the project site in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the California Department of Transportation, Regional Water Quality Control Board, and MCEHD, such as the Storage Statement and a Spill Prevention Control and Countermeasure Plan and the Hazardous Materials Management Plan prepared as part of the proposed project. The project applicant shall also ensure that all contractors immediately control the source of any leak and immediately contain any spill utilizing appropriate spill containment and countermeasures as outlined in the Spill Prevention Plan. If required by any regulatory agency, contaminated media shall be collected and disposed of at an offsite facility approved to accept such media. In addition, all precautions required by the RWQCB-issued NPDES construction activity storm water permits will be taken to ensure that no hazardous materials enter any nearby waterways.

## Changes to Section 3.8, Hydrology/Water Quality

The EIR is amended to read as follows on page 3.8-6:

Historically and under current conditions, flooding occurs on and adjacent to the project site during floods much smaller than the 100-year event. During typical flood conditions, the rising water surface elevation on the Russian River creates a backwater effect upon Ackerman Creek. As estimated by hydraulic modeling (SHG, 2007), flooding of the project site first occurs on the north side by way of Ackerman Creek overtopping its bank when the Russian River is discharging at 19,700 cfs (equivalent in magnitude to the estimated ~~40-year~~ 20-year recurrence interval). Thus, in any given year, there is a five percent chance

(i.e., an event equal in magnitude to the ~~10-year~~ 20-year peak flow) that the banks of Ackerman Creek would be overtopped and result in flooding of the project parcel.

The EIR is amended to read as follows on page 3.8-26, the last paragraph under **Impact 3.8.1**:

The measures proposed as part of the project, Mitigation Measure 3.4.3 (in Chapter 3.4, Biological Resources), as well as the existing measures required by the SWRCB and the NCRWQCB (e.g., the general permits), are sufficient to reduce potential construction and mining-related storm water quality impacts to a less-than-significant level.

The EIR is amended to read as follows on page 3.8-27, first paragraph under **Impact 3.8.3**:

During the mining phase, the project proposes to excavate over an area of approximately 30.3 acres (i.e., the proposed pit footprint) and the maximum depth of excavation would be 65 feet. After the mining phase is complete, the pit would be reclaimed as open body of water (lake) that would be flooded only during rare events (i.e., ~~10-year~~ 20-year flows and greater). During the mining and reclamation phases, the water in the pit for the most part would be exposed groundwater. Groundwater levels in the vicinity of the proposed project have shown a consistent seasonal fluctuation and long-term stability, with the typical depth to groundwater ranging from approximately 15 feet in the spring to 25 feet during the fall. A potential impact arising from the mining and reclamation of the pit is the depletion of the shallow aquifer and a lowering of the local groundwater table due to evaporative losses and the overall water demand of the proposed project.

Mitigation Measure 3.8.6, on page 3.8-37, is amended to read as follows:

**Measure 3.8.6:** The condition of the weir shall be inspected annually (in the spring, prior to May 1st) for stability. The inspection shall be performed by a professional engineer licensed in the State of California. Any erosion or undercutting of the weir base or perimeter, or other factors that could impact weir stability, shall be noted and repaired immediately. An inspection of the setback areas shall also be performed annually (at the same time as weir inspection), with emphasis upon the topographic low points (such as the location near the southeast corner of the project site where the pit would begin draining to the Russian River when full). Any substantial erosion shall be noted (i.e., evidence of gulying or head-cutting across the ground surface) and repaired immediately (e.g., using turf reinforcement mats [TRM], rock, or other similar approaches). All repairs or maintenance activities shall be completed by October 1st of the same year. Granite shall submit an inspection report to Mendocino County staff each year documenting the results of the inspection and, if repairs or maintenance are necessary, providing a work plan for addressing all noted issues. Granite shall incur all responsibilities and costs for inspection, maintenance, and repair for the life of the proposed project. Prior to completion of the proposed project, a deed restriction (in form and substance acceptable to the County Counsel) shall be recorded against the property such that this mitigation measure is made a condition of property ownership and would be applicable in perpetuity.

Should the applicant construct a river-pond connection as described in Alternative 3 of the EIR, annual weir inspections and deed restrictions shall no longer be necessary and this mitigation shall be deemed complete.

The EIR is amended to read as follows on page 3.8-38:

- Albers, J.P., 1981. A Lithologic-Tectonic Framework for the Metallogenic Provinces of California: Economic Geology, v. 76, n.4, pp. 765–790.
- Alpers, C.N., M.P. Hunerlach, J.T. May, and R.L. Hothem, 2005. Mercury Contamination from Historical Gold Mining in California. U.S. Geological Survey, Fact Sheet 2005-3014 Version 1.1, revised October 2005.
- Bailey, E.H., A.L. Clark, and R.M. Smith, 1973. Mercury, in D.A. Brobst and W.P. Pratt (editors) United States Mineral Resources: U.S. Geological Survey Professional Paper 820, U.S. Government Printing Office, Washington, D.C., pp. 401–414.
- Fischenich, C., 2001. Stability Thresholds for Stream Restoration Materials. U.S. Army Corps of Engineers, Research and Development Center, Environmental Laboratory. ERDC TN-EMRRP-SR-29, May 2001, 10 p.
- Gabriel, M.C. and D.G. Williamson, 2004. Principal Environmental Geochemical Factors Affecting the Speciation and Transport of Mercury Through the Terrestrial Environment: Environmental Geochemistry and Health, v. 26, pp. 421-434.
- Office of Environmental Health Hazard Assessment (OEHHA), 2006. Draft Health Advisory: Safe Eating Guidelines for Fish from Lake Sonoma (Sonoma County) and Lake Mendocino (Mendocino County). OEHHA, California Environmental Protection Agency, August 2006.
- Robertson, D.E., E.A. Crecelius, J.S. Fruchter, and J.D. Ludwick, 1977. Mercury Emissions from Geothermal Power Plants: Science, v. 196, pp. 1094-1097.
- Rytuba, J.J., 2003. Mercury Mine Studies – Environmental Impact of Mercury Mines in the Coast Ranges, California. In Gray, J.E. (ed), Geologic Studies of Mercury by the U.S. Geological Survey. U.S. Geological Survey, Circular 1248, 41 p.
- Schuster, E., 1991. The Behavior of Mercury in Soil with Special Emphasis on Complexation and Adsorption Processes – A Review of the Literature: Water Air and Soil Pollution, v. 56, n.1 pp. 667-680.
- SHN Consulting Engineers and Geologists, Inc. (SHN), 2008. Geotechnical Investigation and Report of Analyses. August 2008, 7 p., Appendix A-D.
- Swanson Hydrology and Geomorphology (SHG), 2005. Geomorphic Analysis of Kunzler Ranch Project, Russian River – Draft Report. February 16, 2005, 29 p.
- U.S. Environmental Protection Agency (USEPA), 1999. Storm Water Technology Fact Sheet – Turf Reinforcement Mats. EPA 832-F-99-002, September 1999.

## Changes to Section 3.12, Traffic and Circulation

On page 3.12-16 of the EIR Mitigation Measure 3.12.1 is amended as follows:

**Measure 3.12.1:** There are a number of options that would improve or maintain current levels of peak hour LOS operations at this intersection. The applicant and County shall implement one of the following measures or improvements include:

- a. Prohibit project haul truck traffic during the weekday PM peak hour (4:30 to 5:30). This measure could be implemented as a condition of project approval.

Without project truck traffic westbound PM peak hour approach movements would continue to operate as they do currently (LOS E / delay 46.9 seconds per vehicle).

- b. Require all outbound haul truck traffic to turn right onto North State Street during the AM (7:30 to 8:30) and PM (4:30 to 5:30) peak hours. This measure would require southbound trucks to travel north on North State Street and access the U.S. 101 southbound ramp at Lake Mendocino Drive. This measure also could be implemented as a condition of project approval and would result in LOS E operations at the westbound approach during the PM peak hour. This option (Alternative Route A) is analyzed in the Alternatives section of this report.
- c. Provide an alternative route for southbound project haul trucks. This option (Alternative Route B) would provide a roadway link from the project site on existing private roads south to the signalized Ford Road / North State Street intersection where project trucks would turn right onto North State Street and access the nearby U.S. 101 southbound ramp. This measure would result in LOS E operations at the westbound approach of North State Street / Kunzler Ranch Road intersection during the PM peak hour. This option would require use agreements between the project sponsors and private property owners. The private roadways would require survey testing and possible upgrading prior to use as haul routes. This option (Alternative Route B) is analyzed below.
- d. **Signalization.** Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.

**North State Street / Kunzler Ranch Road (#6).** Installation of a traffic signal would result in acceptable LOS B or better conditions during the AM and PM peak hour at all approaches of this intersection. A traffic signal at this location would improve safety by insuring that westbound left-turns would receive sufficient green time during a cycle to maneuver from Kunzler Ranch Road to southbound North State Street. As noted, current traffic levels at this intersection do not meet the peak hour volume signal warrant.

**North State Street / Northbound U.S. 101 Ramps (#8).** The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours. As under existing conditions the peak hour traffic volume signal warrant would be met at this location.

The Route 101 Corridor Interchange Study documented a higher than average collision rate at this intersection at the off-ramp, on ramp and freeway mainline in the vicinity of ramp merge. The excess collision rate is due primarily to inadequate merge length and substandard radius at the on-ramp and inadequate merge capacity (on-ramp) and congestion at the intersection. The Route 101 study recommends signalization at both the northbound and southbound ramps in conjunction with

optimization and coordination with the North State Street /Kuki Lane signalized intersection to the south to address near-term operational problems.

The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The Ukiah Valley Area Transportation Impact Fee Nexus Study, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.

~~The project sponsor would coordinate with the County and Caltrans to determine the timing and contribution to project related improvement measures where needed.~~

**Significance after Mitigation:** ~~Less than significant. The measures described above would reduce the project impacts to less than significant. However, because it is not reasonably foreseeable that all the above improvement could be made (i.e., because Mendocino County, as lead agency, could not implement all of the above measures without the approval of Caltrans, and because funding has not been identified for the non-applicant share), the project impact is considered *significant and unavoidable*.~~

On page 3.12-24 of the EIR Mitigation Measure 3.12.2 is revised as follows:

**Measure 3.12.2:** The applicant and County shall implement one of the following measures:

- a. Prohibit project haul truck traffic during the weekday PM peak hour (4:30 to 5:30). This measure could be implemented as a condition of project approval. Without project truck traffic PM peak hour approach movements would continue to operate as they do currently.
- b. **Signalization.** Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.

**North State Street / Hensley Creek Road (#5).** The delays at this intersection would primarily be due to traffic generated by the community college exiting at the eastbound approach left-turn movement. Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

**North State Street / Kunzler Ranch Road(#6).** The delays at this intersection would be at the westbound approach left-turn movement during the PM peak hour under conditions without and with project traffic. Other than the installation of a traffic signal the improvement measures described for the Existing with Project scenario at this intersection would not mitigate the LOS F conditions. The previous measures include prohibiting project haul traffic during the PM peak hour or, require all project outbound haul truck traffic to turn right onto North State Street during the PM peak hour (Alternative A) or, provide an alternative route for southbound project haul trucks (Alternative B). While these measures would not restore acceptable PM peak hour LOS operations at the westbound approach, implementation of one or more of these measures would remove westbound and southbound left-turn large haul trucks from the intersection during peak hour conditions. A reduction of heavy truck traffic would contribute to overall safer operations on North State Street at this intersection.

Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met only under PM peak hour with project conditions at this intersection.

**North State Street / Orr Springs Road (#7).** The delays at this intersection would primarily be due to traffic at the eastbound approach left-turn movement in the PM peak hour. Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

**North State Street / Northbound U.S. 101 Ramps (#8).** The delays at this intersection would primarily be due to traffic exiting U.S. 101 at the northbound off-ramp (westbound approach) during the PM peak hour. The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

As noted, this intersection experiences a higher than average number of collisions due to inadequate merge lengths and capacities at the on-ramp and congestion at the off-ramp intersection. The near-term improvement of a signal at this intersection would include signalization at the southbound off-ramp and coordination with the existing signalized intersection at Kuki Lane/North State Street.

**North State Street / Southbound U.S. 101 Ramps (#9).** The installation of a traffic signal at this intersection would improve overall operations to LOS D or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The near-term improvements developed for this intersection (Route 101 Corridor Interchange Study) include a signal at the southbound off-ramps that would be coordinated with the existing signal at Kuki Lane. Other near-term improvements include a signal at the northbound ramps and an increased acceleration lane on the U.S. 101 overcrossing.

**SR 222 / U.S. 101 Southbound Ramps (#12).** The unacceptable delays at this intersection would primarily be due to southbound and northbound approach (off-ramps) right-turn movements during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS B or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

Future improvements proposed for this interchange (Route 101 Corridor Interchange Study) include modifications to the current configuration the installation of signals at both northbound and southbound ramp intersections and the optimization and coordination of the existing signal at Airport Park Boulevard with the newly installed ramp signals.

**SR 222 / U.S. 101 Northbound Ramps (#13).** The northbound approach at this intersection would operate at unacceptable delay levels due to PM peak hour left-turn movements. Installation of a traffic signal at this intersection would improve overall PM peak hour operations to LOS B or better. The peak hour traffic volume signal warrant would be met at this location under PM peak hour conditions.

The installation of a traffic signal at this intersection would likely be part of the overall future proposed improvements for the SR 222 interchange as described above (see intersection #12).

The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The Ukiah Valley Area Transportation Impact Fee Nexus Study, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.

~~The project sponsor would coordinate with the County and Caltrans to determine the timing and contribution to project related improvement measures.~~

~~**Significance after Mitigation:** Less than significant. The measures described above would reduce the project impacts to less than significant. However, because it is not reasonably foreseeable that all the above improvement could be made (i.e., because Mendocino County, as lead agency, could not implement all of the above measures without the approval of Caltrans, and because funding has not been identified for the non-applicant share), the project impact is considered **significant and unavoidable**.~~

On page 3.12-33 of the EIR Mitigation Measure 3.12.3 revised as follows:

**Measure 3.12.3:** The applicant and County shall implement the following measure:

**Signalization.** Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the necessary improvements are constructed and the traffic impacts

are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.

**North State Street / Hensley Creek Road (#5).** The delays at this intersection would primarily be due to traffic generated by the community college exiting at the eastbound approach left-turn movement. Installation of a traffic signal at this intersection would result in AM and PM peak hour LOS B or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

**North State Street / Kunzler Ranch Road (#6).** The delays at this intersection would be at the westbound approach left-turn movement during the AM and PM peak hour under conditions without and with project traffic. Installation of a traffic signal at this intersection would result in AM and PM peak hour LOS B or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

The previous measures recommending prohibiting project haul traffic during the peak hours or, requiring all project outbound haul truck traffic to turn right onto North State Street during the peak hours (Alternative A) or, providing an alternative route for southbound project haul trucks (Alternative B) would contribute to safe operations at this intersection. While these measures would not restore acceptable peak hour LOS operations at the westbound approach, implementation of one or more of these measures would remove westbound and southbound left-turn large haul trucks from the intersection during peak hour conditions. A reduction of heavy truck traffic would contribute to overall safer operations on North State Street at this intersection.

Installation of a traffic signal at this intersection would result in peak hour LOS B or better operations during the AM and PM peak hour for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

**North State Street / Orr Springs Road (#7).** The delays at this intersection would primarily be due to traffic at the eastbound approach left-turn movement in the PM peak hour. Installation of a traffic signal at this intersection would result in PM peak hour LOS D or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

The distance between this intersection and Kunzler Ranch Road / North State Street to the north is approximately 500 feet. The relatively close proximity of these two signals would require that they are coordinated so that queuing traffic has sufficient time to clear and avoid operational problems between the two intersections.

**North State Street / Northbound U.S. 101 Ramps (#8).** The delays at this intersection would be primarily due to traffic exiting U.S. 101 at the northbound

off-ramp (westbound approach) during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS B or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

The proposed future improvements at this intersection would include a coordinated signal, increases in acceleration length for on-ramps and mainline merges. These improvements would be implemented in conjunction to improvements to the southbound interchange intersection.

**North State Street / Southbound U.S. 101 Ramps (#9).** Proposed future improvements (Route 101 Corridor Interchange Study) at this intersection would include a realignment of the on and off-ramps to form a signalized four legged intersection. This newly configured intersection would be coordinated with the signalized intersection at North State Street / Kuki Lane. The implementation of the proposed measures would improve overall operations to LOS D or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

**SR 222 / U.S. 101 Southbound Ramps (#12).** The unacceptable delays at this intersection would primarily be due to southbound and northbound approach (off-ramps) right-turn movements during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.

The proposed future improvements at this intersection would include a reconfiguring of the current interchange design and a signal at the northbound ramps. The interchange signals would be coordinated with the existing signal at Airport Park Boulevard / SR 222.

**U.S. 101 Northbound Ramps (#13).** The northbound approach at this intersection would operate at unacceptable delay levels due to peak hour left-turn movements. Installation of a traffic signal at this intersection would improve overall peak hour operations to LOS C or better. The peak hour traffic volume signal warrant would be met at this intersection.

As noted (see intersection #12 above), the installation of a traffic signal at this intersection would be part of a comprehensive future improvement plan for this interchange.

The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The *Ukiah Valley Area Transportation Impact Fee Nexus Study*, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the

Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.

~~The project sponsor would coordinate with the County and Caltrans to determine the timing and contribution to project related improvement measures.~~

The EIR is amended to read as follows on page 3.12-33:

Freeways and state routes, such as U.S. 101 are designed to handle a mix of vehicle types, including heavy trucks, and thus, the project's impact on those facilities would be negligible. Local roadways, such as Kunzler Ranch Road (a private road) and North State Street (a public road) however, are generally not designed to accommodate heavy vehicles, and truck travel on these roads would have the potential to adversely affect the pavement condition. Roadway damage can include conditions such as loose asphalt and potholes that have the potential to make driving conditions less safe. Roadways significantly impacted from project truck traffic would have to be upgraded to support vehicle weights up to 25 tons.

Mitigation Measure 3.12.4 is amended to read as follows on page 3.12-35:

**Mitigation Measure 3.12.4:** Traffic-related repairs on Kunzler Ranch Road shall be initiated when the owners of the road and users of the easement reach a decision that such repairs are necessary. Granite's fair share shall be calculated based on the proportion of applicant's heavy truck trips to the total number of heavy truck trips on the road that year. Consistent with Civil Code Section 845, in the absence of a road maintenance agreement, applicant shall be required to pay its fair share of the cost and expense incurred for traffic-related repairs of Kunzler Ranch Road.

~~The applicant shall improve Kunzler Ranch Road as needed (e.g., overlays or reconstruction) per the April 28, 2009 Kunzler Ranch Road study and the Caltrans Design Manual standards.~~

~~Prior to operations the project applicant shall enter into a *Roadway Maintenance Agreement* with Mendocino County providing their proportionate share of the responsibility to maintain the proposed haul roads.~~

## Changes to Chapter 4, Alternatives

Alternative 3 (On-site Alternative) has been revised as follows on page 4-11 (the Reclamation Plan has also been revised to reflect these changes; see Appendix A at the end of this Final EIR for the revised reclamation plan); Alternative 3 remains the environmentally superior alternative:

This alternative includes the construction of a connection channel between the pond and the Russian River to convey flood waters into the pond. The design objectives for the connection channel include providing enough conveyance through the channel to allow the pond volume to fill with floodwater from the Russian River before the channel banks are overtopped, thereby limiting the likelihood of pit capture or severe bank erosion to the mined pit slopes. Based on the relatively low, non-erosive, water velocities anticipated within the connection channel during flood events, the connection channel has been designed to support native grasses and riparian vegetation for erosion control and habitat without compromising the

conveyance of floodwaters through the channel. The connection channel will provide access to beneficial low velocity winter rearing habitat for salmonids. A temporary erosion control liner will be utilized within the connection channel while the vegetation becomes established. The inlet and outlet of the connection channel will be armored with an erosive resistant material to prevent potential headcutting during flood events.

This alternative would eliminate the floodplain benching described in the proposed project. During the active operational (mining) phase of the project, a “Project Life” connection, including an erodible fuse plug, would provide a 20-year level of flood protection. The “Reclamation Phase” connection would eliminate the fuse plug, and provide for a river-pond connection for approximately 100 days of the year. Profiles and cross section of the Project Life and Reclamation Phase connections are included in the revised Reclamation Plan (December 2009) attached to this Final EIR.

This alternative would alter the phasing of the surface mining operation. As shown in the revised Reclamation Plan (December 2009), mining would begin in the southern portion of the property and proceed in a counter-clockwise direction. The change in phasing is described below:

<u>Proposed Project</u>	<u>Alternative 3, Revised Reclamation Plan</u>
Phase 1	Phase 2
Phase 2	Phase 1
Phase 3	Phase 3

~~This alternative design would connect the reclaimed terrace mine to the Russian River in a controlled fashion at the end of the project life. The connection channel will be designed to provide a hydraulic connection for approximately 100 days/year to provide access to an area of refuge for salmonids. This option includes the floodplain enhancement features along Aekerman Creek and the Russian River per the proposed project, but omits the fuse plug and weir. No changes are proposed to the mining phases, methods, or setbacks, or depths. The flood control weir and fuse plug, would be replaced by a culvert (or culverts) suitable for the project life (rather than as a permanent structure as under the proposed project). The culverts would serve a similar flood control function as the weir during the active mining phase of the project. At the end of the mining phase, the culvert could remain in place or be properly abandoned.~~

~~Implementation of this alternative would require modification of the draft reclamation plan. As described above, the key difference in the on-site alternative to the proposed project, is the pond-river connection. This connection reduces the potential significance of pit capture and salmonid entrapment, while reducing the need for ongoing maintenance of the fuse plug and weir.~~

On page 4-12, Mitigation Measure 3.4.4-ALT 3 is added:

**Measure 3.4.4-ALT 3:**

The implementation of Alternative 3 shall require one of the following measures to reduce the potential for anoxic conditions in the reclaimed pond:

- a. Limit the reclaimed depth of the pit to 50 feet or less (below existing surface grade); or
- b. Prior to reclamation an assessment of water quality conditions throughout the year shall be performed to determine if anoxic conditions occur at depths greater than 50 feet. Depending on the findings of the water quality assessment, Granite will either limit the final pit depth to 35 feet below groundwater (50 feet below surface grade) or a greater depth if supported by the findings of the study, in consultation with NOAA.

On page 4-12, Impact Measure 3.4.7-ALT 3 is added:

**Impact 3.4.7-ALT3: Reclamation, floodplain benching, and mining operations have the potential to result in adverse impacts to Foothill yellow-legged frog; therefore this impact is considered potentially significant.**

Alternative 3 would reduce potential impacts to Foothill yellow-legged frog (described in Impact 3.4.7) to the area of the river-pond connection (Project Life and Reclamation Phase connection). Impacts related to the construction of the river-pond connection would remain potentially significant. Implementation of Mitigation Measure 3.4-6 would reduce the potential impacts to less than significant.

## Changes to Chapter 5, Other CEQA Considerations

The EIR is amended to read as follows on page 5-3:

According to the Upper Russian River Aggregate Resources Management Plan (1997), aggregate demand for the year 2040 in Mendocino County is approximately ~~490-~~ 190,000 to 600,000 cubic yards per year.

## Changes to Chapter 7, List of Acronyms

The EIR is amended to include the following acronyms:

<u>CA-MUTCD</u>	<u>California Manual on Uniform Traffic Control Devices</u>
<u>LOS</u>	<u>Level of Service</u>
<u>NCAB</u>	<u>North Coast Air Basin</u>
<u>TAC</u>	<u>Toxic Air Contaminants</u>

## Changes to Appendix B, Air Quality

The following note is added to Appendix B:

The mobile source greenhouse gases were based on the following vehicle miles travelled (VMT):

- Truck VMT: 470 miles per day
- Employee VMT: 200 miles per day

VMT was derived from the EIR traffic analysis. As noted in the emission calculations, 5% of the trips were considered to be regional (would continue beyond the Talmage or North State Street processing plants). Therefore the VMT used for GHG emissions is higher than indicated by the traffic study trip distribution.

Climate change is considered a significant cumulative impact, prior to consideration of the project's contribution. The GHG thresholds used represent the level at which the project contribution is cumulatively considerable. Therefore, this analysis does not use the "list method" of cumulative analysis described in Section 5.2 of the EIR, and it is not necessary to analyze the VMT of other individual projects that may be considered in other cumulative analyses in the EIR.

## Changes to Appendix E, Reclamation Plan

Appendix E, Reclamation Plan, is superseded by the December 2009 Reclamation Plan, included herein as Appendix A.

## 4.2 Additional Information

Between the issuance of the Notice of Preparation and the release of the Draft EIR, the County of Mendocino updated its General Plan. Policies referred to in the Draft EIR are from the 1981 General Plan, as this was the applicable plan at the time the application was filed. It was determined that the project is consistent with both the 1981 plan and 2009 plan. For the readers benefit, a table has been prepared comparing the relevant policies (by number) of the 1981 and the 2009 update. Table 4-1 is presented below.

**TABLE 4-1  
GENERAL PLAN POLICY NUMBER CONVERSION TABLE**

<b>1981 General Plan Policy Numbers by EIR Resource Area</b>	<b>Corresponding 2009 General Plan Policy Numbers</b>
<b>3.1 Aesthetics</b>	
RM-130	RM-126
RM-132	RM-128
RM-136	RM-131
RM-137	RM-132
RM-138	RM-133
RM-139	RM-134
RM-140	RM-135
<b>3.2 Agricultural Resources</b>	
RM-98	DE-238
RM-99	DE-239
RM-101	RM-60
RM-104	RM-61
RM-105	RM-107
RM-106	RM-108
RM-109	RM-109

**TABLE 4-1 (cont.)  
GENERAL PLAN POLICY NUMBER CONVERSION TABLE**

1981 General Plan Policy Numbers by EIR Resource Area	Corresponding 2009 General Plan Policy Numbers
<b>3.3 Air Quality</b>	
RM-34	RM-35
RM-36	RM-37
RM-40	RM-41
RM-41	RM-42
RM-45	RM-46
RM-46	RM-47
RM-49	RM-50
<b>3.4 Biological Resources</b>	
RM-24	RM-25
RM-25	RM-26
RM-26	RM-27
RM-27	RM-28
RM-28	RM-29
RM-29	RM-30
RM-30	RM-31
RM-31	RM-32
RM-70	RM-71
RM-71	RM-72
RM-72	RM-73
RM-73	RM-74
RM-74	RM-75
RM-75	RM-76
RM-76	RM-77
RM-77	RM-78
RM-79	RM-80
RM-80	RM-81
RM-90	RM-91
RM-91	RM-92
<b>3.5 Cultural Resources</b>	
DE-119	DE-115
DE-120	DE-116
<b>3.6 Geology, Soils, and Seismicity</b>	
DE-236	DE-231
DE-238	DE-233
DE-239	DE-234
RM-60	RM-61
RM-61	RM-62
<b>3.7 Hazards and Hazardous Materials</b>	
DE-209	DE-203
DE-215	DE-209
DE-216	DE-210
DE-219	DE-213
DE-221	DE-215

**TABLE 4-1 (cont.)  
GENERAL PLAN POLICY NUMBER CONVERSION TABLE**

1981 General Plan Policy Numbers by EIR Resource Area	Corresponding 2009 General Plan Policy Numbers
DE-222	DE-216
<b>3.8 Hydrology and Water Quality</b>	
DE-196	DE-190
DE-197	DE-191
DE-201	DE-195
DE-205	DE-199
RM-1	RM-1
RM-18	RM-20
<b>3.9 Land Use</b>	
DE-53	DE-52
RM-64	RM-65
RM-65	RM-66
RM-66	RM-67
<b>3.10 Noise</b>	
DE-101	DE-98
DE-102	DE-99
DE-103	DE-99
DE-105	DE-101
DE-106	DE-102
DE-108	DE-104
DE-109	DE-105
DE-111	DE-107
DE-112	DE-108
DE-113	DE-109
DE-114	DE-110
<b>3.11 Public Services, Utilities, and Recreation</b>	
DE-125	DE-121
DE-127	DE-123
DE-196	DE-190
DE-197	DE-197
DE-209	DE-203
DE-211	DE-205
DE-225	DE-219
DE-226	DE-220
DE-228	DE-222
<b>3.12 Traffic and Circulation</b>	
DE-135	DE-131
DE-140	DE-136
DE-144	DE-140
DE-152	DE-148
DE-153	DE-149
DE-162	DE-157

SOURCE: Mendocino County, 2009. The County of Mendocino General Plan, August 2009.

# Chapter 5

## Mitigation Monitoring and Reporting Program





# CHAPTER 5

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## Mitigation Monitoring and Reporting Program

### 5.1 Introduction

The purpose of this Mitigation Monitoring and Reporting Program (MMRP) is to describe Mendocino County's roles and responsibilities in the mitigation monitoring process for the proposed Kunzler Terrace Mine Project (proposed project), pursuant to CEQA Guidelines Section 15097.

A reporting and monitoring program ensures that measures adopted to mitigate or avoid significant environmental impacts are implemented. It is a working guide to facilitate not only the implementation of mitigation measures, but also the monitoring, compliance, and reporting activities of Mendocino County.

The following is the MMRP for the Kunzler Terrace Mine Project. The MMRP includes a description of the requirements of CEQA and a compliance checklist. The project as approved includes mitigation measures. The intent of the MMRP is to prescribe and enforce a means for properly and successfully implementing the mitigation measures as identified within the Environmental Impact Report (EIR) for this project. Unless otherwise noted, the cost of implementing the mitigation measures as prescribed by this MMRP shall be funded by the applicant.

### 5.2 Compliance Checklist

The MMRP contained herein is intended to satisfy the requirements of CEQA as they relate to the EIR for the Kunzler Terrace Mine Project prepared by Mendocino County. This MMRP is intended to be used by County staff and mitigation monitoring personnel to ensure compliance with the approved mitigation measures during all phases of project implementation. Mitigation measures identified in this MMRP were developed in the EIR prepared for the proposed project. The Kunzler Terrace Mine Project EIR presents a detailed set of mitigation measures that will be implemented throughout the lifetime of the project. Mitigation is defined by CEQA as a measure which:

- Avoids the impact altogether by not taking a certain action or parts of an action.
- Minimizes impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifies the impact by repairing, rehabilitating, or restoring the impacted environment.

- Reduces or eliminates the impact over time by preservation and maintenance operations during the life of the project.
- Compensates for the impact by replacing or providing substitute resources or environments.

The intent of the MMRP is to ensure the effective implementation and enforcement of adopted mitigation measures and permit conditions. The MMRP will provide for monitoring of construction activities as necessary and in-the-field identification and resolution of environmental concerns.

Monitoring and documenting the implementation of mitigation measures will be coordinated by the Mendocino County. **Table 5-1** identifies the mitigation measure, the monitoring action for the mitigation measure, the responsible party for the monitoring action, and timing of the monitoring action. The project applicant will be responsible for fully understanding and effectively implementing the mitigation measures contained within the MMRP and Mendocino County will be responsible for ensuring compliance.

It is the intention of the County that to the extent possible, the monitoring and reporting activities described in this program will occur in conjunction with the annual inspection and reporting responsibilities of the County for SMARA compliance.

### **5.3 Mitigation Monitoring Program**

**Table 5-1** indicates the mitigation measure number along with the mitigation measure text consistent with the impacts discussion presented in the EIR. Additionally, it identifies the agency or individual responsible for the implementation and monitoring of the measure, the timing for implementation of the mitigation or monitoring actions, and an area for the assigned inspector to verify compliance.

**TABLE 5-1  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<b>3.3 Air Quality</b>			
<b>3.3.1:</b> Implement Mitigation Measure 3.3.3 and comply with MCAQMD fugitive dust control requirements (Rule 1-430).	Mendocino County Planning and Building Services Department and MCAQMD	Dust control measures to be confirmed by Mendocino at annual inspection and subject to monitoring by MCAQMD. See below for Measure 3.3.3.	
<b>3.3.3:</b> The applicant shall implement one of the following: <ul style="list-style-type: none"> <li>• Approximately 55 percent of off-road mining equipment with 50 horsepower or greater used in mining operations shall be equipped with CARB verified Level 3 emission control technologies. Such technology would reduce particulate matter emissions by 85 percent or greater or to a level of less than 0.01 g/bhp-hr; or</li> <li>• Utilize a conveyer belt system to transport aggregate from the mine to the processing area.</li> </ul>	Mendocino County Planning and Building Services Department	Emission controls to be verified prior to commencement of mining operations. See Table 2-1 for a list of off-road mining equipments (on-road haul trucks are excluded). Conveyer belt system can be implemented at any time and will be verified as part of annual mine inspection.	
<b>3.4 Biological Resources</b>			
<b>3.4.1:</b> The following measures shall be implemented to reduce potential impacts on nesting osprey and other raptors: <ol style="list-style-type: none"> <li>1. If project activities (construction including clearing and grubbing, and initial grading; mining; and reclamation) will begin between March 1 and September 30 (nesting season), a qualified biologist shall conduct a preconstruction survey of all potential nesting habitats within 30 days prior to the start of project activities within 500 feet of construction project activities on the west side of the Russian River. If project activities are delayed or suspended for more than 30 days after the pre-construction survey and during the nesting season, the site shall be resurveyed. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if special-status birds are documented) and/or Mendocino County. This memorandum shall be made available to MCWA and to other agencies upon request.</li> <li>2. If an active nest is found during the preconstruction survey, coordination with the California Department of Fish and Game will be required to determine the appropriate protective measures.</li> <li>3. If the preconstruction survey indicates that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by birds or that are located more than 500 feet from active nests may be removed (500 feet is the distance regularly recommended by DFG to prevent impacts to active raptor and other avian nests). This distance may be modified in consultation with DFG.</li> </ol>	Mendocino County Planning and Building Services Department	If site is active between Oct 1 and Feb 28, then a survey is not required. Preconstruction survey to occur 30 days prior to project activities during the nesting season (March 1 through September 30). If project activities are delayed or suspended for more than 30 days after the pre-construction survey and during the nesting season, the site shall be resurveyed.	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>4. If an active nest is located within 250 feet of project activities, a biologist shall monitor the nest weekly during project activities to evaluate potential nesting. The biological monitor will have the authority to stop work if work appears to be resulting in nest abandonment or forced fledging. No trees with active nests shall be removed until the nest is determined to be inactive. This monitoring requirement may be modified in consultation with DFG.</p> <p>5. The biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.</p>			
<p><b>3.4.2:</b> To reduce impacts to northwestern pond turtle, the following measures shall be implemented:</p> <p>1. No more than two weeks prior to the commencement of ground-disturbing activities within the aquatic or riparian areas, the applicant will retain a qualified biologist to perform surveys for northwestern pond turtle within affected suitable aquatic and riparian habitat on the project site. Surveys will include northwestern pond turtle nests as well as individuals. The biologist (with the appropriate agency permits) will temporarily relocate any identified northwestern pond turtles upstream of the construction site, and temporary barriers will be placed around the construction site to prevent ingress.</p> <p>2. Construction shall not proceed until the work area is determined to be free of northwestern pond turtles and their nests. A biologist will monitor all ground-disturbing project activities within the aquatic or riparian areas. The biologist will be responsible for relocating adult northwestern pond turtles that move into the construction zone after construction has begun. If a nest is located within a work area, the biologist (with the appropriate permits from the CDFG) may move the eggs to a suitable facility for incubation, and release hatchlings into the creek system in late fall.</p> <p>3. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if northwestern pond turtles are documented) and/or Mendocino County. This memorandum shall be made available to MCWA and other requesting agencies. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.</p>	Mendocino County Planning and Building Services Department	No more than two weeks prior to the initiation of ground-disturbing activities within the aquatic (Ackerman Creek, Russian River) or riparian areas.	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p><b>3.4.3:</b> The following measures will avoid or minimize potential construction-related impacts to special-status salmonids present in the vicinity of project site:</p> <ol style="list-style-type: none"> <li>1. All construction activities within the Russian River and Ackerman Creek will be restricted to low-flow periods of June 15 through October 15. Longer in-water work periods may be approved only in consultation with NOAA Fisheries.</li> <li>2. If construction activities within actively flowing channels are necessary, water from around the construction area will be diverted around the construction area using a sheet pile coffer dam or similar technique. Measures 3, 4 and 5 shall apply to the use of a cofferdam.</li> <li>3. Sediment curtains will be placed downstream of the construction zone to prevent sediment disturbed during coffer dam installation from being transported and deposited outside of the construction zone.</li> <li>4. Prior to construction of the placement of the sediment curtains and installation of the coffer dam, a qualified fisheries biologist will conduct fish relocation activities, and immediately release captured fish to a suitable habitat near the project site. Capture and relocation activities will be conducted in accordance with the Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act (NMFS, 2000).</li> <li>5. A qualified fisheries biologist shall monitor the construction site during placement and removal of the cofferdams, as well as during dewatering of the construction site, to ensure that adverse effects to special-status fish species are minimized and to capture and relocate, if necessary, any special-status fish stranded within the coffer dam.</li> <li>6. Silt fencing will be installed in all areas where construction occurs within 100 feet of the Ackerman Creek and the Russian River and where construction runoff may flow into the channel. Spoil sites will be located so they do not drain directly into the waterways. If a spoil site drains into a water body, catch basins will be constructed to intercept sediment before it reaches the channels.</li> <li>7. Spoil sites will be graded to reduce the potential for erosion.</li> <li>8. A spill prevention plan for potentially hazardous materials will be prepared and implemented. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching the creek channels. See also Mitigation Measure 3.7.1.</li> <li>9. Equipment and materials will be stored at least 50 feet from waterways. No debris such as trash and spoils will be deposited within 100 feet of waterways. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, will be located outside of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream will be positioned over drip pans. Any</li> </ol>	Mendocino County Planning and Building Services Department	Prior to ground-disturbing project activities within 100 feet of the ordinary high water mark of Ackerman Creek and the Russian River	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>equipment or vehicles driven and/or operated within or adjacent to the stream will be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Vehicles will be moved away from the stream prior to refueling and lubrication.</p> <p>10. Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the creeks. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e., away from sensitive drainages).</p> <p>11. A qualified biological monitor will be on site during construction activities within actively flowing channels. The biological monitor will be authorized to halt construction if impacts to special-status salmonid species are evident.</p> <p>12. Current riparian vegetation will be retained to the extent feasible.</p> <p>13. Should floodplain benching be included in the approved project, a hydro-seeding mix that includes a mixture of annual and native perennial species (e.g., creeping wild rye or other deep-rooted species), will be applied to reduce the potential for erosion.</p> <p>14. A technical memorandum summarizing all fish relocation activities shall be submitted to NOAA Fisheries and/or Mendocino County. This memorandum shall be made available to MCWA and other requesting agencies. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the California Department of Fish and Game and/or Mendocino County. This monitoring log shall be made available to MCWA and to other agencies upon request.</p>			
<p><b>3.4.4:</b> The following measures will avoid or minimize potential mining-related impacts to special status salmonids present in the vicinity of the project site.</p> <p><b>Mining Phase</b></p> <p>For the duration of the estimated 20-year mining phase of the proposed project, Granite shall develop and implement a salmonid rescue and relocation program in consultation with NMFS and CDFG. The program shall be implemented subsequent to overtopping events. Mining activities shall be halted until salmonid rescues have been completed. This measure will minimize entrapment of salmonids in the pit to greatest extent feasible.</p> <p><b>Reclamation Phase</b></p> <p>Option A. The applicant shall implement the river-pond connection described in Alternative 3 of the EIR; or</p> <p>Option B. Granite shall maintain a salmonid rescue and relocation program in consultation with NMFS and CDFG until it is determined by those agencies that such a program is no longer necessary.</p>	Mendocino County Planning and Building Services Department	Rescue and relocation program ongoing throughout operations (report annually).  Option A to be inspected upon completion of reclamation.  Option B ongoing until NMFS and CDFG determine the measure is no longer necessary.	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p><b>3.4.4-ALT 3:</b> The implementation of Alternative 3 shall require one of the following measures to reduce the potential for anoxic conditions in the reclaimed pond:</p> <p>a) Limit the reclaimed depth of the pit to 50 feet or less (below existing surface grade); or</p> <p>b) Prior to reclamation an assessment of water quality conditions throughout the year shall be performed to determine if anoxic conditions occur at depths greater than 50 feet. Depending on the findings of the water quality assessment, Granite will either limit the final pit depth to 35 feet below groundwater (50 feet below surface grade) or a greater depth if supported by the findings of the assessment, in consultation with NOAA.</p>	Mendocino County Planning and Building Services Department	<p>Inspection prior to completion of final reclamation.</p> <p>If the reclaimed depth of the mine is to exceed 50 feet below existing surface grade, the assessment of water quality shall occur prior to construction of the reclamation phase connection channel.</p>	
<p><b>3.4.6:</b> The following measures will avoid or minimize potential construction-related impacts to riparian habitat:</p> <p>1. Prior to removal of any trees, an ISA Certified Arborist shall conduct a tree survey in areas that may be impacted by construction activities. This survey shall document tree resources that may be adversely impacted by implementation of the proposed project. The survey will follow standard professional practices. The survey shall be documented in a report which details the number of trees to be removed as well as the trees' species, DBH, and condition. This report shall be submitted to Mendocino County and shall be made available to MCWA and other agencies upon request.</p> <p>2. Current riparian vegetation will be retained to extent feasible. A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. The TPZ will be delineated by an ISA Certified Arborist. The TPZ shall be defined by the radius of the dripline of the tree(s) plus one foot. The TPZ of any protected trees shall be demarcated using fencing that will remain in place for the duration of construction activities.</p> <p>Construction-related activities shall be limited within the TPZ to those activities that can be done by hand. No heavy equipment or machinery shall be operated within the TPZ. Grading shall be prohibited within the TPZ. No construction materials, equipment, or heavy machinery shall be stored within the TPZ.</p> <p>3. To ensure that there is no net loss of riparian habitat, Granite shall create or restore riparian habitat that is of a like function and value to the habitats lost pursuant to the reclamation plan. The Kunzler Terrace Mine Reclamation Plan includes performance standards for revegetation that will ensure successful restoration of the riparian areas and other impacted habitats. Annual monitoring of the performance standards for revegetated areas shall be documented in a report which details the results of the monitoring. This report shall be submitted to Mendocino County and shall be made available to MCWA and other agencies upon request.</p>	Mendocino County Planning and Building Services Department	Survey prior to removal of any trees on the project site in the riparian area.	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p><b>3.4.7:</b> The following measures will avoid or minimize potential construction-related impacts to Foothill yellow legged frog (FYLF) potentially present in the vicinity of project site:</p> <ol style="list-style-type: none"> <li>1. Construction activities within FYLF habitat (within the channel of the Russian River and Ackerman Creek) shall be conducted between April 1 and November 1 (FYLF active period). A qualified biologist, holding all pertinent permits or authorization for handling FYLF shall conduct a pre-construction survey (for any and all life stages) of the proposed project site two weeks prior to the onset of construction activities, shall provide construction crew training on minimization measures pertinent to the project, and shall monitor the construction site for compliance with minimization measures during construction. The results of pre-construction surveys shall be documented in a technical memorandum that shall be submitted to the USFWS, Mendocino County, and other agencies upon request.</li> <li>2. Silt fencing will be installed in all areas where construction occurs within 100 feet of Ackerman Creek and the Russian River and where construction runoff may flow into the channel (per Mitigation Measure 3.4.3).</li> <li>3. Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the Creek/River. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e. away from sensitive drainages).</li> <li>4. A qualified biological monitor will be on site during construction activities. The biological monitor will be authorized to halt construction if impacts to FYLF are evident. In addition, the biological monitor shall maintain a monthly biological monitoring log detailing the time, date, conditions, and observations that were made during all site visits, including stop-work orders. The biological monitoring log shall be submitted each month to the USFWS, Mendocino County and will be available for review by any other interested parties.</li> <li>5. Current riparian vegetation will be retained to extent feasible.</li> </ol>	Mendocino County Planning and Building Services Department	Prior to construction within the channel of Ackerman Creek and the Russian River. This applies to floodplain benching (if implemented) and to the construction of any connection channel to the Russian River.	
<b>3.5 Cultural Resources</b>			
<p><b>3.5.1a:</b> CA-MEN-3111H (the rails, ties, and ballast of the NWPRR adjacent to the project site) shall be avoided during all project related ground-disturbing activities. If avoidance is not possible, an assessment should be completed by a qualified Architectural Historian to determine whether CA-MEN-3111H is eligible for inclusion on the California Register of Historical Resources or the National Register of Historic Places. Tasks necessary for the completion of such an evaluation may include, and are not limited to, further documentary research, resource site visit and condition assessment, the identification and recordation of any associated structural features such as historic-period culverts or bridges, and the completion of eligibility applications (if necessary). A technical report detailing the methodology and results, as well as significance and eligibility assessment shall be drafted for submission. Normal use of the road easement (Kunzler Ranch Road) by vehicles, including haul trucks, to access the project site is excluded from this mitigation measure.</p>	Mendocino County Planning and Building Services Department	Ongoing throughout project operations (report annually)	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p><b>3.5.1b:</b> An archaeological monitoring plan for ground-disturbing activities within the setback areas of the Russian River and Ackerman Creek shall be developed and implemented by a qualified archaeologist who meets the Secretary of Interior's Standards, in consultation with the Lead Agency and local Native American representatives. Specific monitoring scheduling and protocols will be defined by the archaeological monitoring plan. The archaeological monitor is responsible for the completion of daily monitoring logs and will likewise document and photograph any cultural materials discovered during ground-disturbing activities. Should previously unknown archaeological or historical resources be encountered, Mitigation Measure 3.5.1c must be implemented. Should previously unknown human burials or remains be encountered during project activities, Mitigation Measure 3.5.2 must be implemented.</p>	Mendocino County Planning and Building Services Department	Prior to ground-disturbing activities within setback areas of Russian River and Ackerman Creek.	
<p><b>3.5.1c:</b> Should prehistoric or historic subsurface cultural resources be discovered during project-related activities, all work within 50 feet of the find shall stop and a qualified archaeologist shall be contacted to document the discovery, evaluate the potential resource, and assess the significance of the find in accordance with CEQA Guidelines Section 15064.5. If any find is determined to be significant, the project proponent and the archaeologist shall develop, in consultation with local Native Tribes, a cultural resources recovery and treatment plan. This plan shall establish appropriate protocol and further action necessary in order to preserve the resource or otherwise establish appropriate mitigation that will minimize further adverse impact. Significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards.</p>	Mendocino County Planning and Building Services Department	Ongoing throughout project operations (report annually)	
<p><b>3.5.2:</b> If human skeletal remains are uncovered during project construction, work in the vicinity of the find shall cease and the Mendocino County coroner will be contacted to evaluate the remains, following the procedures and protocols set forth in Section 15064.5 (e)(1) of the <i>CEQA Guidelines</i>. If the County coroner determines that the remains are Native American, the project proponent will contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641), who will identify a Most Likely Descendent, who will make recommendations for the treatment of any human remains.</p>	Mendocino County Planning and Building Services Department & County Coroner	Ongoing throughout project operations (report annually)	
<p><b>3.5.3:</b> In the event that paleontological resources are discovered, the project proponent will retain a qualified paleontologist. The paleontologist will document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. If fossil or fossil bearing deposits are discovered during construction, excavations within 50 feet of the find will be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (in accordance with Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology, 1995). The paleontologist will notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist will prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important. The plan will be submitted to the project proponent for review and approval prior to implementation.</p>	Mendocino County Planning and Building Services Department	Ongoing throughout project operations (report annually)	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<b>3.7 Hazards and Hazardous Materials</b>			
<p><b>3.7.1:</b> The project applicant shall ensure, through the enforcement of contractual obligations, that all contractors transport, store, and handle construction related hazardous materials on the project site in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by the California Department of Transportation, Regional Water Quality Control Board, and MCEHD, such as the Storage Statement and a Spill Prevention Control and Countermeasure Plan (SPCCP) and the Hazardous Materials Management Plan prepared as part of the proposed project. The project applicant shall also ensure that all contractors immediately control the source of any leak and immediately contain any spill utilizing appropriate spill containment and countermeasures as outlined in the Spill Prevention Plan. If required by any regulatory agency, contaminated media shall be collected and disposed of at an offsite facility approved to accept such media. In addition, all precautions required by the RWQCB-issued NPDES construction activity storm water permits will be taken to ensure that no hazardous materials enter any nearby waterways.</p>	Mendocino County Planning and Building Services Department & Office of Emergency Services	Ongoing throughout project operations (report annually)	
<p><b>3.7.2:</b> If contaminated soil and/or groundwater are encountered or suspected contamination is encountered during project construction or mining activities on the proposed project site, work shall be halted in the area, and the type and extent of the contamination shall be identified. A qualified professional, in consultation with the overseeing regulatory agency (RWQCB, DTSC, and/or MCEHD) shall then develop an appropriate method to remediate the contamination, and determine the appropriate handling and disposal method of any contaminated soil and/or groundwater. If required, a remediation plan shall be implemented in conjunction with continued project construction or operations.</p>	Mendocino County Planning and Building Services Department & Office of Emergency Services	Ongoing throughout project operations (report annually)	
<b>3.8 Hydrology and Water Quality</b>			
<p><b>3.8.2:</b> The following requirements and provisions shall be incorporated in the SPCCP for the proposed project:</p> <ul style="list-style-type: none"> <li>• Fuels and lubricants would be stored in approved double-walled containers.</li> <li>• Waste oils and lubricants would be stored in approved containers and secondary containments. Waste oils would be removed from the site as needed by a licensed petroleum products recycling contractor.</li> <li>• Refueling and maintenance activities involving the fuel and lubrication truck shall take place no closer than 100-feet from the top of the pit slope.</li> <li>• The above ground diesel fuel tank shall be placed no closer than 100-feet from the top of the pit slope.</li> </ul>	Mendocino County Planning and Building Services Department	SPCCP to be approved prior to operation. Report implementation annually.	
<p><b>3.8.6:</b> The condition of the weir shall be inspected annually (in the spring, prior to May 1st) for stability. The inspection shall be performed by a professional engineer licensed in the State of California. Any erosion or undercutting of the weir base or perimeter, or other factors that could impact weir stability, shall be noted and repaired immediately. An inspection of the setback areas shall also be performed annually (at the same time as weir inspection), with emphasis upon the topographic low points (such as</p>	Mendocino County Planning and Building Services Department	Report annually (to be discontinued if Alternative 3 is implemented).	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>the location near the southeast corner of the project site where the pit would begin draining to the Russian River when full). Any substantial erosion shall be noted (i.e., evidence of gullyng or head-cutting across the ground surface) and repaired immediately (e.g., using turf reinforcement mats [TRM], rock, or other similar approaches). All repairs or maintenance activities shall be completed by October 1st of the same year. Granite shall submit an inspection report to Mendocino County staff each year documenting the results of the inspection and, if repairs or maintenance are necessary, providing a work plan for addressing all noted issues. Granite shall incur all responsibilities and costs for inspection, maintenance, and repair for the life of the proposed project. Prior to completion of the proposed project, a deed restriction (in form and substance acceptable to the County Counsel) shall be recorded against the property such that this mitigation measure is made a condition of property ownership and would be applicable in perpetuity.</p> <p>Should the applicant construct a river-pond connection as described in Alternative 3 of the EIR, annual weir inspections and deed restrictions shall no longer be necessary and this mitigation shall be deemed complete.</p>			
<b>3.12 Traffic and Transportation</b>			
<p><b>3.12.1:</b> There are a number of options that would improve or maintain current levels of peak hour LOS operations at this intersection. The applicant and County shall implement one of the following measures:</p> <ol style="list-style-type: none"> <li>a. Prohibit project haul truck traffic during the weekday PM peak hour (4:30 to 5:30). This measure could be implemented as a condition of project approval. Without project truck traffic PM peak hour approach movements would continue to operate as they do currently.</li> <li>b. Require all outbound haul truck traffic to turn right onto North State Street during the AM (7:30 to 8:30) and PM (4:30 to 5:30) peak hours. This measure would require southbound trucks to travel north on North State Street and access the U.S. 101 southbound ramp at Lake Mendocino Drive. This measure also could be implemented as a condition of project approval and would result in LOS E operations at the westbound approach during the PM peak hour. This option (Alternative Route A) is analyzed in the Alternatives section of this report.</li> <li>c. Provide an alternative route for southbound project haul trucks. This option (Alternative Route B) would provide a roadway link from the project site on existing private roads south to the signalized Ford Road / North State Street intersection where project trucks would turn right onto North State Street and access the nearby U.S. 101 southbound ramp. This measure would result in LOS E operations at the westbound approach of North State Street / Kunzler Ranch Road intersection during the PM peak hour. This option would require use agreements between the project sponsors and private property owners. The private roadways would require survey testing and possible upgrading prior to use as haul routes. This option (Alternative Route B) is analyzed below.</li> <li>d. Signalization. Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the</li> </ol>	Mendocino County Public Works	Options a through c shall commence prior to operations (commencement of haul traffic). For option d, Fee payment within six months of adoption of fee by County, or if fee is not adopted, within six months of notification by the County	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.</p> <p><b>North State Street / Kunzler Ranch Road (#6).</b> Installation of a traffic signal would result in acceptable LOS B or better conditions during the AM and PM peak hour at all approaches of this intersection. A traffic signal at this location would improve safety by insuring that westbound left-turns would receive sufficient green time during a cycle to maneuver from Kunzler Ranch Road to southbound North State Street. As noted, current traffic levels at this intersection do not meet the peak hour volume signal warrant.</p> <p><b>North State Street / Northbound U.S. 101 Ramps (#8).</b> The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours. As under existing conditions the peak hour traffic volume signal warrant would be met at this location.</p> <p>The Route 101 Corridor Interchange Study documented a higher than average collision rate at this intersection at the off-ramp, on ramp and freeway mainline in the vicinity of ramp merge. The excess collision rate is due primarily to inadequate merge length and substandard radius at the on-ramp and inadequate merge capacity (on-ramp) and congestion at the intersection. The Route 101 study recommends signalization at both the northbound and southbound ramps in conjunction with optimization and coordination with the North State Street /Kuki Lane signalized intersection to the south to address near-term operational problems.</p> <p>The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The Ukiah Valley Area Transportation Impact Fee Nexus Study, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.</p>			
<p><b>Measure 3.12.2:</b> The applicant and County shall implement one of the following measures:</p> <ol style="list-style-type: none"> <li>a. Prohibit project haul truck traffic during the weekday PM peak hour (4:30 to 5:30). This measure could be implemented as a condition of project approval. Without project truck traffic PM peak hour approach movements would continue to operate as they do currently.</li> <li>b. <b>Signalization.</b> Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the</li> </ol>	Mendocino County Public Works	Fee payment prior to operations (commencement of haul traffic)	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.</p>			
<p><b>North State Street / Hensley Creek Road (#5).</b> The delays at this intersection would primarily be due to traffic generated by the community college exiting at the eastbound approach left-turn movement. Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p>			
<p><b>North State Street / Kunzler Ranch Road (#6).</b> The delays at this intersection would be at the westbound approach left-turn movement during the PM peak hour under conditions without and with project traffic. Other than the installation of a traffic signal the improvement measures described for the Existing with Project scenario at this intersection would not mitigate the LOS F conditions. The previous measures include prohibiting project haul traffic during the PM peak hour or, require all project outbound haul truck traffic to turn right onto North State Street during the PM peak hour (Alternative A) or, provide an alternative route for southbound project haul trucks (Alternative B). While these measures would not restore acceptable PM peak hour LOS operations at the westbound approach, implementation of one or more of these measures would remove westbound and southbound left-turn large haul trucks from the intersection during peak hour conditions. A reduction of heavy truck traffic would contribute to overall safer operations on North State Street at this intersection.</p> <p>Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met only under PM peak hour with project conditions at this intersection.</p>			
<p><b>North State Street / Orr Springs Road (#7).</b> The delays at this intersection would primarily be due to traffic at the eastbound approach left-turn movement in the PM peak hour. Installation of a traffic signal at this intersection would result in PM peak hour LOS B or better operations for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p>			
<p><b>North State Street / Northbound U.S. 101 Ramps (#8).</b> The delays at this intersection would primarily be due to traffic exiting U.S. 101 at the northbound off-ramp (westbound approach) during the PM peak hour. The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p>			

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>As noted, this intersection experiences a higher than average number of collisions due to inadequate merge lengths and capacities at the on-ramp and congestion at the off-ramp intersection. The near-term improvement of a signal at this intersection would include signalization at the southbound off-ramp and coordination with the existing signalized intersection at Kuki Lane/North State Street.</p> <p><b>North State Street / Southbound U.S. 101 Ramps (#9).</b> The installation of a traffic signal at this intersection would improve overall operations to LOS D or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The near-term improvements developed for this intersection (Route 101 Corridor Interchange Study) include a signal at the southbound off-ramps that would be coordinated with the existing signal at Kuki Lane. Other near-term improvements include a signal at the northbound ramps and an increased acceleration lane on the U.S. 101 overcrossing.</p> <p><b>SR 222 / U.S. 101 Southbound Ramps (#12).</b> The unacceptable delays at this intersection would primarily be due to southbound and northbound approach (off-ramps) right-turn movements during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS B or better during the AM and PM peak hours for both 2015 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>Future improvements proposed for this interchange (Route 101 Corridor Interchange Study) include modifications to the current configuration the installation of signals at both northbound and southbound ramp intersections and the optimization and coordination of the existing signal at Airport Park Boulevard with the newly installed ramp signals.</p> <p><b>SR 222 / U.S. 101 Northbound Ramps (#13).</b> The northbound approach at this intersection would operate at unacceptable delay levels due to PM peak hour left-turn movements. Installation of a traffic signal at this intersection would improve overall PM peak hour operations to LOS B or better. The peak hour traffic volume signal warrant would be met at this location under PM peak hour conditions.</p> <p>The installation of a traffic signal at this intersection would likely be part of the overall future proposed improvements for the SR 222 interchange as described above (see intersection #12).</p> <p>The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The <i>Ukiah Valley Area Transportation Impact Fee Nexus Study</i>, September 2008 (Nexus Study) provides a description of the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.</p>			

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p><b>3.12.3:</b> : The applicant and County shall implement the following measure:</p> <p><b>Signalization.</b> Applicant would contribute a fair share payment to the installation of the traffic signals identified below. Measures listed above would be eliminated at such time the necessary improvements are constructed and the traffic impacts are reduced to an acceptable level. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness. The fair share payment shall consist of either (1) payment of the traffic improvement fee developed per the UVAP Nexus Study, or (2) a not-to-exceed amount calculated for each intersection.</p> <p><b>North State Street / Hensley Creek Road (#5).</b> The delays at this intersection would primarily be due to traffic generated by the community college exiting at the eastbound approach left-turn movement. Installation of a traffic signal at this intersection would result in AM and PM peak hour LOS B or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>North State Street / Kunzler Ranch Road (#6).</b> The delays at this intersection would be at the westbound approach left-turn movement during the AM and PM peak hour under conditions without and with project traffic. Installation of a traffic signal at this intersection would result in AM and PM peak hour LOS B or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The previous measures recommending prohibiting project haul traffic during the peak hours or, requiring all project outbound haul truck traffic to turn right onto North State Street during the peak hours (Alternative A) or, providing an alternative route for southbound project haul trucks (Alternative B) would contribute to safe operations at this intersection. While these measures would not restore acceptable peak hour LOS operations at the westbound approach, implementation of one or more of these measures would remove westbound and southbound left-turn large haul trucks from the intersection during peak hour conditions. A reduction of heavy truck traffic would contribute to overall safer operations on North State Street at this intersection.</p> <p>Installation of a traffic signal at this intersection would result in peak hour LOS B or better operations during the AM and PM peak hour for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>North State Street / Orr Springs Road (#7).</b> The delays at this intersection would primarily be due to traffic at the eastbound approach left-turn movement in the PM peak hour. Installation of a traffic signal at this intersection would result in PM peak hour LOS D or better operations for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The distance between this intersection and Kunzler Ranch Road / North State Street to the north is approximately 500 feet. The relatively close proximity of these two signals would</p>	Mendocino County Public Works	Fee payment within six months of adoption of fee by County, or if fee is not adopted, within six months of notification by the County	

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>require that they are coordinated so that queuing traffic has sufficient time to clear and avoid operational problems between the two intersections.</p> <p><b>North State Street / Northbound U.S. 101 Ramps (#8).</b> The delays at this intersection would be primarily due to traffic exiting U.S. 101 at the northbound off-ramp (westbound approach) during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS B or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The proposed future improvements at this intersection would include a coordinated signal, increases in acceleration length for on-ramps and mainline merges. These improvements would be implemented in conjunction to improvements to the southbound interchange intersection.</p> <p><b>North State Street / Southbound U.S. 101 Ramps (#9).</b> Proposed future improvements (Route 101 Corridor Interchange Study) at this intersection would include a realignment of the on and off-ramps to form a signalized four legged intersection. This newly configured intersection would be coordinated with the signalized intersection at North State Street / Kuki Lane. The implementation of the proposed measures would improve overall operations to LOS D or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p><b>SR 222 / U.S. 101 Southbound Ramps (#12).</b> The unacceptable delays at this intersection would primarily be due to southbound and northbound approach (off-ramps) right-turn movements during the AM and PM peak hours. The installation of a traffic signal at this intersection would improve overall operations to LOS C or better during the AM and PM peak hours for both 2030 baseline and with project conditions. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>The proposed future improvements at this intersection would include a reconfiguring of the current interchange design and a signal at the northbound ramps. The interchange signals would be coordinated with the existing signal at Airport Park Boulevard / SR 222.</p> <p><b>SR 222 / U.S. 101 Northbound Ramps (#13).</b> The northbound approach at this intersection would operate at unacceptable delay levels due to peak hour left-turn movements. Installation of a traffic signal at this intersection would improve overall peak hour operations to LOS C or better. The peak hour traffic volume signal warrant would be met at this intersection.</p> <p>As noted (see intersection #12 above), the installation of a traffic signal at this intersection would be part of a comprehensive future improvement plan for this interchange.</p> <p>The project sponsor would be required to contribute a fair share toward the implementation of the identified improvements measures where appropriate. The <i>Ukiah Valley Area Transportation Impact Fee Nexus Study</i>, September 2008 (Nexus Study) provides a description of</p>			

**TABLE 5-1 (cont.)  
MITIGATION MONITORING AND REPORTING PROGRAM  
KUNZLER TERRACE MINE PROJECT**

Mitigation Measure	Monitoring Responsibility	Timing	Sign Off
<p>the techniques used to calculate the fee for the Transportation Impact Fee Program (TIFP) capital project list. The TIFP list identifies long range improvement projects for U.S. 101 interchanges in the Ukiah Valley corridor including interchanges at Lake Mendocino Drive, North State Street and SR 222. The Nexus Study provides an overall cost estimate for interchange projects but does not specify proposed improvement measures.</p> <p>The project sponsor would coordinate with the County and Caltrans to determine the timing and contribution to project related improvement measures identified in Measure 3.12.2. Traffic roundabouts may be installed in lieu of traffic signals if site-specific studies indicate their feasibility and effectiveness.</p> <p><b>3.12.4:</b> Traffic-related repairs on Kunzler Ranch Road shall be initiated when the owners of the road and users of the easement reach a decision that such repairs are necessary. Granite's fair share shall be calculated based on the proportion of applicant's heavy truck trips to the total number of heavy truck trips on the road that year. Consistent with Civil Code Section 845, in the absence of a road maintenance agreement, applicant shall be required to pay its fair share of the cost and expense incurred for traffic-related repairs of Kunzler Ranch Road.</p>	Mendocino County Public Works	Ongoing (report annually)	



# Chapter 6

## Report Preparation





# **CHAPTER 6**

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## **Report Preparation**

### **Lead Agency: Mendocino County**

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### **Project Sponsor: Granite Construction Company**

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# Chapter 7

## References





# CHAPTER 7

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## References

Please refer to each section of the Draft EIR for a list of references used in the preparation of the Draft EIR. Additional citations used in the Final EIR are as follows:

Granite Construction, Revised Reclamation Plan, December 2009.



# Appendix A

## Revised Reclamation Plan





**REVISED RECLAMATION PLAN**  
**Kunzler Terrace Mine**  
**Granite Construction Company**  
**December 2009**

This Reclamation Plan is for the mining and processing of sand and gravel on a 65.3-acre industrially zoned site (see Exhibits 1 and 2) in Mendocino County, California. Existing land uses at the project site are predominantly open space and vineyard production. A truck maintenance and repair shop is located on approximately 2.5 acres of the northwest corner of the site. The project site is composed of two parcels owned by Granite Construction Company (Granite).

In February 2008, Granite submitted an Application for Approval of a Conditional Use Permit and Reclamation Plan for the Kunzler Terrace Mine. The February 2008 submittal included a preliminary reclamation plan and supportive technical analyses. The California Department of Conservation's Office of Mine Reclamation (OMR) provided comments on the preliminary reclamation plan in a letter dated June 25, 2008.

In September 2009, the Kunzler Terrace Mine Project Draft Environmental Impact Report was published by Mendocino County (State Clearinghouse No. 2008042108). OMR provided comments on the DEIR in a letter dated October 26, 2009. This Revised Reclamation Plan has been developed based upon information contained in the DEIR, as well as the comments received from OMR and other stakeholders during the DEIR comment period.

In appropriate sections of this Reclamation Plan, the February 2008 submittal and/or DEIR are referenced for additional information about specific topics.

### **Plan Organization**

This Reclamation Plan provides an overview of reclamation activities and specific reclamation descriptions organized around the "Reclamation Plan Review Checklist" of OMR, as referenced in Mendocino County's Surface Mining and Reclamation Ordinance Chapter 22.16 - Sec. 22.16.030.

This Reclamation Plan reflects the requirements associated with the reclamation of mined sites contained in the following:

- California Surface Mining and Reclamation Act (SMARA) of 1975 as amended and associated regulations (Revised July 2005).
- Mendocino County Surface Mining and Reclamation Ordinance Chapter 22.16.

### **Areas Covered Under Reclamation Plan**

This Reclamation Plan covers areas proposed for mining and the disposition of the proposed processing plant site, including the construction of a project life connection channel that will remain for the duration of the ≈20-year mining horizon; and upon completion of mining, a permanent reclamation connection channel.

## Reclamation Plan Exhibits

The Reclamation Plan includes the following exhibits:

- Exhibit 1: Regional Location
- Exhibit 2: Property Ownership
- Exhibit 3: Existing Site Conditions
- Exhibit 4: Setbacks
- Exhibit 5: End Use
- Exhibit 6A: Reclamation Phasing
- Exhibit 6B: Reclamation Phasing
- Exhibit 6C: Reclamation Phasing
- Exhibit 7: Grading Plan
- Exhibit 8A: Sections: Typical Mining Grades
- Exhibit 8B: Sections: Typical Mining Grades – Adjacent to Ackerman Creek and Russian River
- Exhibit 8C: Sections: Mining and Sediment-Retention Basin
- Exhibit 8D: Section: Reclamation Phase Connection Channel
- Exhibit 9: Vegetation Plan

Attachment A: Kunzler Terrace Mine Permitting Design Submittal (Waterways Consulting)

Sheet C1: Cover Sheet

Sheet C2: Site Plan

Sheet C3: Connection Channel Sections

Attachment B: Assessor Parcel Maps

## Reclamation Overview

Reclamation of the Kunzler Terrace Mine will involve several general landscape features (see Exhibit 9: Vegetation Plan). These landscapes include:

- **Perimeter Riparian Areas**: where established slopes and vegetation will not be disturbed.
- **Mining Setback Areas**: from Ackerman Creek, the Russian River, and/or property lines, will be revegetated as an Oak Grassland landscape. This area will also contain perimeter access routes.
- **Mined Slopes**: around the perimeter of the mined pond. The terrace mine will be excavated with internal side slopes not to exceed a 2.5:1 (horizontal to vertical) gradient where adjacent to either the Russian River or Ackerman Creek, and a 2:1 (horizontal to vertical) gradient elsewhere. Slopes will be planted as Oak Grassland with Mixed Willow Pond Shoreline.
- **Pond**: an open body of water with slopes not to exceed a 2.5:1 (horizontal to vertical) gradient where adjacent to either the Russian River or Ackerman Creek, and a 2:1 (horizontal to vertical) gradient elsewhere.
- **Reclamation Phase Connection Channel**: a connection channel between the mined pond and the Russian River that would be vegetated to Mixed Willow Pond Shoreline and Mixed Riparian. According to NOAA Fisheries, the connection channel will provide access to beneficial low velocity winter rearing habitat for salmonids.
- **Plant Site and Sediment Retention Basin (a.k.a. “wash ponds”)**: will be cleared, graded, disked, and hydroseeded for future uses consistent with the County’s General Plan and zoning ordinance.

## Properties Included in Reclamation Plan

Two parcels comprise the project site. These parcels and their specific status/activities relative to the Reclamation Plan are listed in Table 3 below.

**Table 3: Assessor Parcels and Associated Reclamation Activities**

Assessor Parcel No.	Parcel Acreage	Status / Reclamation Activities
APN 170-160-03 (≈ Phases 1&2 of mining area)	47.0	<ul style="list-style-type: none"> <li>• Mendocino County Land Use Classifications               <ul style="list-style-type: none"> <li>- Base Zoning District: I2 - General Industrial</li> <li>- Combining Zoning: FP - Floodplain</li> <li>- General Plan Classification: I – Industrial</li> </ul> </li> <li>• Current Use: Open Space and Agriculture (vineyards)</li> <li>• Activities Prior to Mining: Relocation of a portion of an existing PG&amp;E overhead utility line, removal of existing vineyards and associated structures, with the exception of:               <ul style="list-style-type: none"> <li>- Property line fencing and gates</li> <li>- Water pump and associated equipment located along the Russian River</li> <li>- Wells</li> </ul> </li> <li>• Reclamation Activities:               <ul style="list-style-type: none"> <li>- Construction of a Project Life connection channel that will remain for the duration of the 20-year mining horizon and that, upon completion of mining, will be replaced by a permanent Reclamation Phase connection channel.</li> <li>- Regrading and revegetation of disturbed areas per Reclamation Plan.</li> </ul> </li> <li>• Removal of dragline</li> </ul>
APN 170-150-09 (Processing Plant Area, Sediment Retention Basins, and ≈Mining Phase 3)	18.3	<ul style="list-style-type: none"> <li>• Mendocino County Land Use Classifications               <ul style="list-style-type: none"> <li>- Base Zoning District: I2 - General Industrial</li> <li>- Combining Zoning: FP - Floodplain</li> <li>- General Plan Classification: I – Industrial</li> </ul> </li> <li>• Current Use: Open Space, Agriculture (vineyards), and Truck Maintenance and Storage Shop</li> <li>• Activities Prior to Mining: Removal of existing facilities prior to use as a processing plant, with the exception of:               <ul style="list-style-type: none"> <li>- Utility service from Kunzler Ranch Road</li> <li>- Well</li> </ul> </li> <li>• Reclamation Activities:               <ul style="list-style-type: none"> <li>- Removal of sand and gravel processing facilities after the conclusion of mining.</li> <li>- Regrading and revegetation of disturbed areas per Reclamation Plan.</li> </ul> </li> </ul>

## **Reclamation Phasing**

Reclamation will occur concurrently with mining activities. Exhibits 6A through 6C illustrate the general direction of mining and reclamation through the project site. The sequential steps and their associated reclamation activities are outlined in Table 4.

## **Revegetation Program**

The following tables describe the revegetation program for disturbed lands as shown on Exhibit 9: Vegetation Plan. These include:

- Table 5: Native Hydroseed Mix — specifying the native erosion control seed mix and application rates to be hydroseeded on disturbed lands.
- Table 6: Plants by Location — identifying the woody species to be planted for each of the plant associations illustrated on Exhibit 9.
- Table 7: Planting Notes — identifying the woody species, density, spacing, and notes for each of the plant associations illustrated on Exhibit 9.
- Table 8: Success Criteria — identifying vegetation cover, and target goals for monitoring plot size, planting density, species richness.

**Table 4: Overview of Reclamation Phasing (see also Exhibits 6A-6C)**

Reclamation Phase/Timing	General Mining and Reclamation Activities
<p><b>Phase 1: Site Preparation, Commencement of Mining, Concurrent Reclamation.</b></p> <p>Estimated Timing: 2010 – 2017</p>	<p><u>Site Preparation</u></p> <ul style="list-style-type: none"> <li>• Demolition and removal of site structures.</li> <li>• Setup of processing plant.</li> <li>• Construction of sediment retention basin.</li> <li>• Removal of existing vineyards.</li> <li>• Storm water and erosion control.</li> </ul> <p><u>Commencement of Mining</u></p> <ul style="list-style-type: none"> <li>• Interim topsoil storage.</li> <li>• Relocation of a portion of an existing PG&amp;E overhead utility line.</li> <li>• Construction of the project-life connection channel.</li> </ul> <p><u>Concurrent Reclamation</u></p> <ul style="list-style-type: none"> <li>• Interim erosion control of slopes and stockpiled materials per Reclamation Plan.</li> <li>• Placement of topsoil and incorporation or sale of wash fines generated from the sediment retention basin.</li> <li>• Planting of woody species per Reclamation Plan</li> <li>• Annual mitigation monitoring activities.</li> </ul>
<p><b>Phases 2 &amp; 3: Extension of the Phase 1 Mining Area to the North and West.</b></p> <p>Estimated Timing: 2017 - 2030</p>	<p><u>Site Preparation</u></p> <ul style="list-style-type: none"> <li>• Demolition and removal of site structures.</li> <li>• Abandon well.</li> <li>• Clear and grub former vineyard area.</li> <li>• Storm water and erosion control.</li> </ul> <p><u>Mining</u></p> <ul style="list-style-type: none"> <li>• Interim topsoil storage.</li> </ul> <p><u>Concurrent Reclamation</u></p> <ul style="list-style-type: none"> <li>• Interim erosion control of slopes and stockpiled materials per Reclamation Plan.</li> <li>• Placement of topsoil and incorporation or sale of wash fines generated from the sediment retention basin.</li> <li>• Planting of woody species per Reclamation Plan.</li> <li>• Annual mitigation monitoring activities.</li> </ul>
<p><b>Phase 4: End of Mining Reclamation</b></p> <p>Timing: 2030 to December 31, 2035</p>	<p><u>Processing Area</u></p> <ul style="list-style-type: none"> <li>• Demolition and removal of processing plant site structures</li> <li>• Regrading, ripping, disking, and hydroseeding of processing plant area and sediment retention ponds.</li> </ul> <p><u>Reclamation Phase Connection Channel</u></p> <ul style="list-style-type: none"> <li>• Construction of the reclamation phase connection channel.</li> </ul> <p><u>Vegetation</u></p> <ul style="list-style-type: none"> <li>• Placement of remaining topsoil and incorporation or sale of wash fines generated from the sediment retention basin.</li> <li>• Planting of woody species per Reclamation Plan</li> <li>• Hydroseeding and erosion control measures</li> <li>• Annual monitoring inspection and report</li> </ul>

**Table 5: Native Hydroseed Mix**

<b>% of mix</b>	<b>Botanic name</b>	<b>Common Name</b>	<b>Pure Live Seed Pounds/acre</b>
20%	<i>Bromus carinatus</i> var. <i>carinatus</i>	California bromegrass **	8
5%	<i>Danthonia californica</i>	California oatgrass	2
5%	<i>Deschampsia cespitosa</i> ssp. <i>cespitosa</i>	Tufted hairgrass	2
20%	<i>Elymus glaucus</i> ssp. <i>glaucus</i>	blue wild rye	8
5%	<i>Eschscholzia californica</i>	California Poppy	1.5
5%	<i>Festuca idahoensis</i>	Idaho fescue	4
5%	<i>Hordeum brachyantherum</i>	meadow barley	10
10%	<i>Nassella lepida</i>	foothill needlegrass	2.5
15%	<i>Trifolium wildenovii</i> *	tomcat clover	2.5
5%	<i>Poa secunda</i> ssp. <i>secunda</i>	One-sided bluegrass	3
5%	<i>Vulpia microstachys</i>	Three week fescue	4
100%			

Source: 2M Associates and Natural Resource Management, Inc.

\* pre-inoculated:

\*\* not 'Cucamonga' brome

**Table 6: Plants by Location**

PLANT		LOCATION			
Scientific Name	Common Name	Mixed Riparian	Oak Grassland: Setback Areas	Oak Grassland: Mined Slopes	Mixed Willow - Pond Shoreline & Connection Channel
<b>Trees</b>					
<i>Acer negundo</i> var. <i>californicum</i>	Box elder	X			
<i>Alnus rhombifolia</i>	White alder	X			
<i>Juglans californica</i> ssp. <i>hindsii</i>	Northern California black walnut	X			
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood	X			
<i>Quercus chrysolepis</i>	Canyon live oak		X	X	
<i>Quercus lobata</i>	Valley oak		X	X	
<b>Shrubs / Vines</b>					
<i>Baccharis salicifolia</i>	Mule Fat	X			
<i>Rosa californica</i>	California wild rose	X			
<i>Rosa gymnocarpa</i>	Wood rose	X			
<i>Salix lasiolepis</i>	Arroyo willow	X			X
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Pacific willow	X			X

Source: 2M Associates and Natural Resource Management, Inc.

**Table 7: Planting Notes\***

Scientific Name	Common Name	Planting Ratio	Notes
<b>Mixed Riparian</b>			
<i>Acer negundo</i> var. <i>californicum</i>	Box elder	15%	40' o.c. Plant randomly
<i>Alnus rhombifolia</i>	White alder	10%	40' o.c. Plant randomly
<i>Juglans californica</i> ssp. <i>hindsii</i>	Northern California black walnut	10%	40' o.c. Plant randomly
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood	15%	6' o.c. Plant in groups of 3, each group spaced average 20' apart
<i>Baccharis salicifolia</i>	Mule Fat	10%	3' o.c. Plant in groups of 3, each group spaced average 10' apart
<i>Salix lasiolepis</i>	Arroyo willow	20%	Fascine trenches (3) continuous for length of reclamation phase connection channel, 10 springs / bundle @ 8' length
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Pacific willow	20%	
<b>Oak Grassland: Setback Areas and Mined Slopes</b>			
<i>Quercus kelloggii</i>	California black oak	25%	Plant randomly at 50' apart average
<i>Quercus lobata</i>	Valley oak	75%	Plant randomly at 50' apart average
<b>Mixed Willow – Pond Shoreline &amp; Reclamation Phase Connection Channel</b>			
<i>Salix lasiolepis</i>	Arroyo willow	50%	Plant randomly at 8' apart average
<i>Salix lucida</i>	Red willow	50%	Plant randomly at 8' apart average

Source: 2M Associates and Natural Resource Management, Inc.

\* See also Kunzler Terrace Mine Reclamation Plan - Exhibit 9: Vegetation Plan.

## **Surface Mining and Reclamation Act Checklist**

### **SMARA 2772(c)(1) Name and address of operator / agent.**

**Project:** Kunzler Terrace Mine

**Location:** 2175 Kunzler Ranch Road  
Ukiah, CA 95482  
(Also see Exhibit 1: Regional Location)

**Owner:** Granite Construction Company

**Address:** 1324 S. State Street  
Ukiah, CA 95482

### **Mining Operations and Closure**

#### **SMARA 2770.5 100-year flood**

The majority of the project site is within the FEMA 100-year floodplain and is subject to overbank flows from Ackerman Creek and the Russian River. The property is bounded by approximately 1700 feet of Ackerman Creek to the north and 1850 feet of the Russian River to the east.

#### **SMARA 2772(c)(2) Quantity & type of minerals to be mined.**

Mining will produce approximately 3.37 million tons of aggregate materials over the life of the project.

#### **SMARA 2772(c)(3) Initiation and termination date.**

For the purposes of this reclamation plan, initiation and termination dates for mining and reclamation activities are projected to be July 1, 2010 and December 31, 2035, respectively. Mining is anticipated to last approximately 20 years, depending on market conditions. Reclamation will be conducted concurrently with mining activities (see also Exhibits 6A-6C). Final reclamation is expected to be completed by the first dry season after mining ceases. Monitoring of revegetated areas will extend for a period of five years, assuming success criteria are met.

#### **SMARA 2772(c)(4) Maximum anticipated depth of mining.**

The mining area will be excavated to a maximum depth of approximately 65± feet (approximately elevation 547±) below existing grade.

**SMARA 2772(c)(5) Size, legal description, including map with boundaries, topography, geology, streams, channel cross-sections, topsoil stockpiles, roads, equipment storage, RR, utilities within or adjacent to mine.**

Mining operations will occur on parcels APN 170-160-03 and APN 170-150-09 (see Exhibit 2: Property Ownership and Exhibit 3: Existing Site Conditions). Processing operations will occur within APN 170-160-03. Attachment B provides Assessor's parcel maps for involved parcels. Descriptions of regional and site geology are contained in the February 2008 submittal and the DEIR.

**SMARA 2772(c)(6) Mining plan and time schedule that provides for completion of mining on each segment so that reclamation can be concurrent or phased ASAP.**

Mining and reclamation phasing is described in Table 4, and is shown in Exhibits 6A-6C.

**SMARA 2772(c)(9) Impact of reclamation on future mining.**

Reclamation of the property would not preclude future onsite mining if it is determined that additional mining of the site is permissible, technically feasible and economically viable.

**CCR 3502 (b)(2) Public health and safety (exposure).  
CCR 3713(b) All portals, shafts, tunnels, or openings, gated or protected from public entry, but preserve access for wildlife.**

The site has secured access from the west via Kunzler Ranch Road. Existing perimeter fencing will be retained, and "No Trespassing" signs will be posted along the property lines, as necessary. Two of the existing water wells will be retained and will be secured to protect public safety. The third well will be closed pursuant to Mendocino County specifications.

**CCR 3502 (b)(5) Disposition of old equipment.  
CCR 3509(a) Equipment stored in designated area and waste disposed of according to ordinance.**

Upon final reclamation of the site, no equipment will remain onsite. Construction/demolition debris, as well as any stored chemicals/fluids will be removed and disposed of in accordance with federal, state and local requirements.

**CCR 3509(b) Structures and equipment dismantled and removed.**

Facilities, structures, and equipment associated with mining and processing will be removed from the site with the exception of: property line fencing; the existing entrance road; perimeter access roads; a PG&E utility line that traverses the eastern portion of the site; two of the three wells; and the water pump and associated equipment located along the Russian River with related electrical service and access routes.

**CCR 3713(a) Drill holes, water wells, monitoring wells completed or abandoned in accordance with laws.**

Three (3) water supply wells exist on the site and two (2) will be retained as part of the Reclamation Plan. The two retained wells will be kept to support future uses consistent with the County's General Plan and zoning ordinance (currently industrial) in the northwestern portion of the property. The retained wells will be properly secured (e.g., gated, fenced) to protect public safety. Remaining drill holes, water wells, or monitoring wells that exist on the site will be abandoned in accordance with applicable laws.

**SMARA 2772(c)(7) Description of proposed subsequent use or potential use.**

The end use of the project site will be open space (pond), with the northwestern portion of the property available for future uses consistent with the County's General Plan and zoning ordinance (currently industrial). See Exhibit 5, End Use.

**SMARA 2772(c)(8) Description of reclamation measures adequate for proposed end use.**

The following reclamation measures related to open space use of the project site will be implemented:

Open Space (61.3 acres)

- Development and revegetation of a permanent connection channel between the mined pond and the Russian River to provide access to low velocity winter rearing habitat for salmonids.
- Hydroseeding disturbed areas with native erosion control seed mixes.
- Removal of site equipment with the exception of: property line fencing, the existing entrance road, perimeter access roads, a utility line that traverses eastern portion of the site, wells, and water pump and associated equipment located along the Russian River with related electrical service and access routes.
- Revegetation to a combination of mixed riparian, mixed willow, oak grassland plant associations.

Industrial (4.0 acres)

- Removal of processing plant equipment.
- Regrading, ripping, disking, and hydroseeding of processing plant area and sediment retention ponds.

**CCR 3707(a) Return prime agriculture to prime agriculture, unless exempted.**

The proposed end use of the site is open space with an approximately 4-acre area retained for uses consistent with the County General Plan and zoning ordinance. The area currently in vineyard is classified as prime farmland (with irrigation). Following mining, a water feature (pond) will remain, making a return to prime farmland infeasible within the mining area.

**CCR 3707(c) Productivity rates equal to pre-project or similar site for two consecutive years. Rates set forth in plan.**

Not applicable (see above).

**CCR 3708 Other ag capable of sustaining crops common to area.**

Not applicable (see above).

### **Geotechnical Requirements**

**CCR 3502(b)(3) Final slopes: consider physical properties and landscaping. Stability analysis for final slopes that approach critical gradient.**

A site-specific geotechnical analysis was prepared for the project by SHN Consulting Engineers and was included in the February 2008 submittal. In summary:

- Reclaimed slopes around the inside perimeter of the mined pond will be excavated with internal side slopes not to exceed a 2.5:1 (horizontal to vertical) gradient where adjacent to either the Russian River or Ackerman Creek, and 2:1 (horizontal to vertical) gradient elsewhere.
- The connection channel between the pond and the Russian River will have slope gradients of 3:1 and 4:1 (horizontal to vertical) with a bench on the north side for revegetation purposes (Waterways Consulting).

**CCR 3704(f) Final cut slopes have minimum factor of safety for end use and conform with surrounding topography.**

Per the site-specific geotechnical analysis, cut slopes will not exceed a 2:1 (horizontal to vertical) gradient, which is suitable for the proposed end use (open space).

**CCR 3502(b)(4) Disposition of fill materials considered. Foundation fills for end use in conformance with current engineering technology.**

**CCR 3704(a) For urban use, fill compacted in accordance with UBC, local grading ordinance, or other methods approved by the lead agency.**

The end use for a majority of the site is open space that is to be composed of stable slopes that are not intended to support urban uses. An approximately 4-acre portion of Parcel APN 170-150-09 will be not be mined and will be retained for uses consistent with Mendocino County's General Plan and zoning ordinance.

**CCR 3704(b) For resource conservation, compact to standard for that end use.**

With the exception of a portion of APN 170-150-09, the end use is open space. Reclamation grading is designed to generally conform to existing topography and to create safe, stable, natural-appearing slopes.

**CCR 3704(d) Final reclamation fill slopes not to exceed 2:1, except when allowed by site-specific engineering analysis, and can be revegetated.**

Final cut slopes will not exceed a 2:1 (horizontal to vertical) gradient and will be created by mining activities with no fill slopes proposed.

**CCR 3704(e) At closure, final landforms of fills conform with surrounding topography or end use.**

Mined slopes will be contoured to conform to the surrounding topography.

**Hydrology and Water Quality**

**CCR 3710(a) Surface and groundwater protected in accordance with Porter-Cologne and Clean Water Acts (RWQCB/SWRCB).**

Design features of the mining area, processing area, and reclaimed area, as well as regulatory compliance incorporating best management practices will minimize the potential for impacts to water quality:

- Consistent with recommendations from the hydraulic assessment, as well as consultation with NOAA Fisheries, mining will be set back a minimum of 250 feet from the existing top of bank of the Russian River and 150 feet from the existing top of bank of Ackerman Creek.
- Consistent with recommendations from the site-specific hydrogeological assessment, mining is proposed to a maximum depth of 65 feet in order to ensure that mining occurs within the upper portion of the aquifer system, which is separated hydraulically from the lower portions by a continuous clay layer.
- Disturbed areas above the low summer water elevation will be hydroseeded with a native erosion-control seed mix prior to October 15 of each year.
- Surface drainage in the mining area will be directed into the mining pit.
- A sediment retention basin will be utilized to settle out the fines associated with washing of sand and gravel at the processing plant. Additionally, the processing area will be graded to drain storm water and dust suppression water into the sediment retention basin. The sediment retention basin is located above the 100-year flood elevation. Accumulated fines from dust suppression, storm water runoff, and the washing of sand and gravel in the sediment retention basin will be excavated as necessary and either be sold as a fill product, or be incorporated into topsoil for use in reclamation.
- To prevent potential turbid water from the mined area from re-entering receiving waters during flood events, Granite will not conduct wet drag-line mining during the months November-March unless authorized by the North Coast Regional Water Quality Control Board, or unless authorized by the lead agency (Mendocino County) to respond to local, state, or federal disaster/emergency conditions.
- The proposed project includes the construction of a connection channel between the pond and the Russian River to convey floodwaters into the pond. The design

objectives for the connection channel include providing enough conveyance through the channel to allow the pond volume to fill before the channel banks are overtopped, thereby limiting the likelihood of pit capture or severe bank erosion to the mined pit slopes. Based on the relatively low, non-erosive, water velocities anticipated within the connection channel during flood events, the connection channel has been designed to support native grasses and riparian vegetation for erosion control and habitat without compromising the conveyance of floodwaters through the channel (Waterways Consulting). A temporary erosion control liner will be utilized within the connection channel while the vegetation becomes established. The inlet and outlet of the connection channel will be armored with an erosive resistant material to prevent potential headcutting during flood events.

- Secondary containment facilities and equipment refueling procedures will be designed to comply with regulatory standards to minimize the potential for spills.
- The project will comply with the National Pollutant Discharge Elimination System General Permit for Discharges of Storm Water Associated with Industrial Activities (“NPDES General Permit”). The NPDES General Permit is administered by the North Coast Regional Water Quality Control Board and involves preparation and implementation of a Storm Water Pollution Prevention Plan, including Best Management Practices to control erosion, sedimentation, and pollution.
- The project will operate under the requirements of a Hazardous Materials Business Plan (“HMBP”) and a Spill Prevention, Control, and Countermeasure Plan (“SPCC”), designed to prevent the occurrence of spills, prevent spills from entering the environment, and establishes procedures to respond to, report, contain, and clean up spills, should they occur.

**CCR 3706(b) Water quality, recharge, and groundwater storage that is accessed by others shall not be diminished, except as allowed by plan.**

**CCR 3706(b)(2) Substantially prevent siltation of groundwater recharge areas.**

A number of groundwater protection measures have been incorporated into the proposed mining/reclamation plan:

Mining Will Occur Only in the Upper Aquifer - A hydrogeologic assessment of the Kunzler property, performed by consulting engineers Luhdorff and Scalmanini, revealed that aggregate materials deposited to an approximate depth of 65± feet comprise the upper portion of the aquifer system, which is separated hydraulically from the lower portions by a continuous clay layer. In order to preserve the integrity of the confining clay layer and minimize the potential for impacts to groundwater, Granite proposes to mine to a maximum depth of 65 feet. As such, the removal of the aggregate during mining has the potential to affect groundwater conditions only in the upper aquifer (above the clay).

Mining/Reclamation Activities Will Not Increase the Consumptive Use of Groundwater - The assessment of the individual water budget components and the calculated total water usages under the current conditions (i.e., the operation of a vineyard), mining, and reclaimed conditions indicates that the project will not result in an increase in the consumptive use of

groundwater (i.e., no increased stress on groundwater resources). Therefore, the existing stable groundwater level conditions in the shallow aquifer are expected to be sustained.

Best Management Practices will Minimize the Potential for Impacts to Water Quality - Implementation of best management practices (see discussion in CCR 3710(a), above) will prevent and minimize the potential for mining operations to impact water quality.

**CCR 3503(a)(3) Erosion control facilities constructed and maintained where necessary.  
SMARA 2773(a) Site-specific sediment and erosion control criteria for monitoring compliance with approved reclamation plan.**

Surface drainage in the mining area will be directed into the mining pit. A sediment retention basin will be utilized to settle out the fines associated with washing of sand and gravel at the processing plant. Additionally, the processing area will be graded to drain storm water and dust suppression water into the sediment retention basin. The sediment retention basin is located in an area above the 100-year flood elevation. Accumulated fines from dust suppression, storm water runoff, and the washing of sand and gravel in the sediment retention basin will be excavated as necessary and either be sold as a fill product, or be incorporated into topsoil for use in reclamation.

The proposed project includes the construction of a connection channel between the pond and the Russian River to convey flood waters into the pond. The design objectives for the connection channel include providing enough conveyance through the channel to allow the pond volume to fill with floodwater from the Russian River before the channel banks are overtopped, thereby limiting the likelihood of pit capture or severe bank erosion to the mined pit slopes. Based on the relatively low, non-erosive, water velocities anticipated within the connection channel during flood events, the connection channel has been designed to support native grasses and riparian vegetation for erosion control and habitat without compromising the conveyance of floodwaters through the channel (Waterways Consulting). A temporary erosion control liner will be utilized within the connection channel while the vegetation becomes established. The inlet and outlet of the connection channel will be armored with an erosive resistant material to prevent potential headcutting during flood events.

The reclamation plan involves hydroseeding of disturbed areas, excluding maintenance access routes, with a native erosion control mix. A perimeter band of willows will be planted above the low summer water elevation of the mine to help protect the shoreline from wind erosion.

Annual inspections are performed by the Lead Agency (Mendocino County) to ensure compliance with the approved reclamation plan. Additionally, Granite will routinely monitor and document erosion control activities, structures, and stormwater per conditions within the Industrial Storm Water Permit, and per Best Management Practices described in written, site-specific Storm Water Pollution Prevention (SWPPP) and Spill Prevention Control and Countermeasure (SPCC) Plans.

**CCR 3503(b)(1)      Settling ponds used where they will provide significant benefit to water quality.**

As described above, a sediment retention basin will be utilized to settle out the fines associated with washing of sand and gravel at the processing plant. Additionally, the processing area will be graded to drain storm water and dust suppression water into the sediment retention basin. The sediment retention basin is located in an area above the 100-year flood elevation.

**CCR 3503(e)      Grading and revegetation to minimize erosion and convey surface runoff to natural drainage courses or interior basins. Spillway protection.**

Surface drainage in the mining area will be directed into the mining pit. The processing area will be graded to drain into the sediment retention basin. Disturbed lands above the low summer water elevation, excluding perimeter access roads and impervious surfaces of the plant site, will be hydroseeded with a native erosion control seed mix. The pond-river connection channel has been designed to function with native grasses and riparian vegetation for erosion control. A temporary erosion control liner will be utilized within the connection channel while vegetation becomes established. The inlet and outlet of the connection channel will be armored with an erosive resistant material to prevent potential headcutting during flood events. Grading and revegetation plans are presented in Exhibit 7: Grading Plan; Exhibits 8A-8D: Sections; and, Exhibit 9: Vegetation Plan.

**CCR 3706(c)      Erosion and sedimentation controlled during all phases of construction, operation, reclamation, and closure of surface mining operation to minimize siltation of lakes and water courses per RWQCB/SWRCB.**

Construction (i.e., construction of the connection channel and sediment retention basin)

- Construction of the project life connection channel will be performed during the dry season. A temporary erosion control liner will be utilized within the connection channel while the vegetation becomes established. The inlet and outlet of the connection channel will be armored with an erosive resistant material.
- Construction activities will be performed in accordance with requirements contained within the site's Storm Water Pollution Prevention Plan, Water Quality 401 Certification (if necessary), DFG 1600 Agreement (if necessary), and Army Corps of Engineers 404 permit (if necessary).
- Material stockpiles will be located so that they do not drain offsite.
- Silt fencing will be installed in areas where construction occurs within 100 feet of the channel.
- The sediment retention basin is located in an area above the 100-year flood elevation.
- Use of straw bales, straw rolls, silt fences, and other erosion control best management practices where necessary.
- Disturbed areas above the low summer water elevation will be hydroseeded with a native erosion-control seed mix prior to October 15 of each year.

### Mining/Processing/Operational Phase

- Mining will be set back a minimum of 250 feet from the existing top of bank of the Russian River and 150 feet from the existing top of bank of Ackerman Creek.
- Surface drainage in the mining area will be directed into the mining pit.
- A sediment retention basin will be utilized to settle out the fines associated with washing of sand and gravel at the processing plant. Accumulated fines from dust suppression, storm water runoff, and the washing of sand and gravel in the sediment retention basin will be excavated as necessary and either be sold as a fill product, or be incorporated into topsoil for use in reclamation.
- The processing area will be graded to drain into the sediment retention basin.
- Topsoil removal will not precede mining by more than one year.
- Material stockpiles will be located so that they do not drain offsite.
- To prevent potential turbid water from the mined area from re-entering receiving waters during flood events, Granite will not conduct wet drag-line mining during the months November-March unless authorized by the North Coast Regional Water Quality Control Board, or unless authorized by the lead agency (Mendocino County) to respond to local, state, or federal disaster/emergency conditions.
- Disturbed areas above the low summer water elevation will be hydroseeded with a native erosion-control seed mix prior to October 15 of each year.
- Use of straw bales, straw rolls, silt fences, and other erosion control best management practices where necessary.
- The project will comply with the National Pollutant Discharge Elimination System General Permit for Discharges of Storm Water Associated with Industrial Activities.
- Annual inspections will be performed by the Lead Agency (Mendocino County) to ensure compliance with the approved reclamation plan. Additionally, Granite will routinely monitor and document erosion control activities, structures, and stormwater per conditions within the Industrial Storm Water Permit, and per Best Management Practices described in the written, site-specific Storm Water Pollution Prevention Plan.

### Reclamation/Closure Phase

- The revegetation program was developed to address disturbed areas of the site including long-term control of wind and water erosion using a combination of mixed riparian, mixed willow, and oak grassland plant associations.
- Annual monitoring will be performed to evaluate conformance with the revegetation success criteria, and annual inspections will be performed by the Lead Agency (Mendocino County) to ensure compliance with the approved reclamation plan.

### **CCR 3706(d) Surface runoff and drainage controlled to protect surrounding land and water resources. Erosion control methods designed for not less than 20 year/1 hour intensity storm event.**

As described in the sections above, surface water runoff will be controlled through numerous best management practices and site design features intended to control erosion and protect water quality.

**CCR 3706(e) Altered drainages shall not cause increased erosion or sedimentation.**

Existing drainage patterns on the property will be retained with the exception that lands interior to the mined area will drain into the pit, and the processing area will drain into the sediment retention basin. The proposed project includes the construction of a connection channel between the pond and the Russian River to convey flood waters into the pond. The design objectives for the connection channel include providing enough conveyance through the channel to allow the pond volume to fill with floodwater from the Russian River before the channel banks are overtopped, thereby limiting the likelihood of pit capture or severe bank erosion to the mined pit slopes. The grading and revegetation associated with the connection channel has been designed to prevent erosion and sedimentation (see Exhibit 9: Vegetation Plan; and Attachment A).

**SMARA 2773(a) Sediment and erosion control monitoring plan specific to property.**

Annual inspections will be performed by the Lead Agency (Mendocino County) to ensure compliance with the approved reclamation plan. Additionally, Granite will routinely monitor and document erosion control activities, structures, and stormwater per conditions within the Industrial Storm Water Permit, and per Best Management Practices described in the written, site-specific Storm Water Pollution Prevention Plan.

**SMARA 2772(c)(8)(A) Description of contaminant control and mine waste disposal.**

**CCR 3503(d) Disposal of mine waste and overburden shall be stable and not restrict natural drainage without suitable provisions for diversion.**

**CCR 3503(a)(2) Overburden stockpiles managed to minimize water and wind erosion.**

**CCR 3712 Mine waste and tailings, and mine waste disposal units governed by SWRCB/CIWMB (Article 1, Subchapter 1, Chapter 7, Title 27, CCR).**

Initial overburden and topsoil will be stockpiled and protected to minimize water and wind erosion. Erosion control activities (e.g., seeding, visqueen, cover) will occur prior to October 15 of each year. Accumulated fines from dust suppression, storm water runoff, and the washing of sand and gravel in the sediment retention basin will be excavated as necessary and either be sold as a fill product, or be incorporated into topsoil for use in reclamation.

**CCR 3710(b) In-stream mining conducted in accordance with Fish and Game Code Section 1600 et seq, Section 404 of the Clean Water Act, and Section 10 of the Rivers and Harbors Act of 1899.**

In-stream mining is not proposed in terms of gravel bar skimming or any other in-stream methods. The project does include the construction of a connection channel between the pond and the Russian River. However, the material that will be removed in conjunction with the connection channel will be from the streambanks or upland area and not from the bed of the river. These components of the project have been developed in consultation with NOAA Fisheries.

- SMARA 2772(c)(8)(B) Rehabilitation of stream banks/beds to minimize erosion.**
- CCR 3502(b)(6) Temporary stream and water diversions shown.**
- CCR 3710(c) In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, aerial photos.**
- CCR 3706(a) Mining and reclamation to protect downstream beneficial uses.**
- CCR 3706(f)(1) Stream diversions constructed in accordance with Fish and Game Code**
- CCR 3706(f)(2) Stream diversions constructed in accordance with Federal Clean Water Act and Rivers and Harbors Act of 1899.**
- CCR 3706(g) All temporary stream diversions eventually removed.**

See CCR 3710(b), above.

### **Environmental Setting and Protection of Fish and Wildlife Habitat**

- CCR 3502(b)(1) Environmental setting and impact of reclamation on surrounding land uses. (Identify sensitive species, wildlife habitat, sensitive natural communities, e.g., wetlands, riparian zones, etc.)**

Exhibit 2: Property Ownership illustrates surrounding land ownership and uses. The environmental setting and biological resources of the project site are described earlier in this document and in greater detail in the February 2008 submittal and DEIR. The reclamation of the site is to open space and uses consistent with Mendocino County's General Plan and zoning ordinance.

Surrounding land use designations to the north, west, and south of the project site currently are:

- Base Zoning District: AG - I2 - General Industrial (6K)
- Combining Zoning: FP - Flood Plain

Properties east of the Russian River are zoned:

- Base Zoning District: AG - Agricultural (40)
- Combining Zoning: FP - Flood Plain
- Combining Zoning: SS - Seismic Study

The proposed reclamation is not expected to have any significant impact on surrounding land uses. In fact, the pond and surrounding reclaimed lands should provide beneficial open space. Revegetation of the site to a combination of mixed riparian, mixed willow, and oak grassland plant associations, combined with the pond surface to be created through mining has been designed to create greater habitat diversity for fish & wildlife than the vineyard that now exists on the site. The proposed project will not impact jurisdictional wetlands.

**CCR 3705(a) Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.**

Botanical resources of the project site are described in the February 2008 submittal and DEIR. Areas to be reclaimed are illustrated on Exhibit 9: Vegetation Plan. Reclaimed lands will be returned to a mixture of mixed riparian, mixed willow, and oak grassland plant associations. Tables 5, 6, 7, and 8 provide details for seeding, planting, and success criteria associated with reclamation. Seed compositions were chosen to be self-regenerating. No dependence on fertilizer or soil amendments is anticipated. Irrigation of woody species will occur, as necessary, until plants are established and self-sustaining without irrigation.

**CCR 3503(c) Protection of fish and wildlife habitat (all reasonable measures).**

**CCR 3703(a) Sensitive species conserved or mitigated.**

**CCR 3703(b) Wildlife habitat at least as good as pre-project, if approved end use is habitat.**

**CCR 3703(c) Wetlands avoided or mitigated at 1:1 minimum.**

Biological resources of the project site are described in the February 2008 submittal and DEIR. The pond-river connection channel has been developed in coordination with NOAA Fisheries to minimize the potential for stranding of ESA listed salmonids, and to provide low velocity winter refuge rearing habitat for the species. Revegetation of the site to a combination of mixed riparian, mixed willow, and oak grassland plant associations, combined with the pond surface to be created through mining has been designed to create greater habitat diversity for fish & wildlife than the vineyard that now exists on the site. The proposed project will not impact jurisdictional wetlands. (See also Exhibit 9: Vegetation Plan, Exhibits 8A-8D: Sections, Exhibit 7: Grading Plan, Attachment A and Tables 5, 6, 7, and 8.)

**CCR 3704(g) Piles or dumps not placed in wetlands without mitigation.**

Reclamation of the site involves no filling or placement of other materials in wetlands.

**CCR 3710(d) In-stream mining not cause fish to be trapped in pools or off-channel pits, or restrict migratory or spawning activities.**

Not applicable.

**CCR 3713(b) All portals, shafts, tunnels, openings, gated or protected from public entry, but preserve access for wildlife.**

Not applicable. There are no underground operations associated with this project.

## **Resoiling and Revegetation**

- CR 3503(f)      Resoiling (fine material on top plus mulches).**  
**CCR 3704(c)      Mine waste stockpiled to facilitate phased reclamation and separate from growth media.**

Initial overburden and/or topsoil generated from mining will be stockpiled for use in concurrent reclamation. (See Exhibits 6A-6C: Reclamation Phasing.) Accumulated fines from dust suppression, storm water runoff, and the washing of sand and gravel in the sediment retention basin will be excavated as necessary and either be sold as a fill product, or be incorporated into topsoil for use in reclamation.

- CCR 3711(a)      All salvageable topsoil removed. Topsoil and vegetation removal not precede mining by more than one year.**

Where a distinct upper soil horizon is present, onsite topsoil will be separately stockpiled from other overburden materials and used in concurrent reclamation. Topsoil removal will not precede mining by more than one year.

- CCR 3711(b)      Topsoil resources mapped prior to stripping, locations of stockpiles on map. Topsoil and growth media in separate stockpiles.**  
**CCR 3711(c)      Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve revegetation success.**  
**CCR 3711(d)      Topsoil phased ASAP. Topsoil stockpiles not be disturbed until needed. Topsoil stockpiles clearly identified and planted with vegetation or otherwise protected.**  
**CCR 3711(e)      Topsoil redistributed in stable site and consistent thickness.**  
**CCR 3707(b)      Segregate and replace topsoil by horizon.**

During Phase 1 of mining (see Exhibits 6A-6C: Reclamation Phasing), initial overburden and/or topsoil generated from mining will be stockpiled for use in concurrent reclamation. Topsoil will be segregated from overburden and stored in clearly marked stockpiles, and will be seeded as necessary. As mining proceeds through completion of the project, topsoil will be removed and used directly for reclamation in areas that were mined in the preceding phase.

- CCR 3705(e)      Soil altered or other than native topsoil, requires soil analysis. Amend if necessary.**

Compacted soil within the processing site will be ripped to a depth of eighteen inches (18") and disked prior to seeding. (See Exhibit 7: Grading Plan and Exhibit 9: Vegetation Plan.) The hydroseeding mix (see Table 5) for the areas around the processing site assumes that the quality of the soil will be minimal and includes species with nitrogen-fixing capabilities. Salvageable topsoil from the remainder of the site, along with processing fines from the sediment retention basin, will be utilized for revegetation in remaining areas of the site.

**CCR 3707(d) Fertilizers and amendments not contaminate water.**

Soil amendments, if required during revegetation efforts, will be applied appropriately, and will not contribute to contamination of onsite or offsite water.

**SMARA 2773(a) Revegetation plan specific to property. Monitoring plan.**

**CCR 3503(a)(1) Removal of vegetation and overburden preceding mining kept to a minimum.**

The reclamation plan provides for site-specific revegetation and erosion/sedimentation control design. Reclaimed lands will be returned to a mixture of mixed riparian, mixed willow, and oak grassland plant associations. Tables 5, 6, 7, and 8 provide details for seeding, planting, and success criteria associated with reclamation. Annual monitoring will be performed to evaluate conformance with the revegetation success criteria, and annual inspections will be performed by the Lead Agency (Mendocino County) to ensure compliance with the approved reclamation plan.

During Phase 1 of mining (see Exhibits 6A-6C: Reclamation Phasing), initial overburden and/or topsoil generated from mining will be stockpiled for use in concurrent reclamation. Topsoil will be segregated from overburden and stored in clearly marked stockpiles, and will be seeded as necessary. As mining proceeds through completion of the project, topsoil will be removed and incorporated into reclamation in areas that were mined in the preceding phase. If necessary, vegetation (e.g., grape vines) within areas to be excavated will be removed and disposed of in accordance with local regulations.

**CCR 3503(g) Revegetation and plant survival (use available research).**

**CCR 3705(a) Vegetative cover, suitable end use, self-sustaining. Baseline studies documenting cover, density and species richness.**

Botanical resources of the project site are described in the February 2008 submittal and DEIR.

Areas to be revegetated are illustrated on Exhibit 9: Vegetation Plan. Reclaimed lands will be returned to a combination of mixed riparian, mixed willow, and oak grassland plant associations. Table 5 lists the hydroseed mix and Tables 6, 7, and 8 identify the plants and success criteria associated with reclamation. Seed compositions were chosen to be self-regenerating. Mixed riparian, and oak grassland plant associations will receive irrigation, as necessary, until established.

Revegetation of disturbed areas will first consist of hydroseeding with native and naturalized grasses and herbaceous plants. Species for hydroseeding (see Table 5) were selected based on existing soil conditions, functional qualities to provide erosion control, similar native plants that exist within the general region, and their ability to be self-sustaining without dependence on irrigation, soil amendments, or fertilizers.

Mixed riparian, mixed willow, and oak grassland plant associations will also be established through planting of area-appropriate propagules.

**CCR 3705(b) Test plots if success has not been proven previously.**

Test plots for each plant association are identified in Table 8, and the monitoring test plot locations are shown on Exhibit 9: Vegetation Plan.

**CCR 3705(c) Decompaction of site.**

The processing site's soil is expected to be compacted as a result of proposed activities. Compacted soil will be ripped to a depth of eighteen inches (18") and disked prior to seeding, unless the uses anticipated for this portion of the project site (i.e., uses consistent with County General Plan and zoning ordinance) upon project termination dictate that disking and hydroseeding would not be appropriate.

**CCR 3705(d) Roads stripped of roadbase materials, resoiled and revegetated, unless exempted.**

With the exception of the main entrance routes and maintenance access routes, road materials within the project area will be removed. Subgrade soils will be ripped, disked, and reseeded.

**CCR 3705(f) Temporary access not bladed. Barriers installed.**

No temporary access routes are proposed as part of reclamation. Existing access routes that lead off of the project site will be secured.

**CCR 3705(g) Use native plant species, unless exotic species meet end use.**

Revegetation will use native species.

**CCR 3705(h) Plant during correct season.**

Hydroseeding will occur in the late summer/early fall following site grading, and will be completed prior to October 15. Planting of woody species will occur during the appropriate season for the species.

**CCR 3705(i) Use soil stabilizing practices and irrigation when necessary to establish vegetation.**

Proposed erosion control measures consist of hydroseeding with a native erosion control mix, and use of straw bales, straw rolls, silt fences and/or erosion control cover as necessary. Woody plants will be irrigated, if necessary, until established.

**CCR 3705(j) If irrigated, demonstrate self-sustaining without for two year minimum.**

Revegetation will be reviewed annually by the Lead Agency and determination for continued irrigation will be made during these reviews. Ultimately, the vegetation will be self-sustaining without irrigation prior to release of the financial assurances by the lead agency.

**CCR 3705(k) Weeds managed.**

During the monitoring period, noxious weeds within reclaimed areas, where the density of weedy species exceeds one plant per 25 square feet, will be removed using mechanical means or other means as approved by Mendocino County. Specific noxious weeds to be managed include, but are not limited to, periwinkle (*Vinca major*), giant reed (*Arundo donax*), Italian thistle (*Carduus pycnocephalus*), poison hemlock (*Conium maculatum*), and yellow starthistle (*Centaurea solstitialis*).

**CCR 3705(l) Plant protection measures, fencing, caging.**

If necessary, container plants will be protected through the use of controls such as weed control fabric or plastic mesh.

**CCR 3705(m) Success quantified by cover, density, and species richness. Standards proposed in plan. Sample method set forth in plan and sample size provide 80 percent confidence level, as minimum.**

SMARA performance standards for revegetation require that vegetative cover, density, and species richness shall be used as success standards for revegetation. The end use of mined lands and areas near Ackerman Creek and the Russian River is open space. Reclamation will consist of hydroseeding disturbed areas for erosion control and planting of woody species from cuttings and container stock.

Success Criteria – Hydroseeding, Cuttings and Container Stock: Table 8 presents performance criteria for plant associations proposed to be planted by area. These criteria will be refined and submitted to Mendocino County based on the results of test plots to be planted and evaluated prior to final reclamation.

**Table 8: Success Criteria<sup>1</sup>**

VEGETATION ASSOCIATION (see also Tables 6 and 7)	MONITORING PLOT SIZE	VEGETATIVE COVER <sup>2</sup>	DENSITY <sup>2</sup>	SPECIES RICHNESS <sup>2,3</sup>
Mixed Riparian	10' x 50'	<u>Target goal:</u> 80%	<u>Target goal:</u> 8 plants per plot size average	<u>Target goal:</u> 60%
Oak Grassland	50' x 100'	<u>Target goal:</u> 80%	<u>Target goal:</u> 2 plants per plot size average	<u>Target goal:</u> 60%
Mixed Willow - Pond Shoreline & Connection Channel	10' x 50'	<u>Target goal:</u> 80%	<u>Target goal:</u> 8 plants per plot size average	<u>Target goal:</u> 60%

<sup>1</sup> Prior to reclamation, test plots will be established to determine optimal seeding mixtures to be used to ensure species success and diversity. Success criteria may be adjusted based on the results of the test plot program.

<sup>2</sup> Definitions:

- Vegetative Cover - the vertical projection of the crown or shoot area of a species to the ground surface expressed as a percentage of the reference area (percentage can be greater than 100 percent). Vegetative cover target goals include coverage from grasses (i.e., native hydroseed mix).
- Vegetative Density - the number of individuals or stems of each species rooted within the given reference area.
- Vegetative Species Richness - the number of different plant species within the given reference area.

<sup>3</sup> Species richness target value of 60% of diversity of species originally planted, including native woody recruits. For example, if a zone originally had 6 different woody species planted, the target species richness value would be 4 species present - including woody recruits.

Reference Section 6.2.2.2 of the Rehabilitation of Disturbed Lands In California: A Manual For Decision-Making Rehabilitation (Newton, Gail A. and Claassen, V.P., California Department of Conservation, California Geological Survey, 2003).

Source: 2M Associates / Natural Resources Management Corporation



# GRADING PLAN

## FOR KUNZLER RANCH

### TERRACE MINE

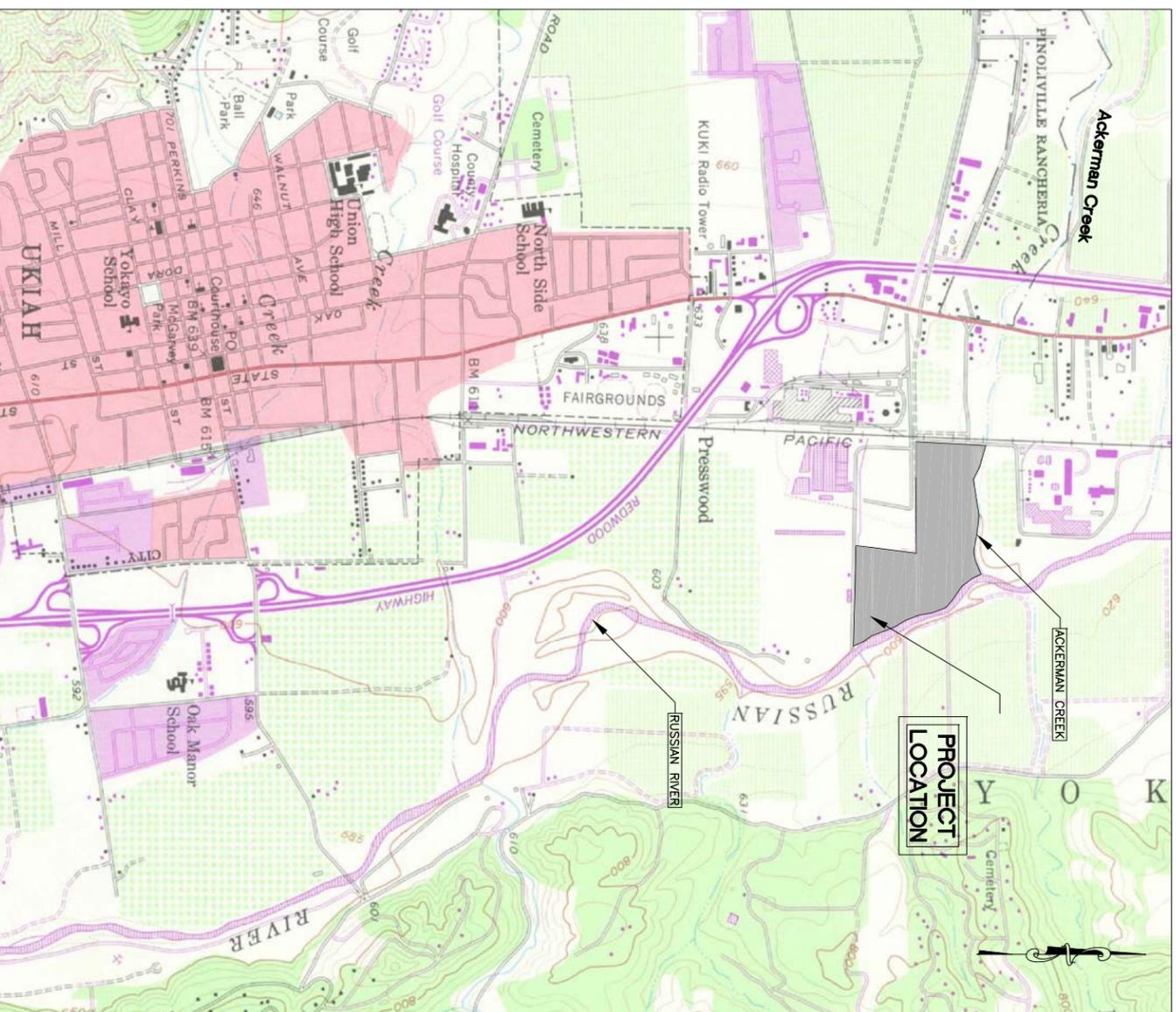
### PERMITTING DESIGN SUBMITTAL

#### SHEET INDEX

- C1 COVER SHEET
- C2 SITE PLAN
- C3 SECTIONS

#### GENERAL NOTES

- 1) PREPARED AT THE REQUEST OF:  
 JORDAN MAIN  
 GRANITE CONSTRUCTION COMPANY  
 1324 SOUTH STATE STREET  
 UKIAH, CALIFORNIA 95482  
 TELEPHONE: 1-707-467-4124
- 2) PROJECT COORDINATOR:  
 JORDAN MAIN  
 1324 SOUTH STATE STREET  
 UKIAH, CALIFORNIA 95482
- 3) ELEVATION DATUM:  
 VERTICAL: NAVD 88  
 HORIZONTAL: ASSUMED  
 DATE: 05/01
- 4) TOPOGRAPHIC BASEMAP AND BOUNDARY INFORMATION PROVIDED BY GRANITE CONSTRUCTION COMPANY.
- 5) APN'S:  
 170-160-03  
 170-150-09
- 6) EXISTING CONTOURS ARE SHOWN AT 2.5 FOOT INTERVAL.
- 7) AT THE UPSTREAM AND DOWNSTREAM LIMITS OF GRADING, FINISH GRADES SHALL TRANSITION SMOOTHLY TO MATCH EXISTING CHANNEL GEOMETRY.
- 8) CONSTRUCTION CONTRACTOR (GRANITE) AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES GRANITE WILL BE REQUIRED TO TAKE FULL RESPONSIBILITY FOR THE PROTECTION OF ALL EXISTING UTILITIES, PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND GRANITE FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.
- 9) SHOULD GRANITE DISCOVER ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, THEY SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 10) GRANITE SHALL BE RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.
- 11) GRANITE SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED IN THE PLANS.



VICINITY MAP  
N.T.S.

CONTRACTOR TO CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.

#### GRADING SUMMARY

PROJECT LIFE CONNECTION CHANNEL EXCAVATION 7,580 CY  
 RECLAMATION PHASE CONNECTION CHANNEL EXCAVATION 1,670 CY  
 NET EXCAVATION 18,250 CY

THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISH GRADE. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED.

THE ABOVE QUANTITIES ARE FOR PERMITTING PURPOSES ONLY AND HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOLS AND CONSTRUCTION METHODS.

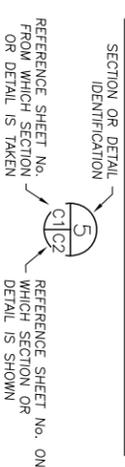
#### PROJECT PHASING

PROJECT PHASING SHALL BE CONDUCTED IN ACCORDANCE WITH THE APPROVED MINING AND RECLAMATION PLAN.

#### ABBREVIATIONS

APPROX	APPROXIMATE
AL	ALDER
B	BAY
C	COTTONWOOD
DBL	DOUBLE
(E)	EXISTING FEATURE
EC	EXISTING CHANNEL
EG	EXISTING GROUND
EP	EDGE OF PAVEMENT
FD	FOUND
FG	FINISHED GRADE
FT	FEET
G	GROUND
H	HORIZONTAL
M	MAPLE
(N)	PROPOSED
O	LIVE OAK
P	PINE
PNS	PAVEMENT NAIL SHINER
REBAR	24" #4 REBAR STAKE MONUMENT
SHT	SHEET
SPK	8" SPIKE MONUMENT
TYP	TYPICAL
U	UNDERTIRED
V	VERTICAL
W	WILLOW

#### SECTION AND DETAIL CONVENTION



**WATERWAYS CONSULTING**  
 403B SWIFT ST.  
 SANTA CRUZ, CA 95060  
 PH: (831)421-9291 // FAX: (888)819-6847  
 WWW.WATWAYS.COM

**PRELIMINARY**  
 NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:  
**GRANITE CONSTRUCTION COMPANY**

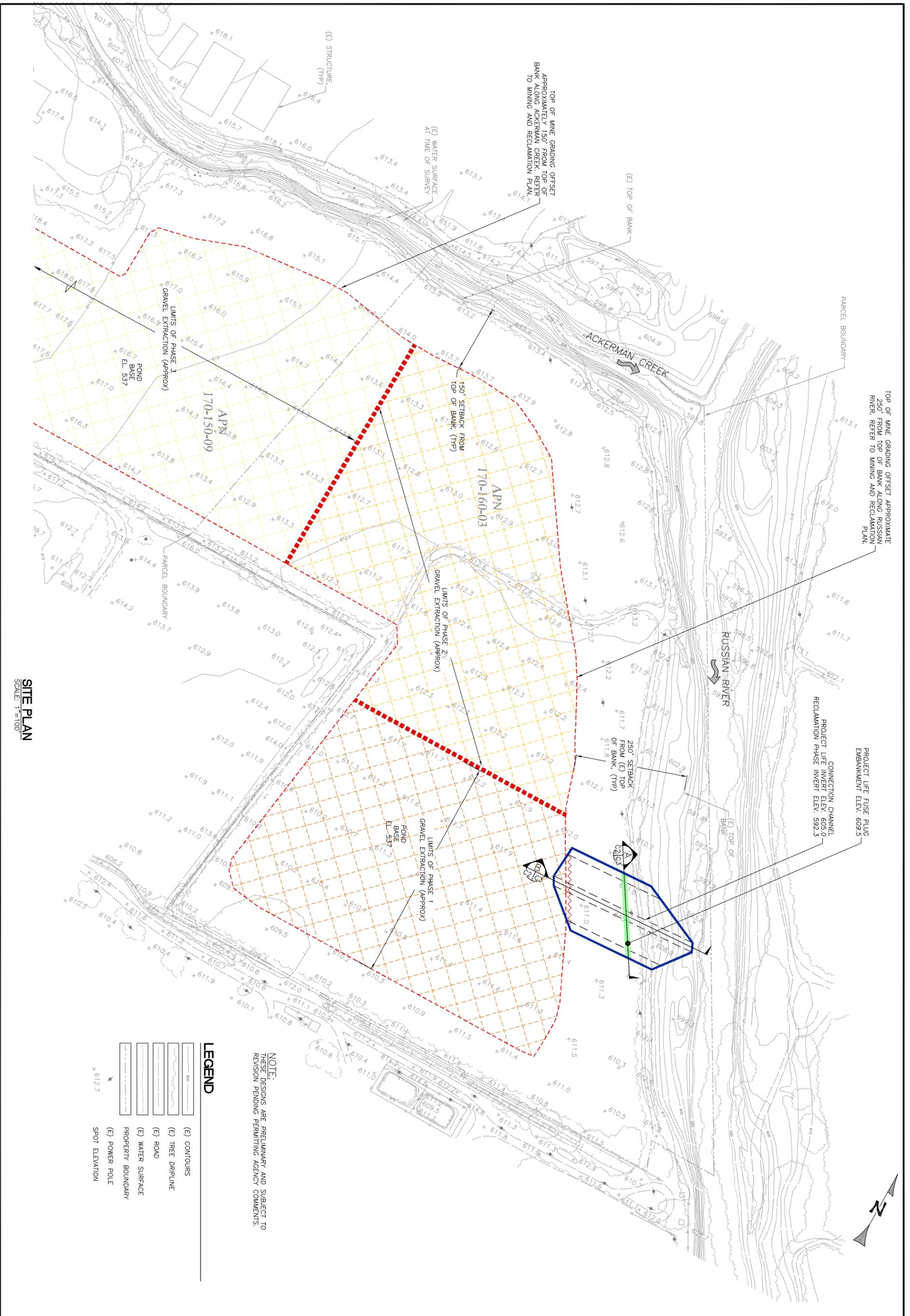
COVER SHEET

**KUNZLER TERRACE MINE PERMITTING DESIGN SUBMITTAL**

DESIGNED BY: M.W.M.  
 DRAWN BY: B.M.S.  
 CHECKED BY: M.W.M.  
 DATE: 11/3/09  
 JOB NO.: 05-471

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS.  
 0 1" 1"

C1 1 OF 3



**SITE PLAN**  
SCALE: 1"=100'

**NOTE:**  
THESE DESIGNS ARE PRELIMINARY AND SUBJECT TO REVISION PENDING PERMITTING AGENCY COMMENTS.

**LEGEND**

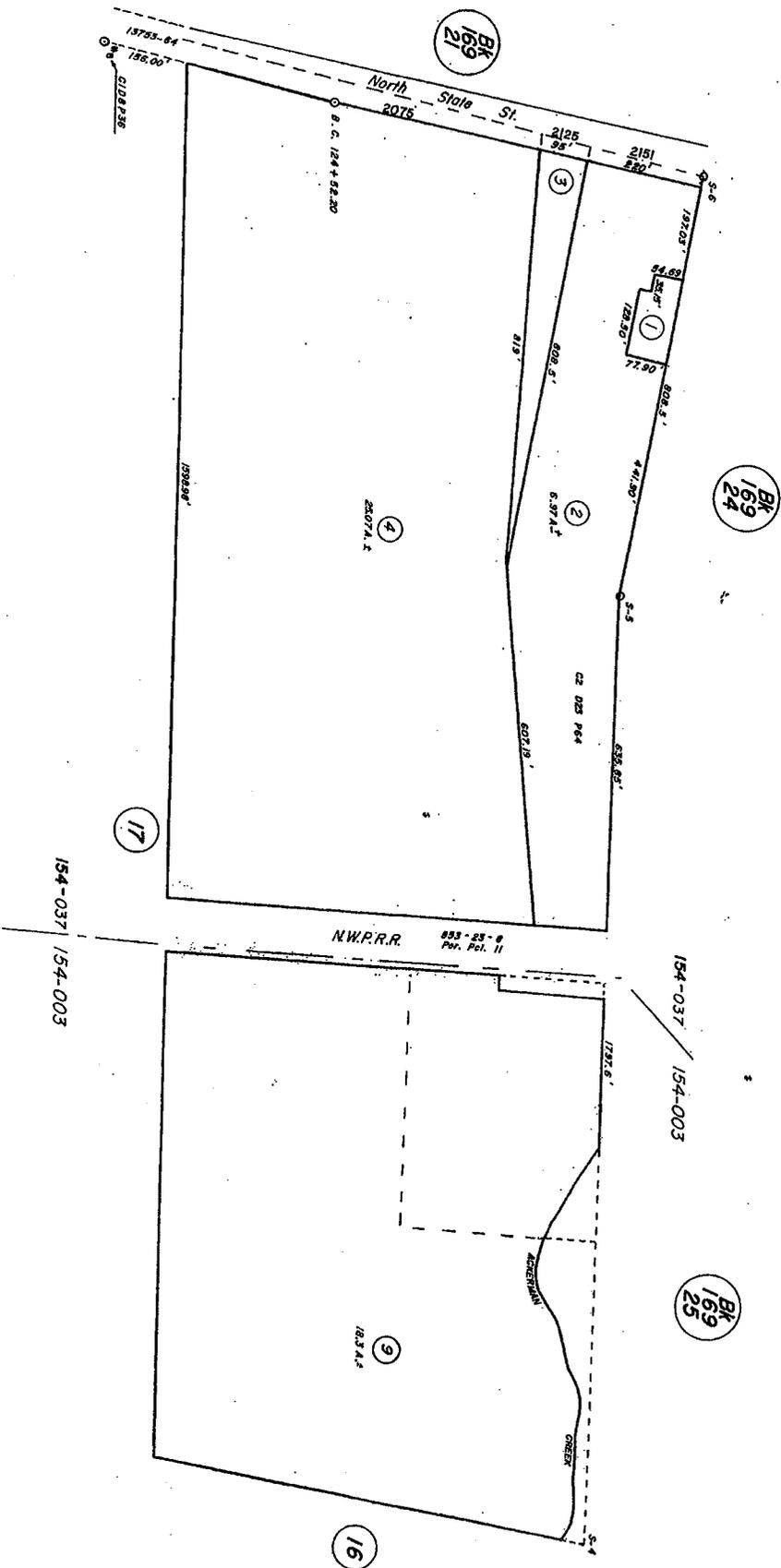
	(E) CONTOURS
	(E) TREE DRIFLINE
	(E) ROAD
	(E) WATER SURFACE
	PROPERTY BOUNDARY
	(E) POWER POLE
	SPOT ELEVATION

<p>C2 OF 3</p>	<p><b>KUNTZER TERRACE MINE PERMITTING DESIGN SUBMITTAL</b></p>	<p><b>SITE PLAN</b></p>	<p>PREPARED AT THE REQUEST OF: <b>GRANITE CONSTRUCTION COMPANY</b></p>	<p><b>PRELIMINARY</b> NOT FOR CONSTRUCTION</p>		<p><b>WATERWAYS CONSULTING</b></p> <p>403B SWIFT ST. SANTA CRUZ, CA 95060 PH: (831) 421-9291 // FAX: (888) 819-6847 WWW.WATWAYS.COM</p>
<p>DESIGNED BY: B.M.S. DRAWN BY: B.M.S. CHECKED BY: M.W.W. DATE: 11/5/09 JOB NO.: 05-471</p> <p>BAR IS ONE INCH ON ORIGINAL PAPER. ADJUST SCALES FOR REDUCED PLOTS.</p>						





Por. of Lot 13 of Yokayo Rancho



154-003  
154-037

154-037 / 154-003

154-037 / 154-003



NOTE: This map was prepared for assessment purposes only. No liability is assumed for the data delineated hereon.

Assessor's Map  
County of Mendocino, Calif.  
March, 1969

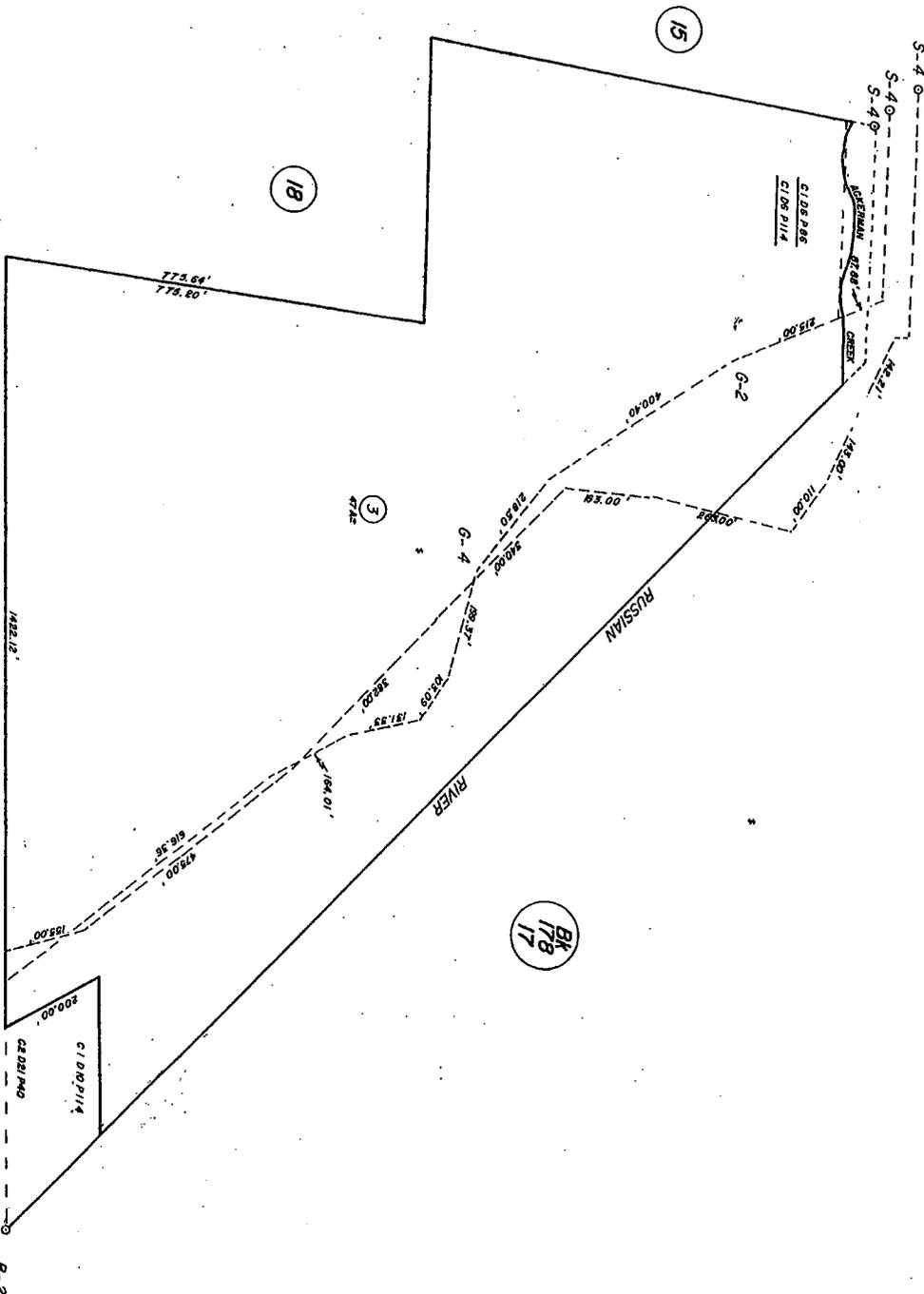
Par. Lot 11 of Yokayo Rancho

154-003

170 16

BK 169 125

1" = 200'



NOTE: This map was prepared for assessment purposes only. No liability is assumed for the data delineated hereon.

Assessor's Map  
County of Mendocino, Calif.  
March, 1969

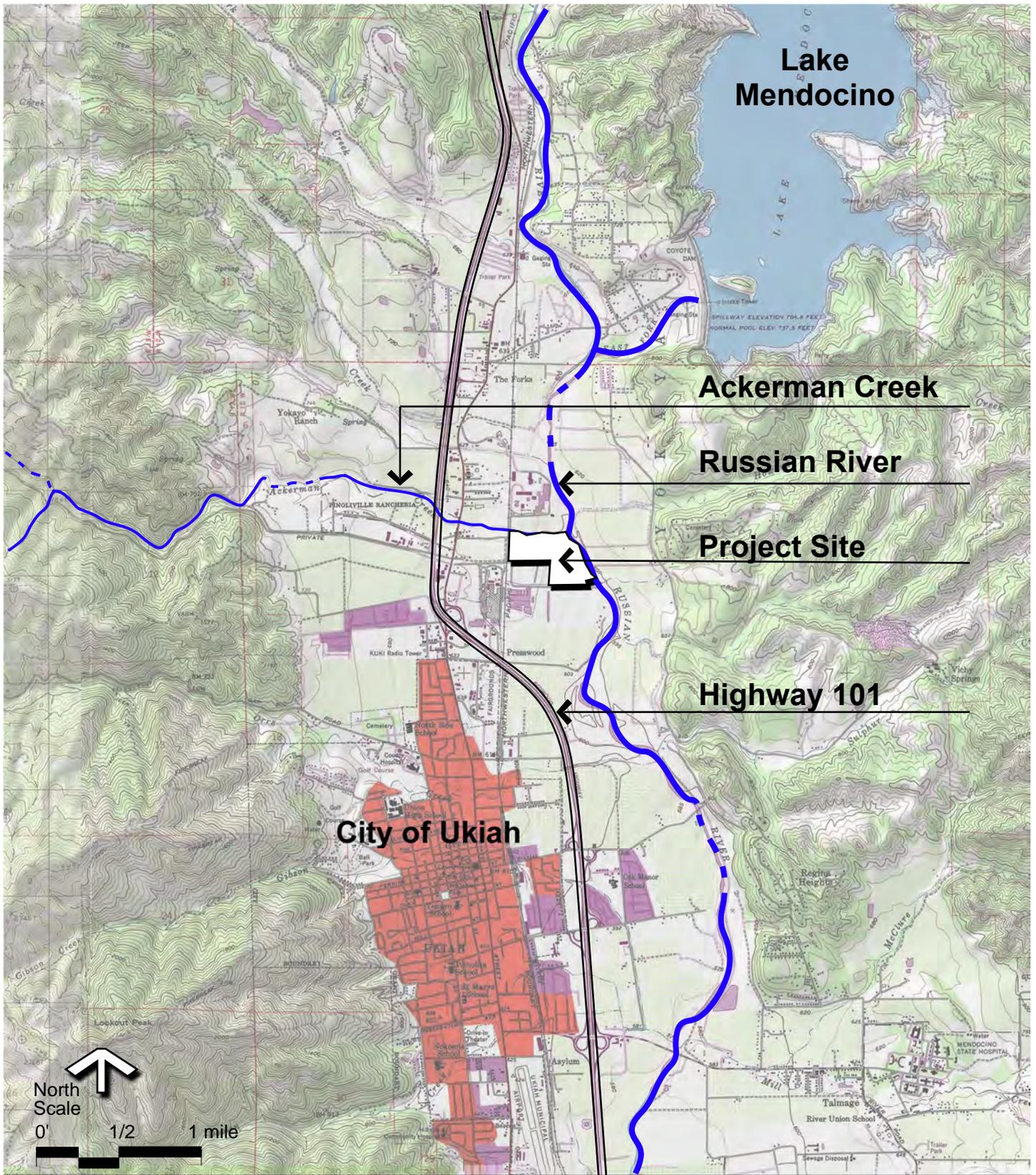


Exhibit 1  
**Regional Location**  
 Kunzler Terrace Mine  
 Mining and Reclamation Plan

Granite Construction Company

Date:12-10-09

This drawing is conceptual and for planning and permit-processing purposes only. Program information, scale, location of areas, and other information shown are subject to field evaluation and modification.

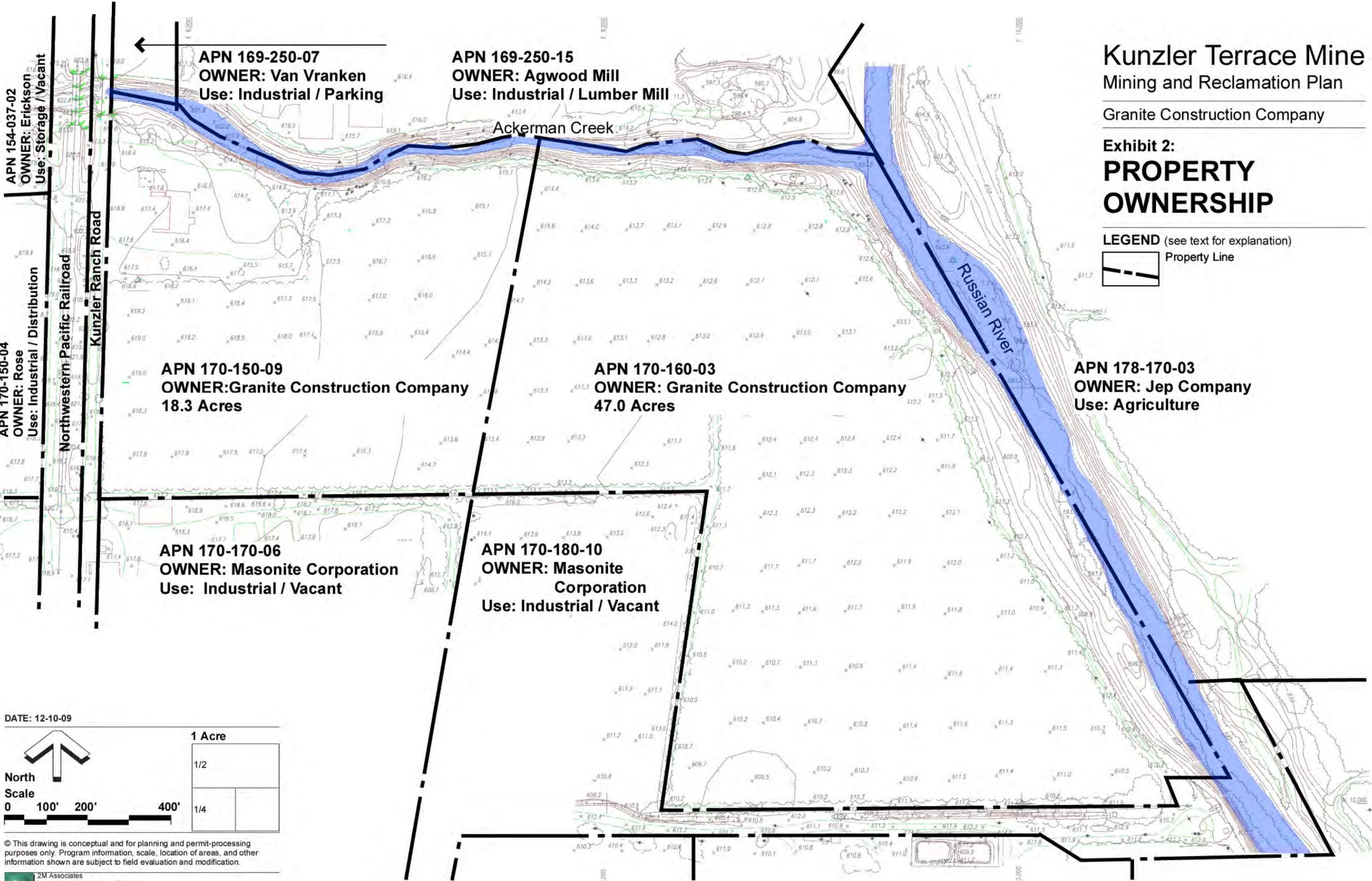
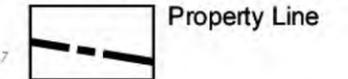
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

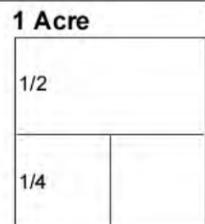
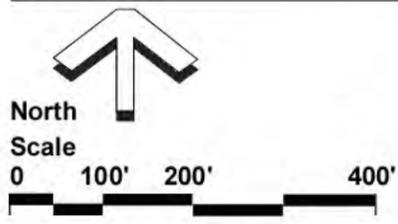
Exhibit 2:

## PROPERTY OWNERSHIP

LEGEND (see text for explanation)



DATE: 12-10-09



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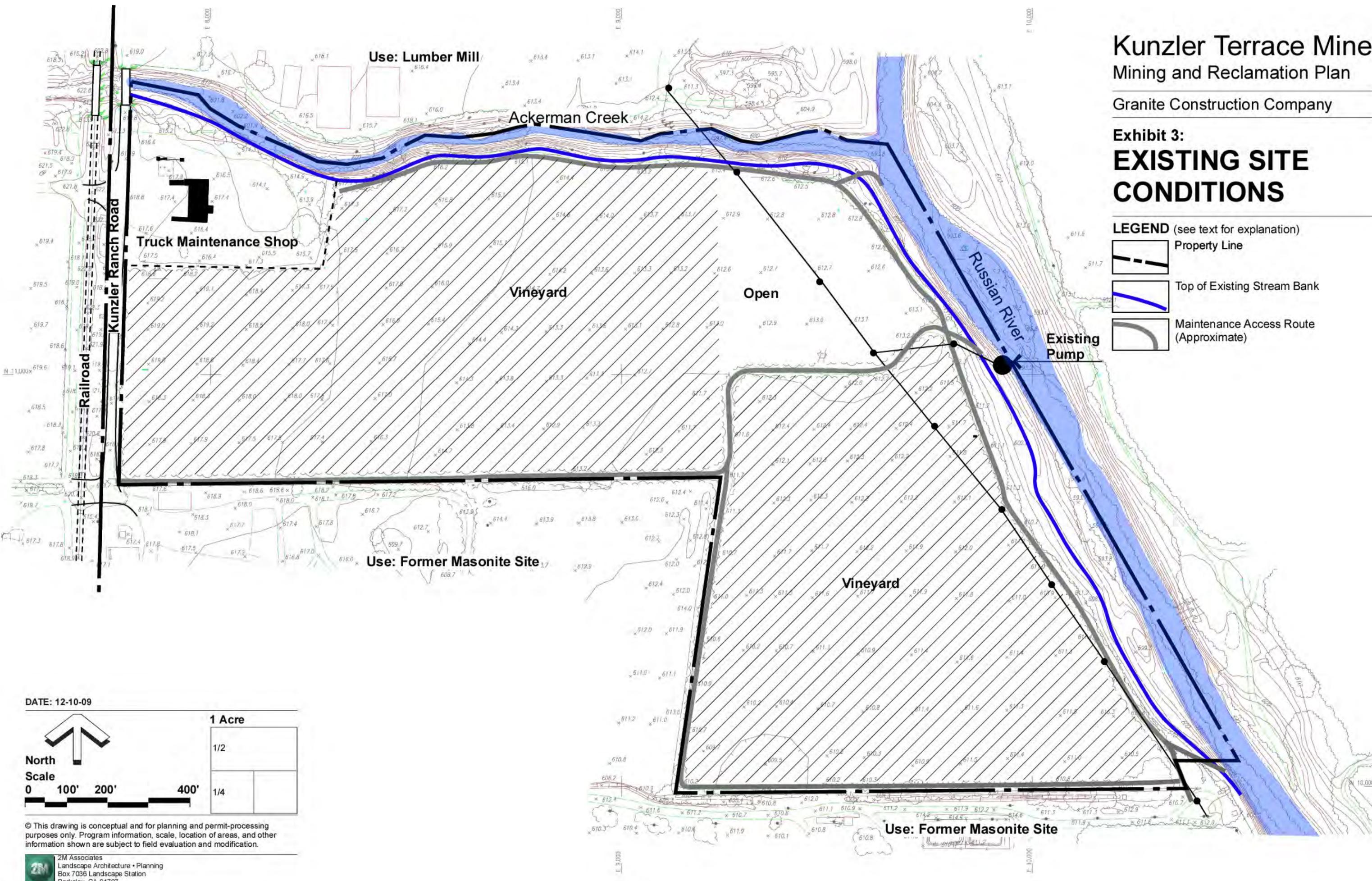
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

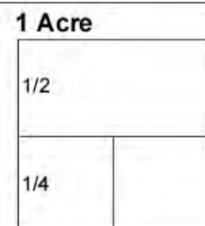
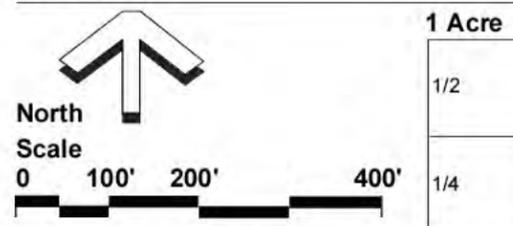
## Exhibit 3: EXISTING SITE CONDITIONS

LEGEND (see text for explanation)

-  Property Line
-  Top of Existing Stream Bank
-  Maintenance Access Route (Approximate)



DATE: 12-10-09



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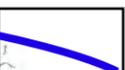
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

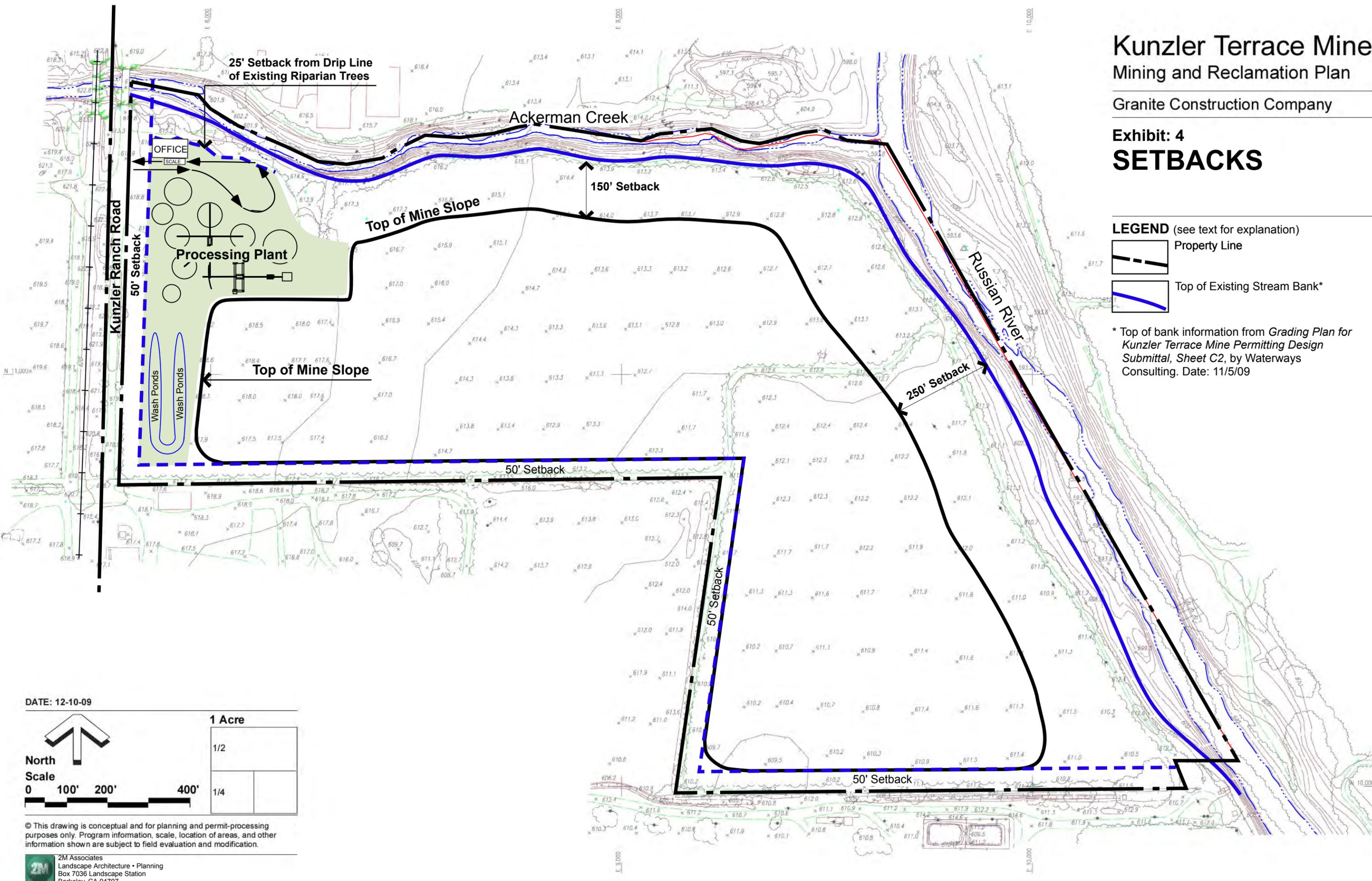
Exhibit: 4

## SETBACKS

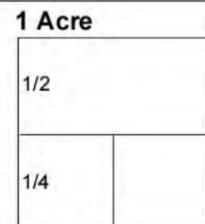
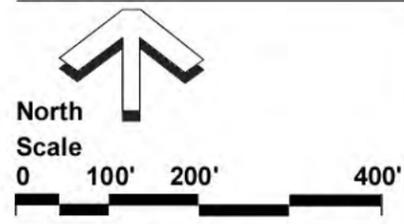
LEGEND (see text for explanation)

-  Property Line
-  Top of Existing Stream Bank\*

\* Top of bank information from *Grading Plan for Kunzler Terrace Mine Permitting Design Submittal, Sheet C2*, by Waterways Consulting. Date: 11/5/09



DATE: 12-10-09



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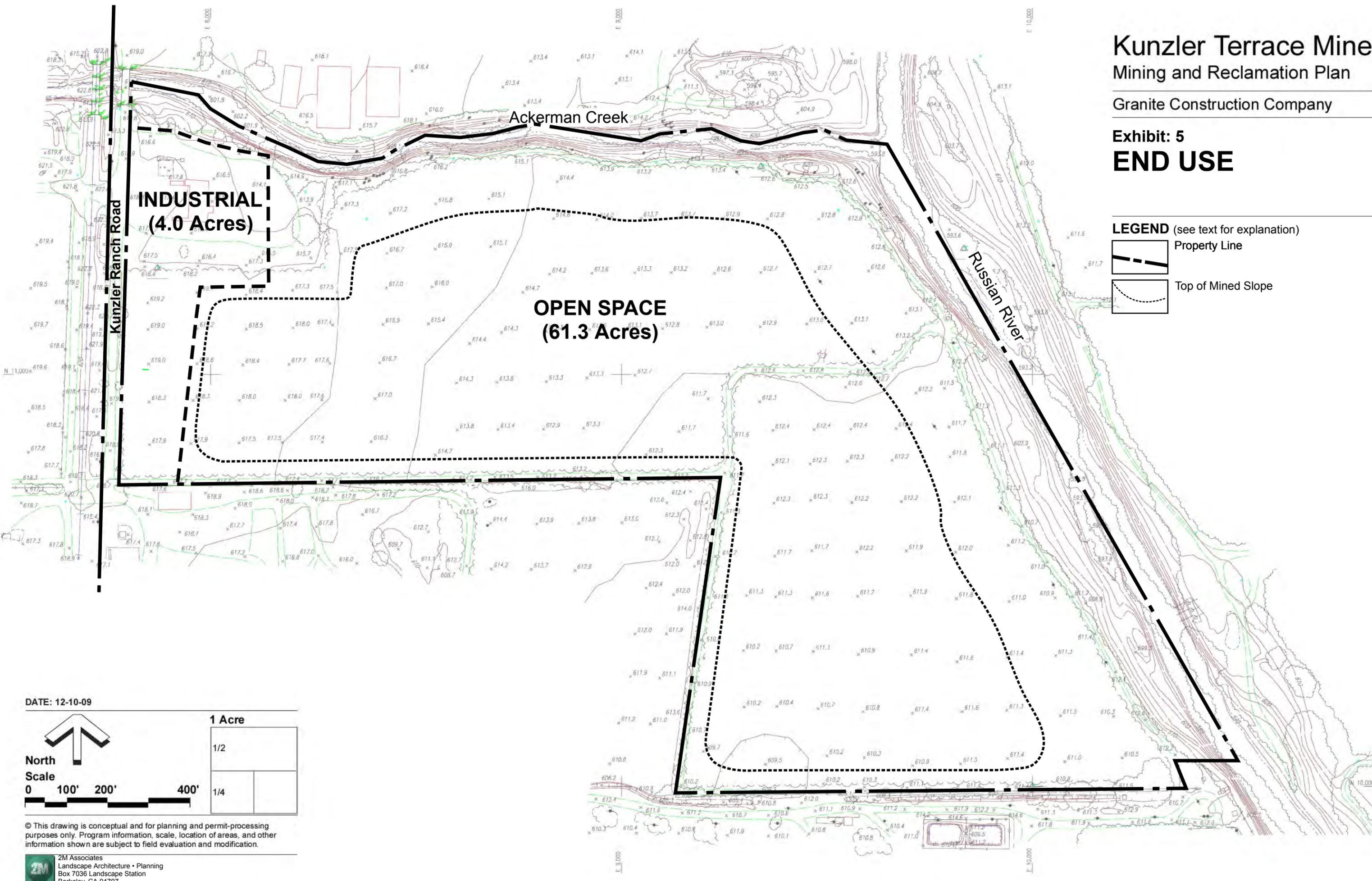
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

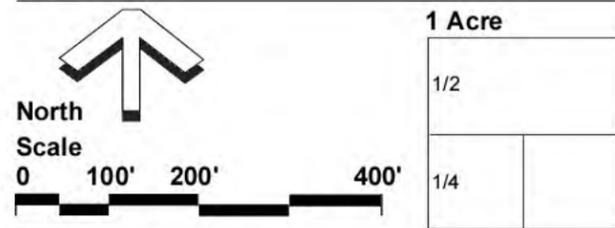
## Exhibit: 5 END USE

**LEGEND** (see text for explanation)

-  Property Line
-  Top of Mined Slope



DATE: 12-10-09



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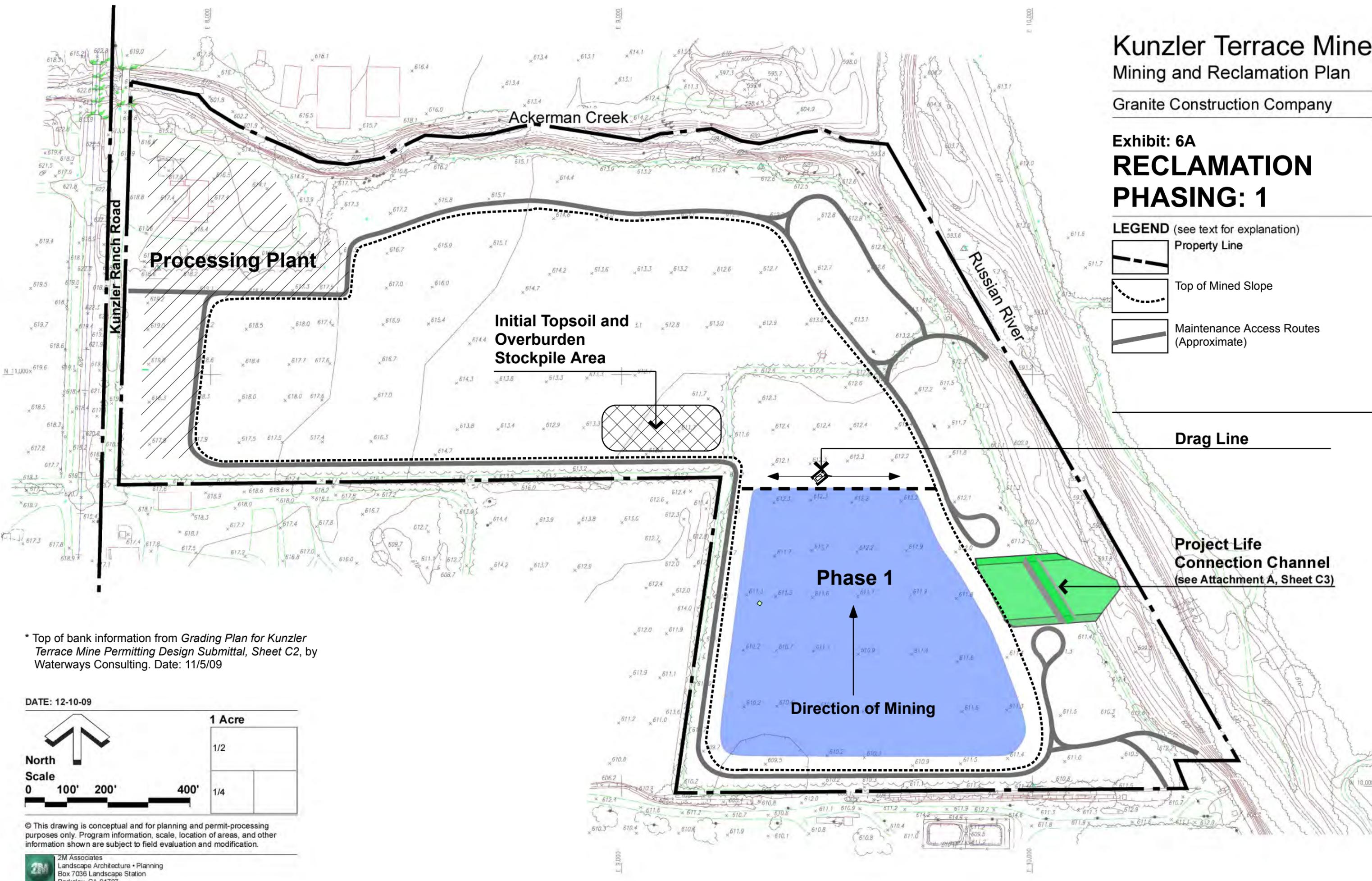
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

## Exhibit: 6A RECLAMATION PHASING: 1

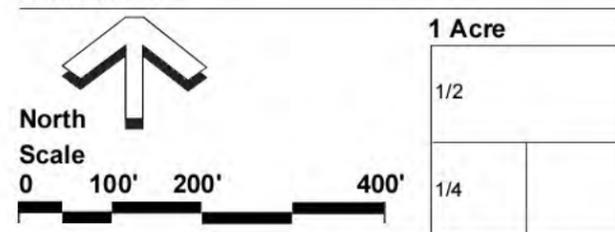
LEGEND (see text for explanation)

-  Property Line
-  Top of Mined Slope
-  Maintenance Access Routes (Approximate)



\* Top of bank information from *Grading Plan for Kunzler Terrace Mine Permitting Design Submittal, Sheet C2*, by Waterways Consulting. Date: 11/5/09

DATE: 12-10-09



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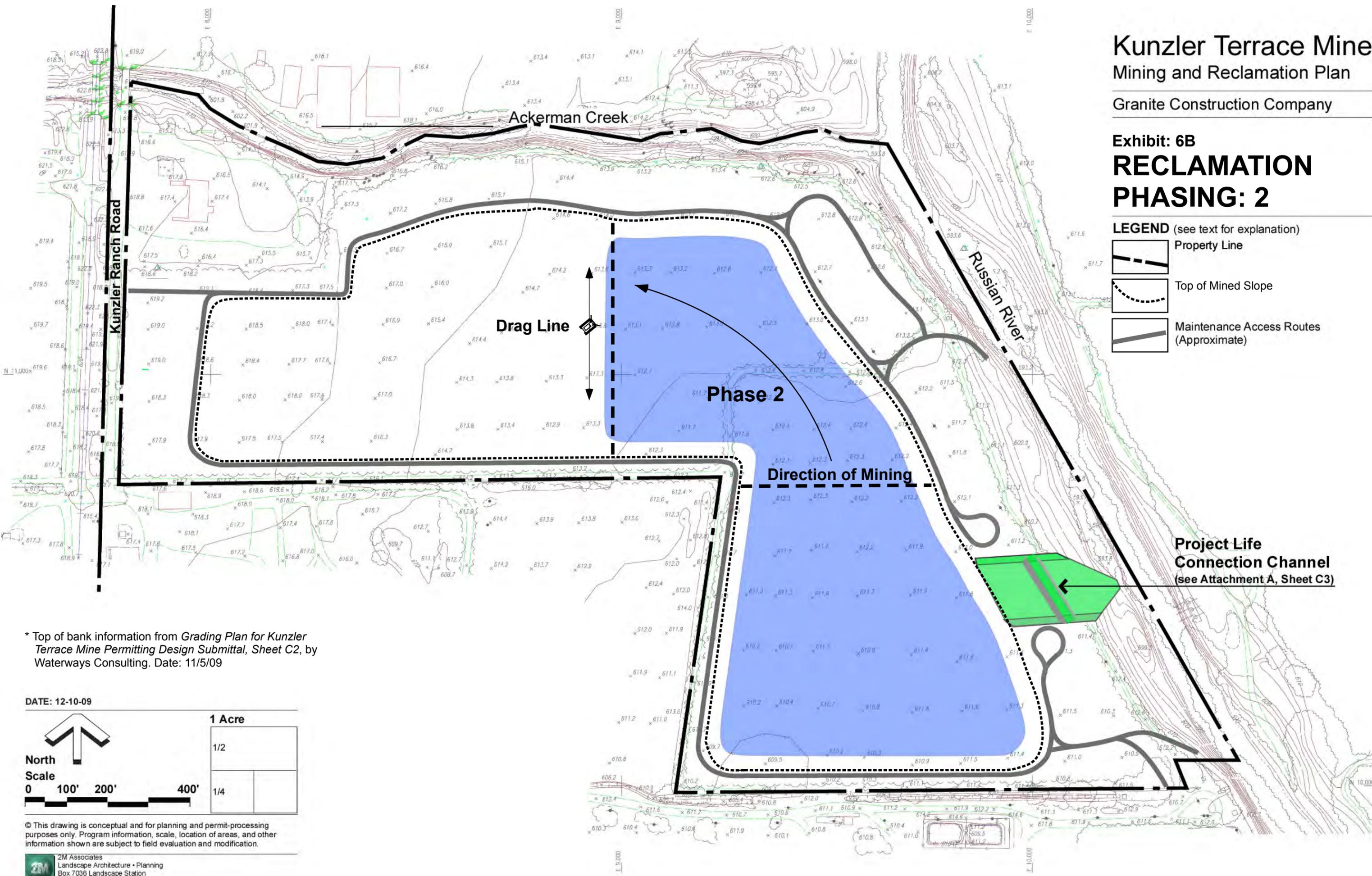
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

## Exhibit: 6B RECLAMATION PHASING: 2

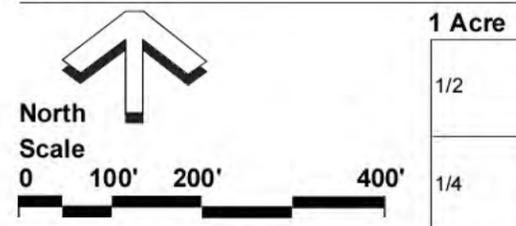
LEGEND (see text for explanation)

-  Property Line
-  Top of Mined Slope
-  Maintenance Access Routes (Approximate)



\* Top of bank information from *Grading Plan for Kunzler Terrace Mine Permitting Design Submittal, Sheet C2*, by Waterways Consulting. Date: 11/5/09

DATE: 12-10-09



1 Acre	
1/2	
1/4	

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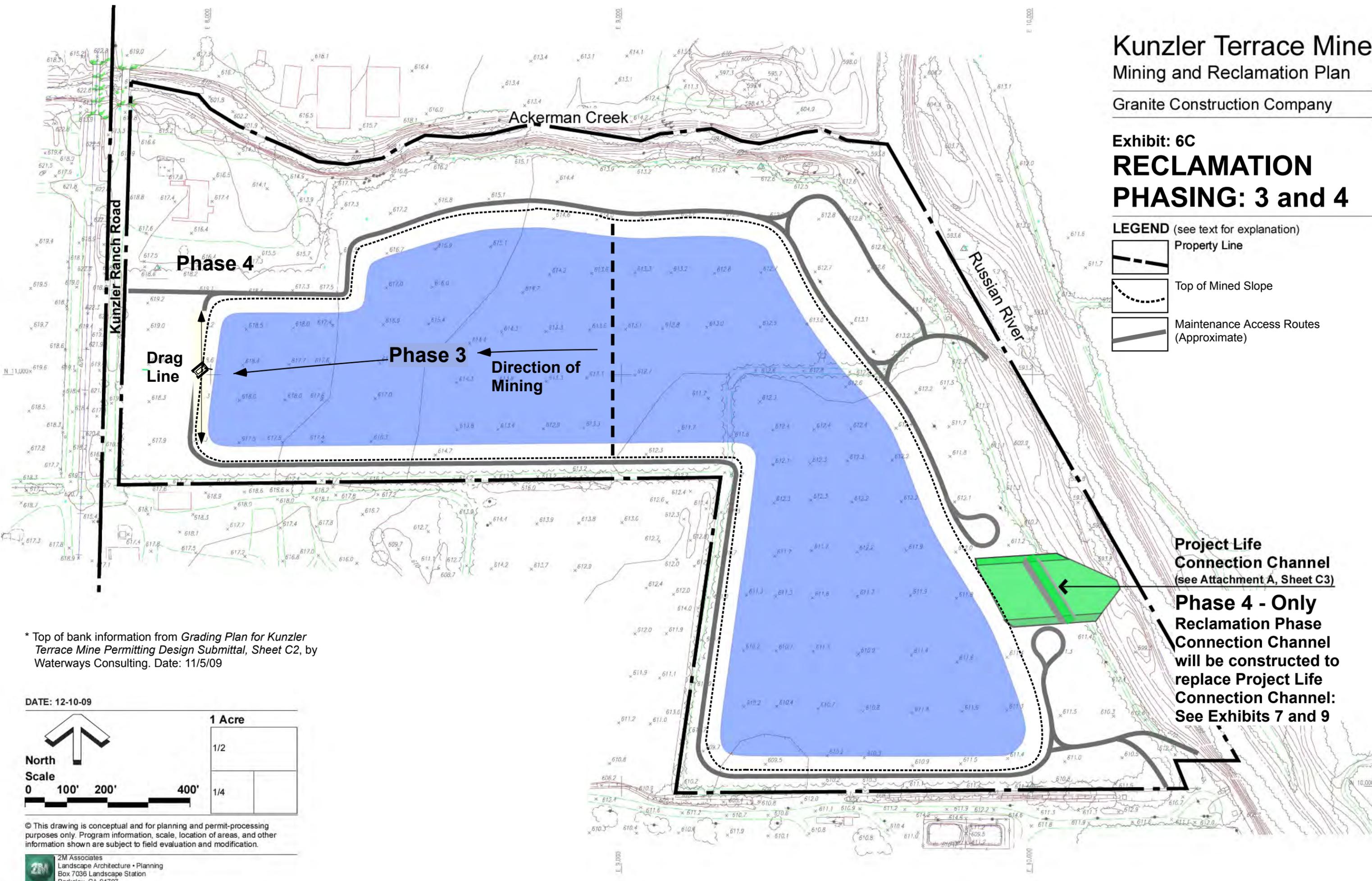
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

## Exhibit: 6C RECLAMATION PHASING: 3 and 4

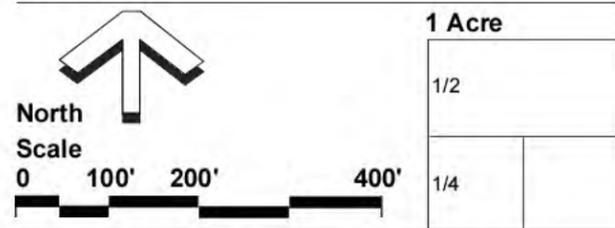
LEGEND (see text for explanation)

-  Property Line
-  Top of Mined Slope
-  Maintenance Access Routes (Approximate)



\* Top of bank information from *Grading Plan for Kunzler Terrace Mine Permitting Design Submittal, Sheet C2*, by Waterways Consulting. Date: 11/5/09

DATE: 12-10-09



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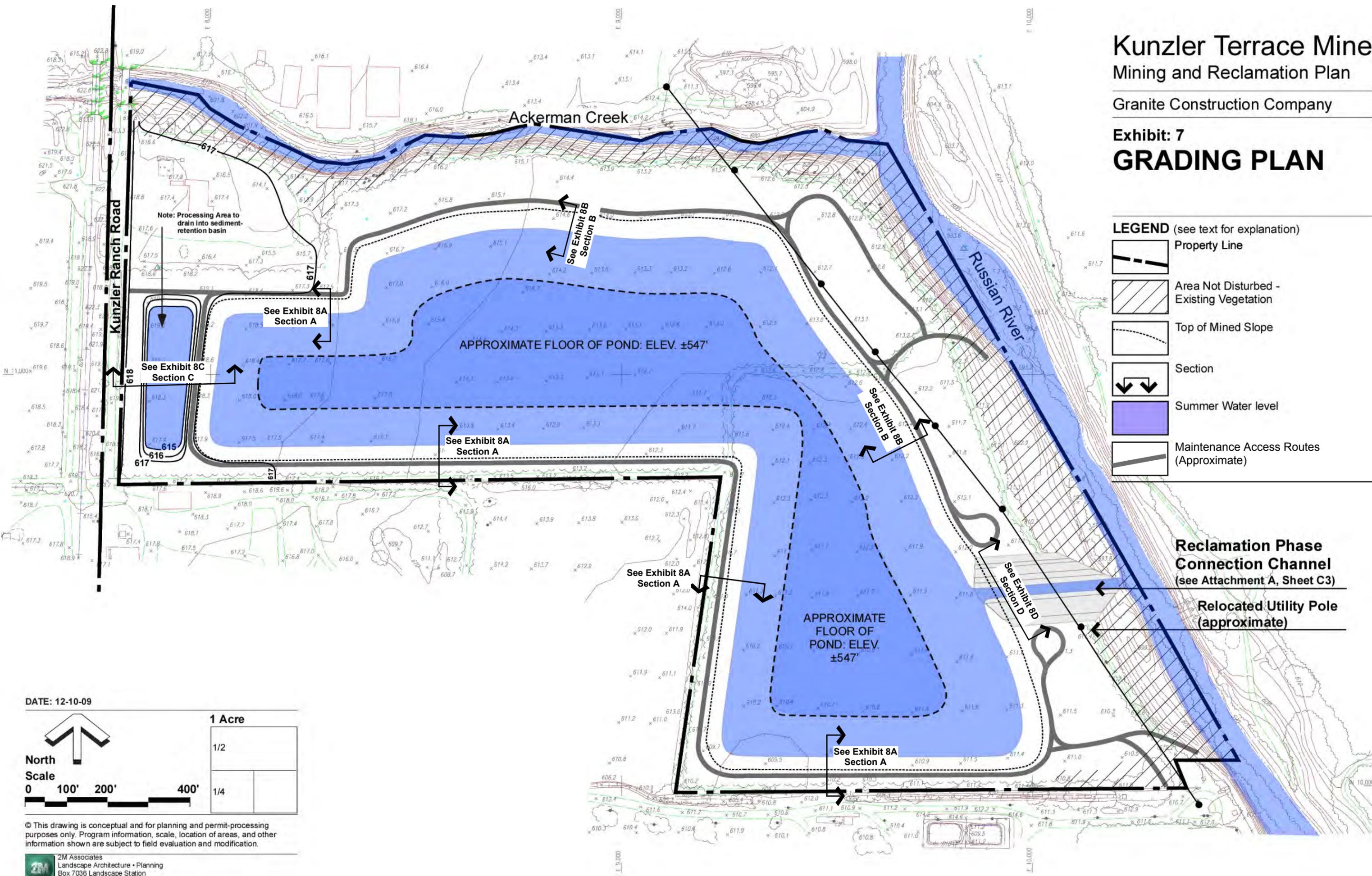
**Project Life  
Connection Channel**  
(see Attachment A, Sheet C3)

**Phase 4 - Only  
Reclamation Phase  
Connection Channel**  
will be constructed to  
replace Project Life  
Connection Channel:  
See Exhibits 7 and 9

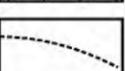
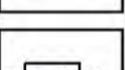
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

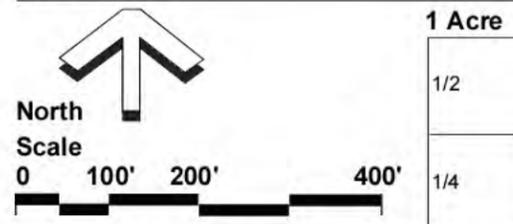
## Exhibit: 7 GRADING PLAN



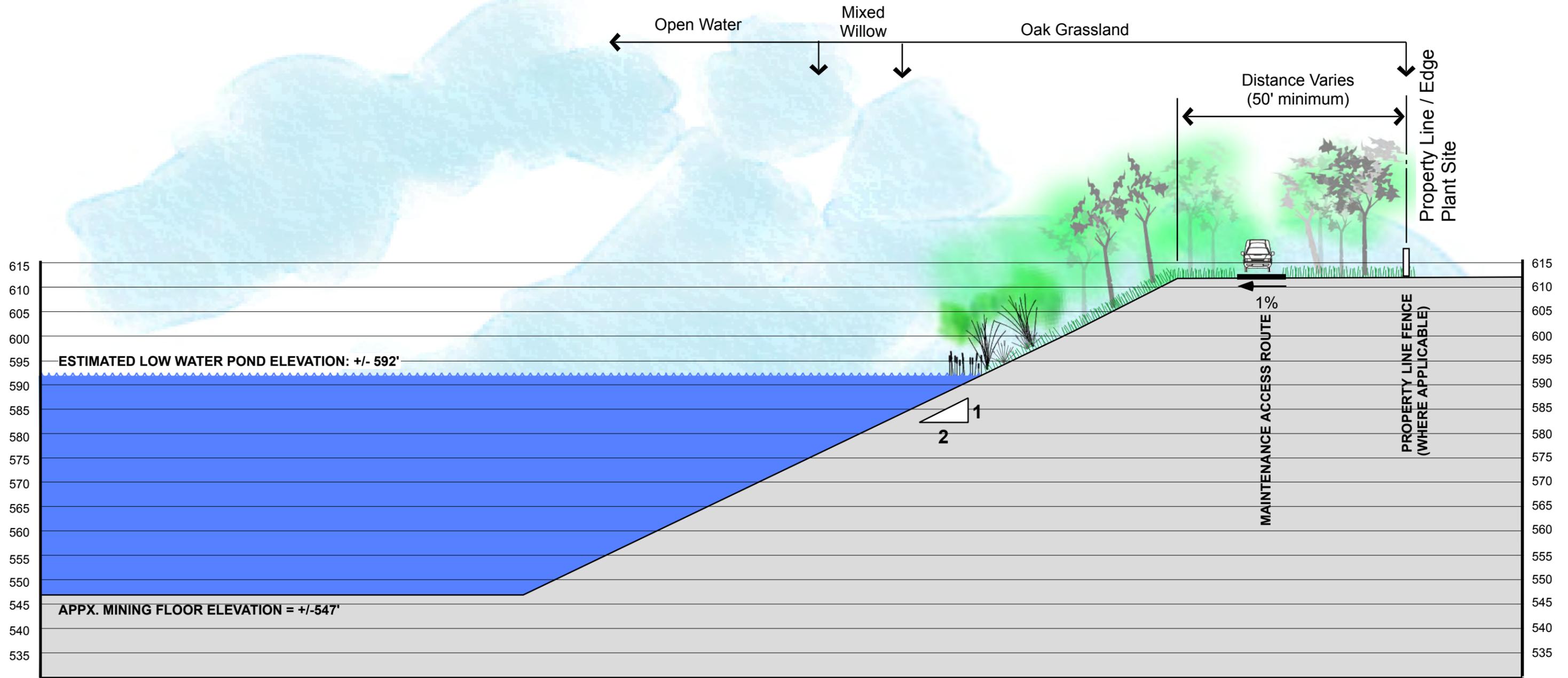
### LEGEND (see text for explanation)

-  Property Line
-  Area Not Disturbed - Existing Vegetation
-  Top of Mined Slope
-  Section
-  Summer Water level
-  Maintenance Access Routes (Approximate)

DATE: 12-10-09



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## Section A: Typical Mining Grades



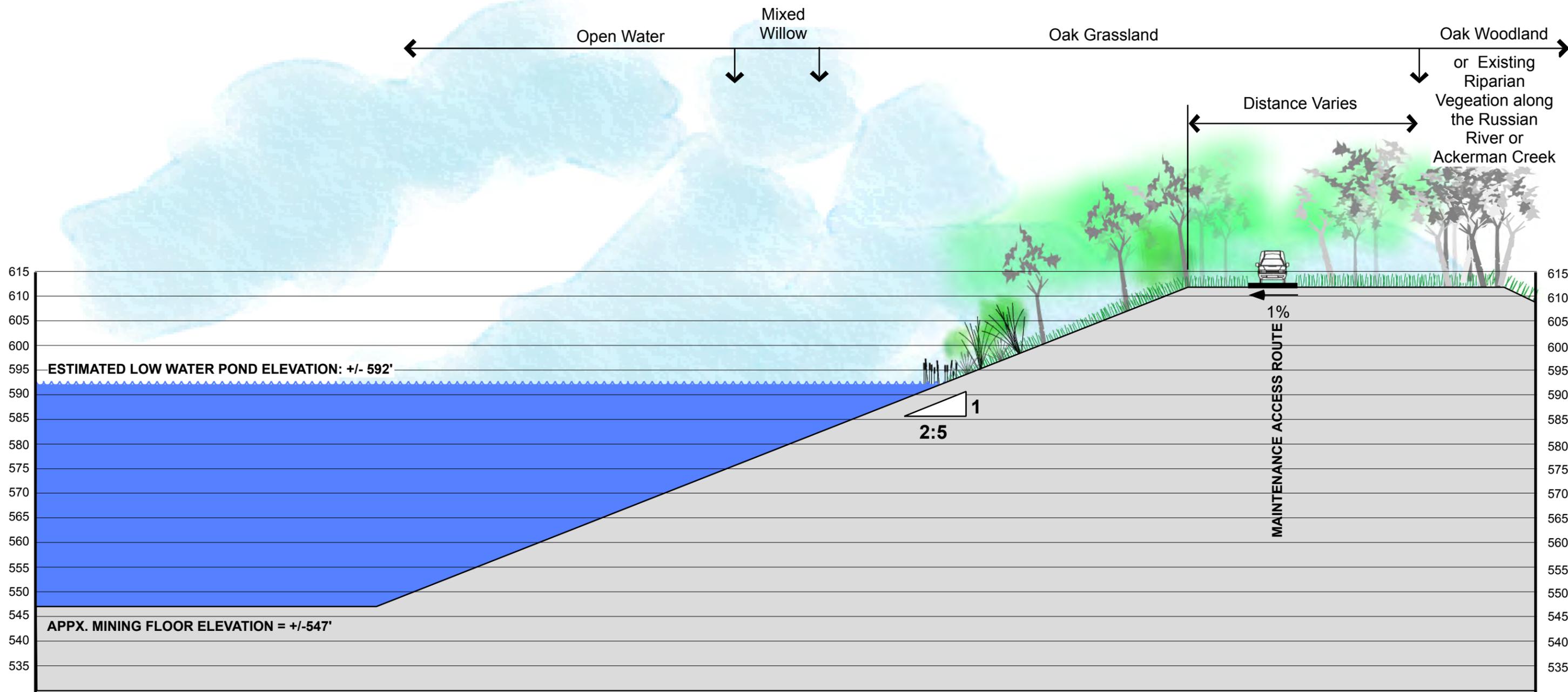
### Exhibit 8A Sections

Kunzler Terrace Mine  
Mining and Reclamation Plan

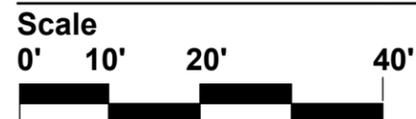
Granite Construction Company

Date: 12/10/09

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## Section B: Typical Mining Grades - Adjacent to Ackerman Creek and Russian River

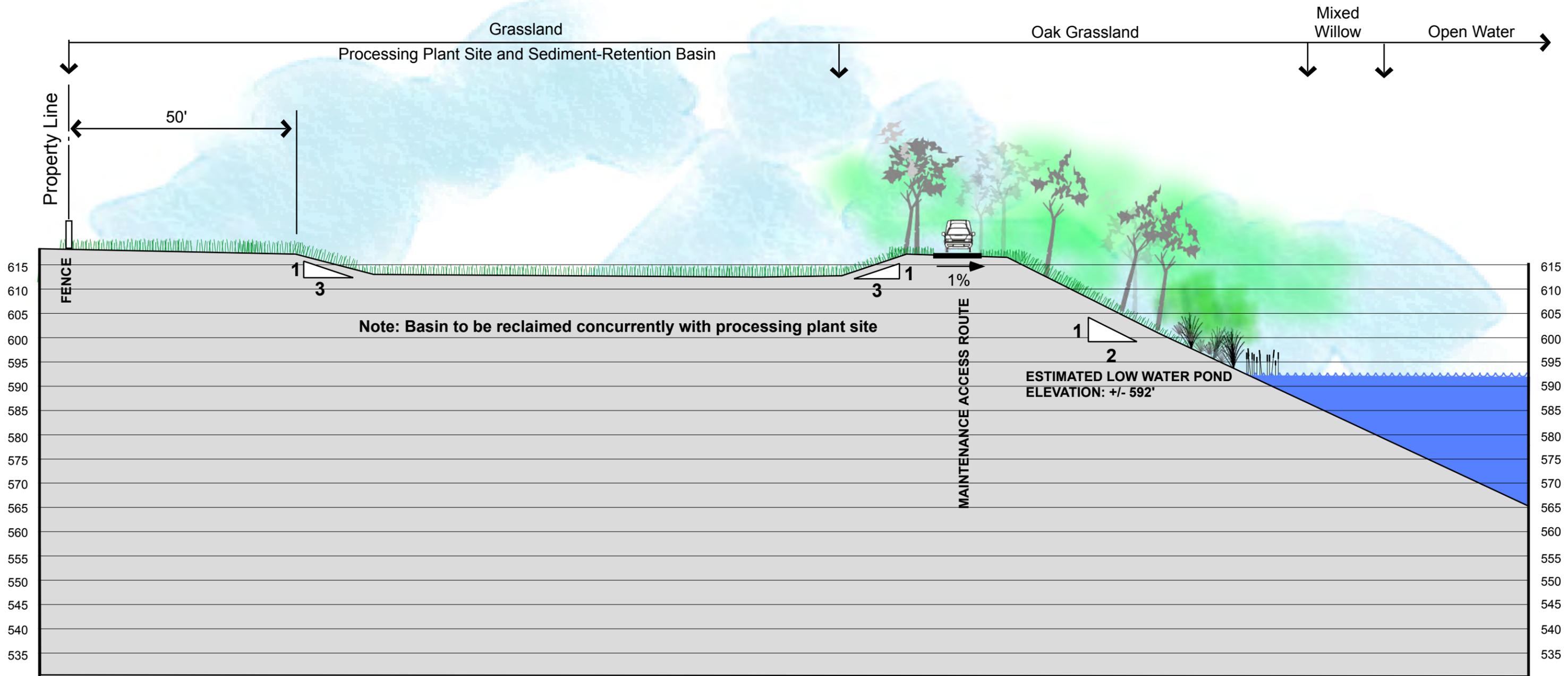


### Exhibit 8B Sections

Kunzler Terrace Mine  
Mining and Reclamation Plan  
Granite Construction Company

Date: 12/10/09

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## Section C: Processing Plant Site and Sediment-Retention Basin

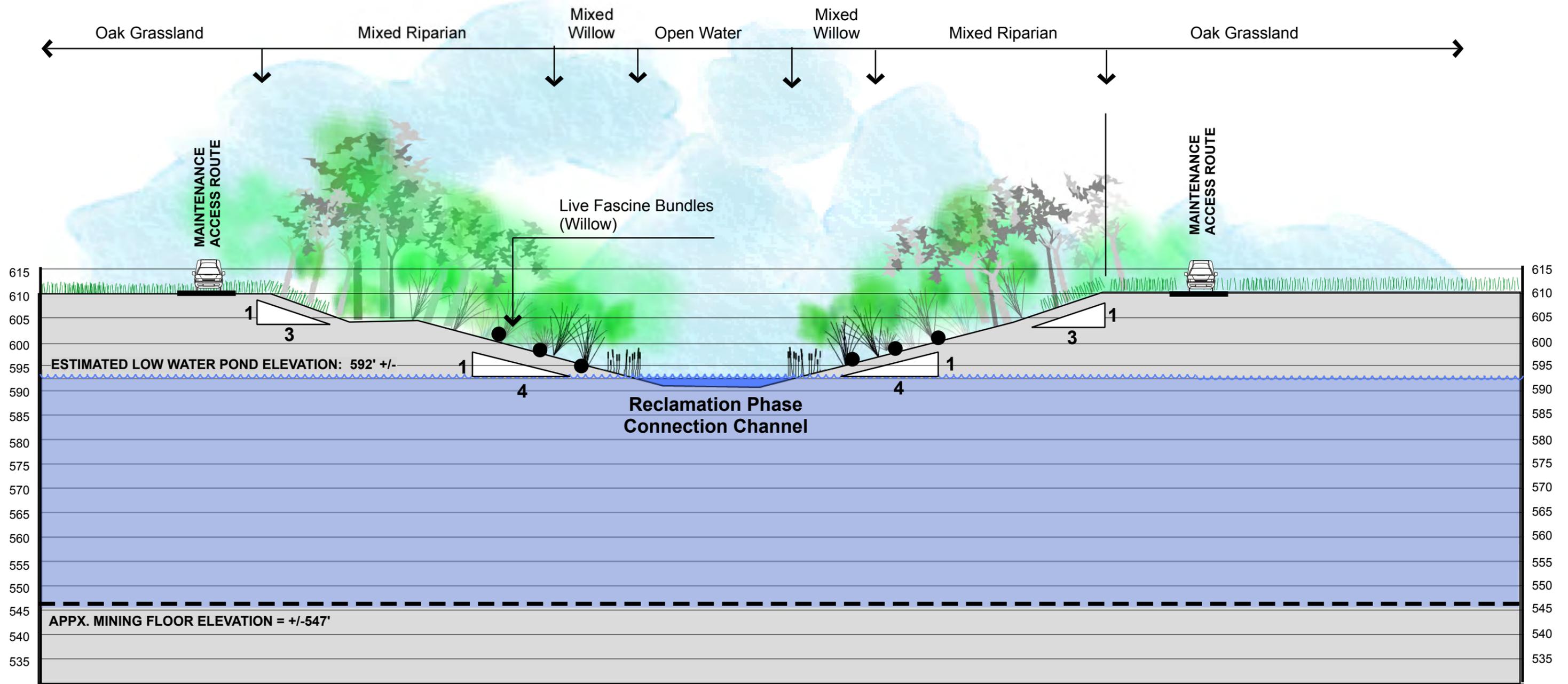


Exhibit 8C  
**Sections**

Kunzler Terrace Mine  
Mining and Reclamation Plan  
Granite Construction Company

Date: 12/10/09

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## Section D: Reclamation Phase Connection Channel (looking east from pond)



### Exhibit 8D Sections

Kunzler Terrace Mine  
Mining and Reclamation Plan  
Granite Construction Company

Date: 12/10/09

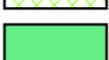
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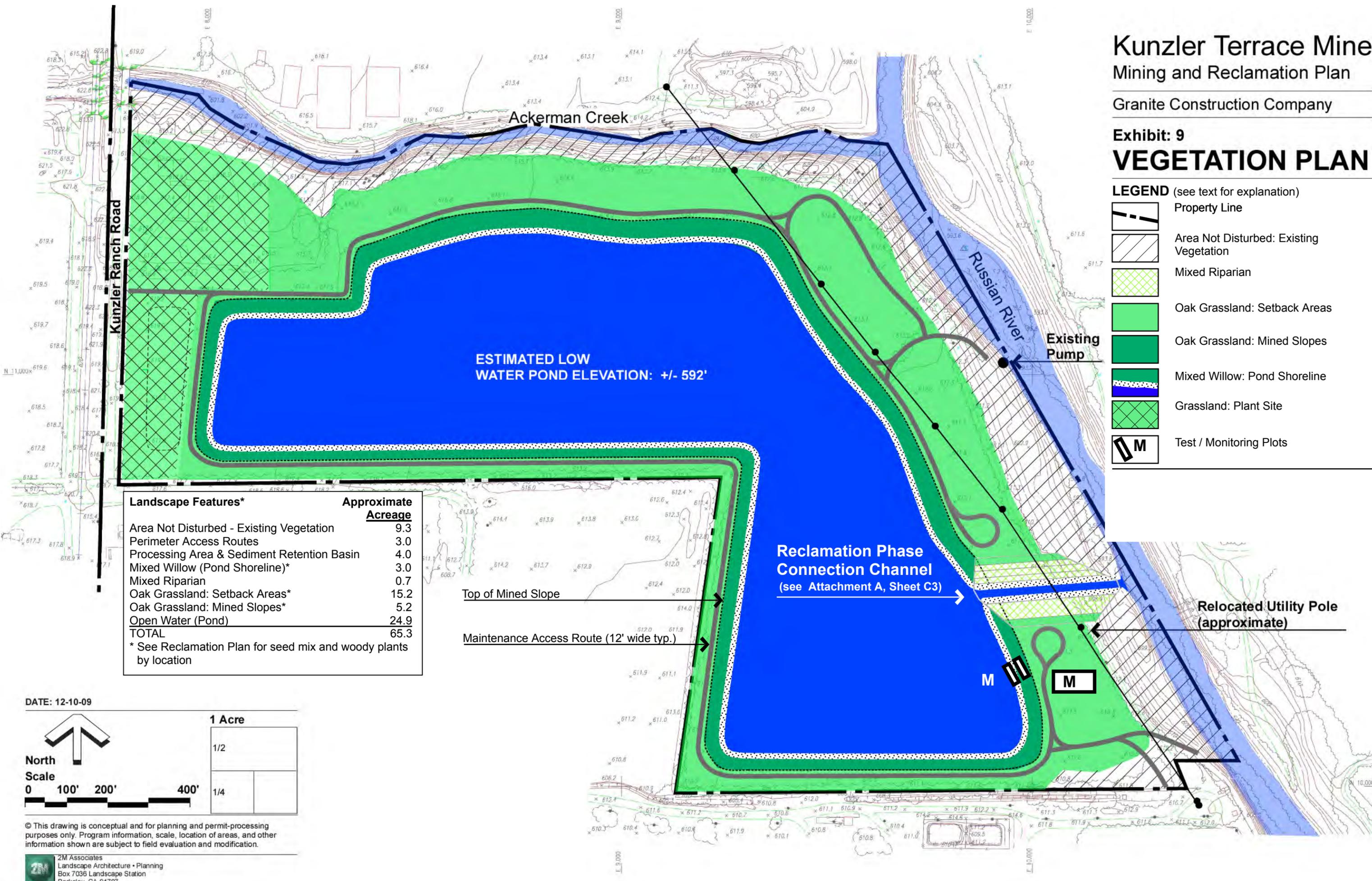
# Kunzler Terrace Mine Mining and Reclamation Plan

Granite Construction Company

## Exhibit: 9 VEGETATION PLAN

**LEGEND** (see text for explanation)

-  Property Line
-  Area Not Disturbed: Existing Vegetation
-  Mixed Riparian
-  Oak Grassland: Setback Areas
-  Oak Grassland: Mined Slopes
-  Mixed Willow: Pond Shoreline
-  Grassland: Plant Site
-  Test / Monitoring Plots



Landscape Features*	Approximate Acreage
Area Not Disturbed - Existing Vegetation	9.3
Perimeter Access Routes	3.0
Processing Area & Sediment Retention Basin	4.0
Mixed Willow (Pond Shoreline)*	3.0
Mixed Riparian	0.7
Oak Grassland: Setback Areas*	15.2
Oak Grassland: Mined Slopes*	5.2
Open Water (Pond)	24.9
<b>TOTAL</b>	<b>65.3</b>

\* See Reclamation Plan for seed mix and woody plants by location

DATE: 12-10-09

North

Scale

0 100' 200' 400'

1 Acre

1/2

1/4

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