

CHAPTER 2

Project Description

2.1 Introduction

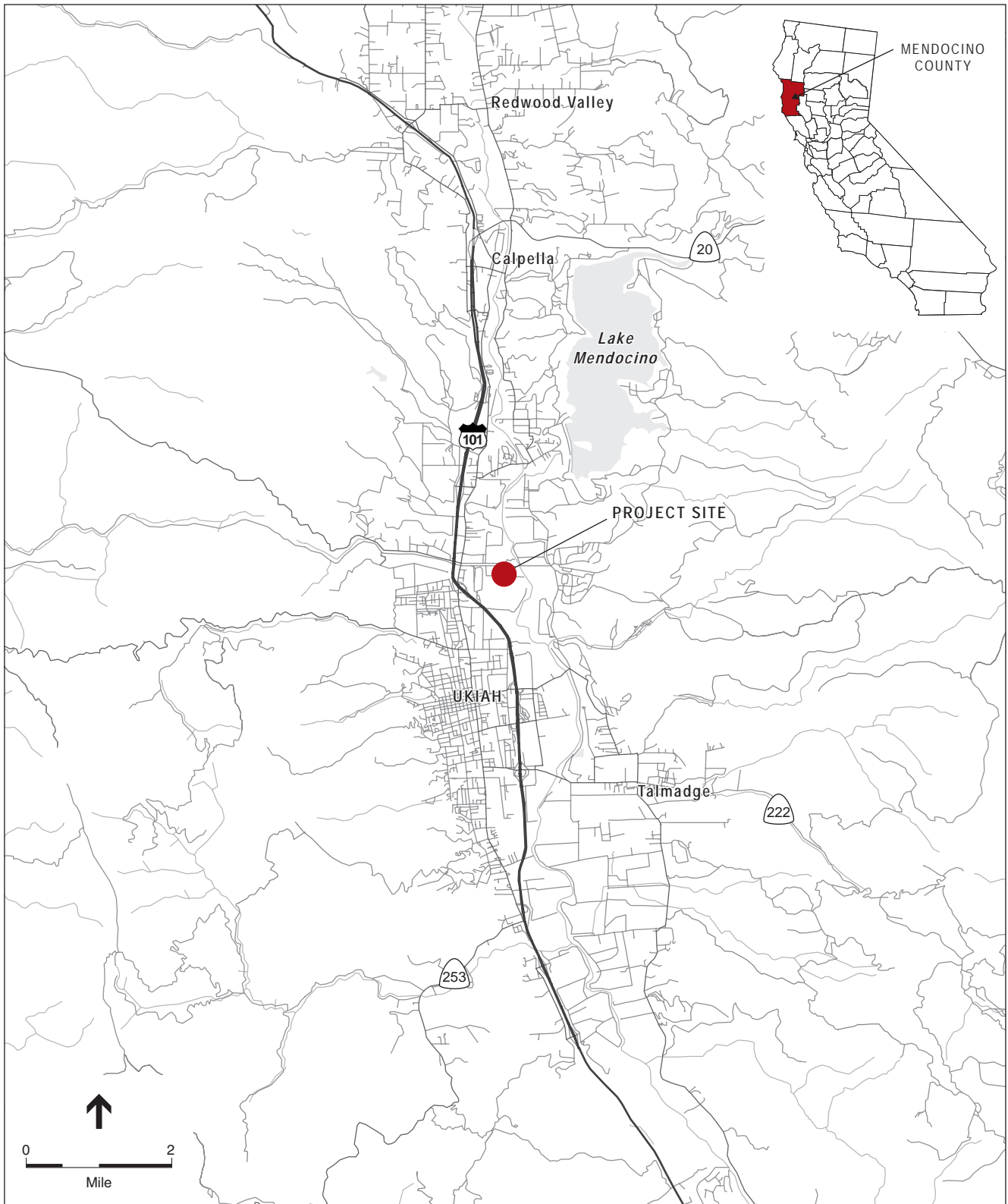
Granite Construction Company (Granite) proposes to develop a sand & gravel quarry on an approximately 65-acre site in unincorporated Mendocino County, approximately one mile north of the City of Ukiah (see **Figure 2-1**).

The project applicant, 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 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. Phase one of the project will also include stream bank enhancements and restoration work on Ackerman Creek and a portion of the Russian River. 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.

2.1.1 Project Location

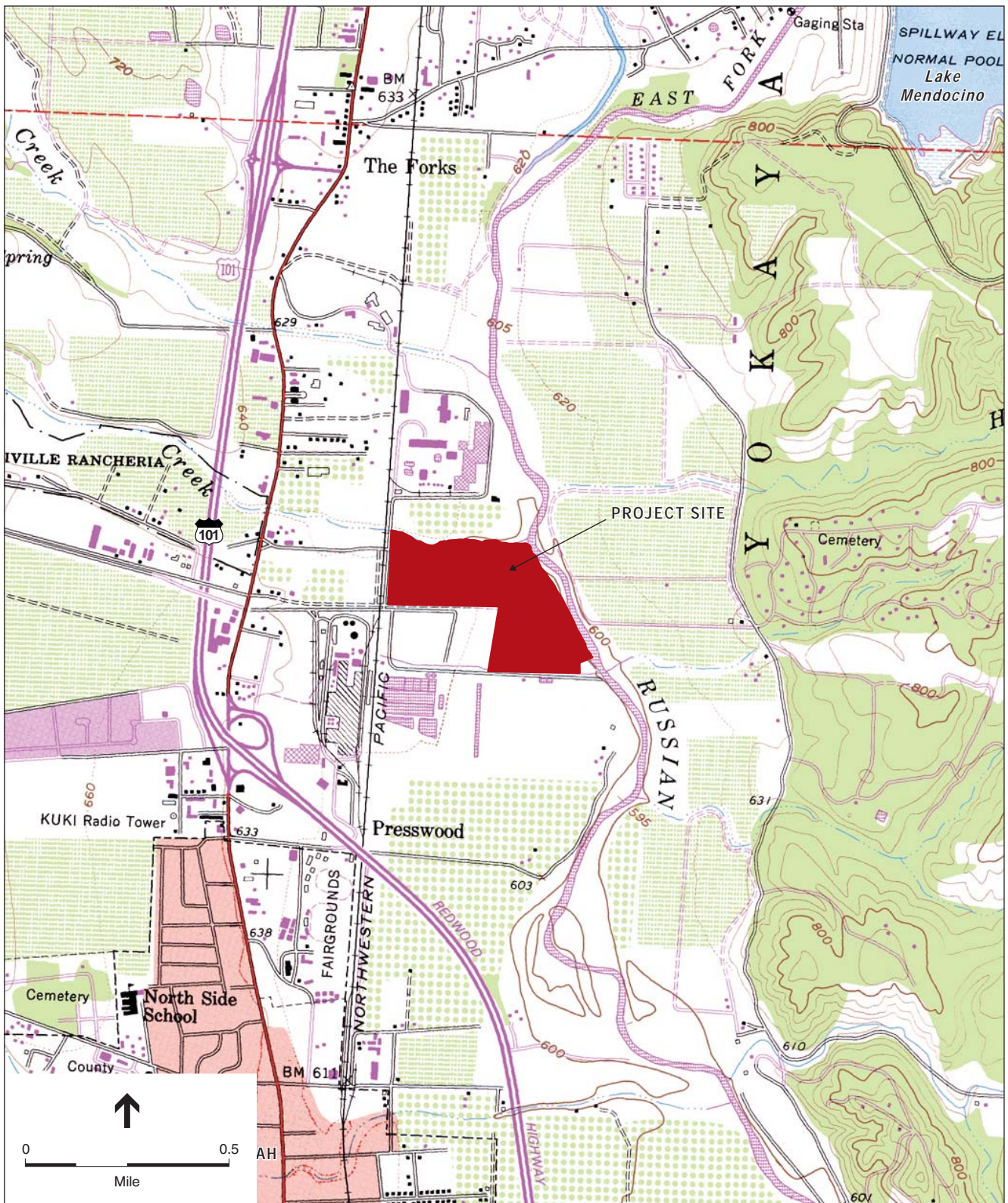
The proposed project site is located in an unincorporated area of Mendocino County. Mendocino County spans approximately 3,510 square miles, and is the 15th largest county in California in



SOURCE: DeLorme Street Atlas USA, 2001; and ESA, 2009

Kunzler Terrace Mine Draft EIR . 208472

Figure 2-1
Regional Location Map



SOURCE: USGS Topographic Quadrangle (Ukiah, 1958; revised 1975); and ESA, 2009

Kunzler Terrace Mine Draft EIR . 208472

Figure 2-2
Project Site Location

terms of land area. Mendocino County's coastal terrace and inland river valleys contain the major population centers, rural residential settlements, and agricultural uses. Timber, grazing, and rural residential development characterize the Coast Range. Other inland areas are largely mountainous and forested with limited population centers.

The proposed project site is located at 2175 Kunzler Ranch Road, Ukiah, California, southwest of the confluence of Ackerman Creek and the Russian River on Mendocino County assessor parcel numbers 170-150-09 & 170-160-03. Approximate GPS coordinates for the central portion of the project site are: 39°10.6' N Latitude and 123°12.0' W Longitude.

2.1.2 Existing Land Uses

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.

The site has a General Plan Land Use Designation of Industrial and has a Mendocino County Inland Zoning Classification for General Industrial (I2) uses. The I2 designation is intended to create and preserve areas where a full range of industrial uses with moderate to high nuisance characteristics may locate. Typically this district would be applied to locations where large land acreages were available and where the impacts associated with the unsightliness, noise, odor, and traffic, and the hazards associated with certain industrial uses, would not impact on residential and commercial areas (*Ord. No. 3639 (part), adopted 1987*). Surface mining operations are permitted under Section 20.100.020(D) of the Mendocino County Zoning Ordinance (1987), Uses Subject To a Major Use Permit.

The Department of Conservation, Farmland Mapping and Monitoring Program (FMMP), has designated a majority of the land located on the project site as "*Prime Farmland*" on its draft 2006 mapping of Mendocino County. *Prime Farmland* is defined as "farmland with the best combination of physical and chemical features able to sustain long term agricultural production." The Kunzler Terrace Mine property does not contain lands subject to a Williamson Act contract.

2.1.3 Project Objectives

CEQA Guidelines Section 15124(b) requires that the project description contain a clearly written statement of objectives, including the underlying purpose of the project. The statement of project objectives is an important determinant for the lead agency when it develops a reasonable range of alternatives to evaluate in the EIR. The project applicant's objectives for the proposed project include the following:

- Provide a reliable source of construction grade sand and gravel to meet current and projected regional demand.
- Responsible operation of a profitable mine and materials supply facility.

- Provide for approximately 20 years of operation.
- Provide for a continued annual production level up to approximately 250,000 tons/year.
- Provide on-site staffing of between five and ten employees throughout production life of the mine.
- Avoid sensitive natural resources; minimize aesthetic impacts through site design, phasing, and concurrent reclamation; and implement reclamation concurrently with mining operations throughout the life of the mine.
- Improve the current degraded state of the Ackerman Creek.
- Reclaim the project site to an open space end use that provides habitat and visual quality.

2.1.4 Geologic Setting

The project site is located within the Northern Coast Ranges Geomorphic Province. This region consists of a series of north-northwest trending ridges and valleys of moderate to severe relief that stretch from the Pacific Ocean to the Sacramento Valley. This province is bounded on the north by the Klamath Mountains and on the south by the San Francisco Bay. The majority of this province consists of Jurassic and Cretaceous Franciscan rocks, Tertiary marine sediments and Quaternary valley fill. The Franciscan contains both relatively un-deformed and stratigraphically coherent marine sediments, and imbricated, deformed, and chaotic masses of rock called mélanges. Mélanges are thought to be material coalesced in a subduction zone accretionary prism and scraped onto the continent. The rocks in this chaotic mass represent oceanic crust and associated overlying, conformable marine sediments. These Mesozoic Franciscan rocks are unconformably overlain in the west by Tertiary semi-to-unconsolidated marine sediments and locally crosscut by Miocene to Holocene volcanic rocks. See Section 3.2, “Agricultural Resources” and Section 3.6, “Geology and Soils” for information regarding soils at the project site.

2.1.5 Proposed Project Components

Mining Plan

Depth, Quantity, and Type of Minerals to be Mined

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 material to be extracted consists of in-place alluvial sand and gravel. The total amount of marketable material proposed for extraction is estimated at 3.37 million tons, or about 2.25 million cubic yards (cy) based on a conversion factor of 1.5 tons for each cubic yard¹. Processing fines will be used for reclamation on the site, with excess sold as general fill.

¹ Conversion factor based on typical gradation data representing aggregate material from the Redemeyer Pond Mine on the Russian River in Ukiah.

Mining Methods and Operations

Mining Methods

Mining will primarily be accomplished through three closely related steps: (1) removal of surface soil and overburden, (2) excavation of dry sand and gravel, and (3) dredging of wet sand and gravel.

- Step 1 - Removal of Surface Soil and Overburden: The top 10-20 feet of lithology at the site consists of fine to coarse sands with minor to major amounts of gravel and little to no topsoil or overburden. For revegetation/reclamation purposes, the top one foot of topsoil/surface soil excavated during mining will be separated and stored within a designated topsoil/surface soil stockpile location. The topsoil/surface soil stockpile will be adequately sloped and seeded during the interim storage period to reduce the potential for erosion. The topsoil/surface soil will ultimately be spread back over mined lands above the low summer water line as a component of the site's revegetation/reclamation activities.
- Step 2 - Excavation of Dry Sand and Gravel: A layer of dry sand and gravel, approximately 29-35 feet thick, lies between the topsoil/surface soil layer and the normal groundwater level. Mining of the 29-35 foot dry sand and gravel layer will involve either mechanical excavators or a paddlewheel scraper. Material will be transferred to the onsite processing plant using haul trucks or a conveyor. At the end of the second step, a dry pad is left above the summer groundwater level on which to stage equipment for the third step of mining.
- Step 3 - Dredging of Wet Sand and Gravel: 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 described above, groundwater levels range seasonally from 29 feet below ground surface in the spring, to 35 feet below ground surface in the fall, resulting in approximately 30-36 feet of wet sand and gravel above the confining clay layer. The wet sand and gravel will be removed utilizing a long-reach excavator, dragline², or dredge, and allowed to dewater naturally on the dry pad created during Step 2 of mining. The material will then be transferred to the onsite processing plant using either haul trucks or a conveyor.

Processing Operation

Excavated material will be processed onsite utilizing a portable aggregate plant to be located in-place of the existing truck maintenance shop/yard in the northwest corner of APN 170-150-09. Onsite processing will consist of crushing, washing, and screening of raw aggregate materials to produce specific construction-grade products including sized concrete and asphalt aggregates, washed sands, base rock, and other construction or landscaping grade materials. Aggregate products will be stockpiled onsite and loaded out in commercial trucks for shipment to local consumers and/or Granite's existing North State Street asphalt plant or Talmage Ready-Mix concrete plant.

² A dragline system consists of a large bucket which is suspended from a boom (a large truss-like structure) with wire ropes. The bucket is positioned above the material to be excavated. The bucket is then lowered and the dragrope is then drawn so that the bucket is dragged along the surface of the material.

Processing plant equipment will operate in accordance with all federal, state, and local air quality regulations pertaining to air quality control standards and regional air quality plans. The processing plant equipment is subject to new source review and permitting requirements of the Mendocino County Air Quality Management District.

Topsoil/Overburden Stockpiles

There is very little topsoil and/or overburden on the project site; however, as stated previously, the top one foot of material will be stockpiled onsite for use in reclamation as needed. Stockpile management is discussed later under “Reclamation Plan” and its location is shown on Exhibit 6A: Reclamation Phasing.

Access and Haul Routes

Access to the site is via Kunzler Ranch Road, east off of North State Street (see Figure 3.12-1). Haul routes to bring raw material from the mining area to the processing plant are completely within the project site. Raw material is occasionally purchased by customers and, in that case, it would be transported offsite.

Operational Life

The total aggregate reserves associated with the proposed project are estimated at approximately 3.37 million tons. Mining plans are based upon an annual production rate of up to 250,000 tons per year. Aggregate production rates are affected by a number of factors beyond overall population growth in the region including, but not limited to public spending on infrastructure, competitive pricing, location of construction projects in proximity to the materials source, size and type of construction projects, and the overall efficiency of the mining/processing operation. Since future market conditions are difficult to predict, additional years to account for market fluctuations have been included in the project life estimate. Total life of the project is estimated at approximately twenty (20) years for mining operations, with an additional five (5) years to complete reclamation activities, for a total project life of twenty five (25) years.

Mine Waste Disposal

Due to the nature of the mining operation, no waste material would be generated. The small amount of overburden would be stockpiled onsite and used in reclamation, with excess potentially sold as general fill.

Operational Elements and Standards

Truck Traffic

Haul trucks would deliver the majority of the aggregate material from quarry to one of two locations: the 4201 North State Street Plant to the north or the 900 Talmage Processing Plant to the south. The trucks would access North State Street from Kunzler Ranch Road, and then proceed to either northbound on North State Street or southbound on U.S. 101. A small percentage (approximately 5%) of the material would be sent north on U.S. 101 North for delivery to local jobsites. As part

of the project application, a traffic study for the proposed project was completed by TJKM Transportation Consultants. The County subsequently directed the preparation of a traffic impact study and structural analysis of Kunzler Ranch Road for the EIR.

Dust Suppression

Granite will utilize a water truck at the project site and apply water to onsite haul roads and working areas as frequently as necessary to prevent dust emissions. The number of daily applications of water varies depending on factors such as temperature and wind conditions. The amount of water applied would be sufficient to prevent visible dust emissions.

Control of Contaminants

Mining will be set back a minimum of 250 feet from the Russian River and 150 feet from Ackerman Creek. Mined lands will be graded to drain into the pond and/or the sediment-retention basin. Fuel storage, secondary containment facilities, and equipment refueling procedures will be designed to meet all government 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 (“NCRWQCB”) and involves preparation and implementation of a Storm Water Pollution Prevention Plan, including Best Management Practices to control erosion, sediment, and pollutant discharge. Additionally, 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 establish procedures to respond to, report, contain, and clean up spills, should they occur.

Structures and Equipment

The processing plant site will consist of a portable office and truck scale, processing equipment (crusher, screens, conveyor belts, aggregate stockpiles, equipment storage area, maintenance area and shed, above-ground fuel tank, and parking areas. (See Exhibit 4: Setbacks for site layout and circulation flow.) Maximum height of buildings and processing equipment will be approximately 60 feet.

Mining equipment will include bulldozers and loaders, or paddlewheel for material above the groundwater table, and a dragline, long-reach excavator, or dredge for removing material below the groundwater table. Extracted material will be dried onsite if necessary, then loaded onto conveyors or trucks for transport to the processing site. The maximum height of mining equipment is approximately 75 feet (dragline).

**TABLE 2-1
KUNZLER TERRACE MINE TYPICAL EQUIPMENT**

Equipment ¹	Fuel	Uses
Top Soil and Overburden Stripping		
Paddle Wheel Scraper	Diesel	Used to remove topsoil and overburden and excavate aggregate-bearing strata.
Water Truck	Diesel	Used to water haul roads for dust control.
Mining Operations		
Haul Truck	Diesel	Used to transport material from the extraction area to the aggregate plant.
Water Truck	Diesel	Used to water haul roads for dust control.
Excavator	Diesel	Used to extract materials and to load haul trucks.
Conveyor belt	Electricity	Used to convey raw materials to the rock processing plant.
Loader	Diesel	To be used in the loading of haul trucks.
Dragline	Diesel	Used to extract submerged material.
Motor Grader	Diesel	Used periodically to maintain haul roads.
Portable Light Plants	Diesel	Used as necessary to provide light to the site and its equipment/facilities.

NOTES:

¹Equipment provided include types for both above water and below water mining. Decisions on those operations methods would depend upon operational and regulatory requirements at the time mining reaches groundwater. Actual equipment may differ from the equipment listed.

As shown in **Table 2-1**, the types of typical excavation equipment and/or machines that would likely be employed during mining operations include, haul trucks, excavators, water trucks, motor graders, and possibly conveyors. A water truck would be used for maintenance of surfaces and dust control.

Days and Hours of Operation

The applicant proposes to operate this facility year-round, Monday through Saturday, with normal operating hours of 5:00 AM to 7:00 PM. There may be an occasional job requirement that would necessitate operating on Sundays or later at night. However, those infrequent occurrences would only be done to accommodate the needs of a customer working in accordance with a specific job's requirements.

Personnel

The project would require 5-10 (10 being the maximum) employees onsite, depending on market conditions and seasonal variability. The processing site area has been designed to accommodate parking for at least 10 vehicles.

Water Supply and Use

Water consumption associated with mining and processing activities at the Kunzler terrace mine involves water used for onsite dust suppression via water truck, and for the washing of aggregate to produce final products. Water used in aggregate processing operations is continually recycled between the wash plant and a series of ponds designed to "settle out" the smaller silt and clay particles contained on unwashed aggregates. The settled fines will then be dried and used in site reclamation activities or sold as a fill material.

Currently, three water supply wells are developed on the Kunzler property, and are utilized for vineyard irrigation and trucking yard operations. In addition to the water supply wells, the property maintains riparian water rights on both Ackerman Creek and the Russian River, and holds an appropriative surface water permit from the State Water Resources Control Board. In addition, the property holds a Uniform Water Supply Agreement with the Russian River Flood Control & Water Conservation Improvement District.

An evaluation of the water demand associated with existing and proposed project conditions is included as a component of Luhdorff and Scalmanini's hydrogeologic assessment for the Kunzler terrace mine, which is attached as Appendix H. The analysis of water demand in this report determined that the existing vineyard on the project site withdraws an estimated 80 acre-feet per year (afy). The proposed project would withdraw an estimated 30 afy for the washing operation and dust control. Based upon the water budget analysis, which considered groundwater withdrawals, recharge, and other factors such as evapotranspiration, the analysis shows that net consumption under existing conditions is 50 afy; net consumption during the life of the project would be 30 afy; and net consumption following reclamation would be 0 afy.

Potable Water and Sanitation

Bottled water will be provided onsite for employees. There is an existing septic system at the site that is proposed to be used for the proposed project, subject to approval by the County.

Fencing, Posting, and Security

The existing and proposed mining areas would be protected with fencing or other appropriate security measures and posted with "No Trespassing" signs according to County standards.

Project Phasing

Mining of site materials will be performed in a phased manner to allow for concurrent site reclamation. The design of the phases is dependent on site geology, current equipment capabilities, and Granite's intent to perform the mining operations in an economic and environmentally sensitive manner. The mining operations will be conducted in three phases, with a fourth phase initiated for implementation of the final reclamation requirements. (Note: The phasing plan is only a guideline. The phasing boundaries and timelines may be affected by unforeseen changes in geology, market conditions and/or technological advancements. An individual phase may not be 100 percent complete before entering a new phase because of sequencing and layout logistics. Each of these factors will be used in determining actual site activities within each phase. All dimensions and acreages cited below are approximate and subject to field validation. As part of annual reporting requirements under SMARA and County regulations, any significant deviations from the approved mining and reclamation plan would be described over time as needed.) (See Figure 2-4 for a typical mining cross-section).

**TABLE 2-2
KUNZLER TERRACE MINE PROJECT AREAS**

Phases	Estimated Reserves (Million Tons)	Acreage
Phase 1	0.92	8.3
Phase 2	1.15	10.3
Phase 3	1.30	11.7
Total	3.37	30.3

Phase 1

Phase 1 is shown on **Figure 2-3a** and will include the following primary activities:

- Commencement of mining within the central mining area: Phase 1 encompasses approximately 8.3 acres within the northern portion of APN 170-160-03. The western boundary of the Phase 1 mining area is located approximately 1,070 feet east of the Hollow Tree Road property line. The northern boundary runs parallel to Ackerman Creek at a 150-foot setback from the active channel, while the eastern boundary runs parallel to the Russian River at a 250-foot setback. The southern boundary of Phase 1 is located approximately 700 feet from the southern most property line, roughly parallel to the east-west central property line and then set back a minimum of 50 feet from the property line. This area of the property is currently vacant and not developed to vineyard. Commencement of mining within this area will allow the surrounding vineyard to remain in production to the maximum extent feasible, and will allow development of the floodplain benching, flood control weir, and other creek enhancement features to occur within the early stages of the project. Reserves associated with Phase 1 are estimated at approximately 0.92 million tons (including excess sand and gravel generated during development of floodplain benching), and will take an estimated 3.7 to 9.2 years to complete, depending upon market conditions.
- Development of floodplain benching within Ackerman Creek and a portion of the Russian River channel: In an effort to improve the current degraded state of the Ackerman Creek reach along the proposed project, Granite is proposing floodplain benching along a portion of Ackerman Creek and at the confluence with the Russian River. The floodplain benching is intended to improve channel hydraulic capacity and winter rearing habitat for salmonids above what is currently available which, in turn, will increase annual winter juvenile salmonid survivability in the project vicinity. The floodplain benching will begin approximately 400 feet downstream from the Hollow Tree Road bridge crossing and extend to a point approximately 425 feet downstream from the confluence of Ackerman Creek with the Russian River. The widening of the south bank of the Ackerman Creek channel ranges from 125 feet in width on the upstream end to 80 feet in width approaching the Russian River. The widening of the west bank of the Russian River averages 80 feet in width, tapering to existing conditions at the downstream end. The area affected by this channel enhancement is approximately 4 acres.
- Construction of a flood control weir with erodable fuse plug: One objective of the Kunzler terrace mine design is to minimize and control floodwater overtopping events from Ackerman Creek and the Russian River such that the frequency of potential fish trapping is low and stream capture is avoided. In order to retain the proposed bank elevation as close to existing conditions as possible, an engineered design has been developed where the bank/future terrace mine wall overtops at a controlled location then erodes a fuse plug in the upper bank/wall down to the elevation of an armored flood control weir. The weir is designed to contain the design peak flow while retaining an acceptable water level

difference so as to not cave and breach the bank. The armored overflow weir gives the creek and river a controlled access and drainage point for flood waters without eroding the mining buffer, while the erodable fuse plug limits potential fish entrapment. The centerline of the weir is located approximately 300 feet upstream from the confluence of Ackerman Creek with the Russian River. The design of the weir and supporting engineering analyses are described in greater detail in Appendix C: Hydrologic and Hydraulic Analysis, and Appendix D: Analysis of Potential Pit Capture.

Phase 2

Phase 2 is shown on **Figure 2-3b** and will include the following primary activities:

- Extension of the Phase 1 mining area to the south: Phase 2 of the Kunzler terrace mine encompasses approximately 10.3 acres within the southern section of APN 170-160-03. The eastern boundary of Phase 2 runs parallel to the Russian River at a 250-foot setback from the active channel, while the southern and western boundaries are set back a minimum of 50 feet from the respective property lines. Reserves associated with Phase 2 are estimated at approximately 1.15 million tons, and will take an estimated 4.6 to 11.5 years to complete, depending upon market conditions.

Phase 3

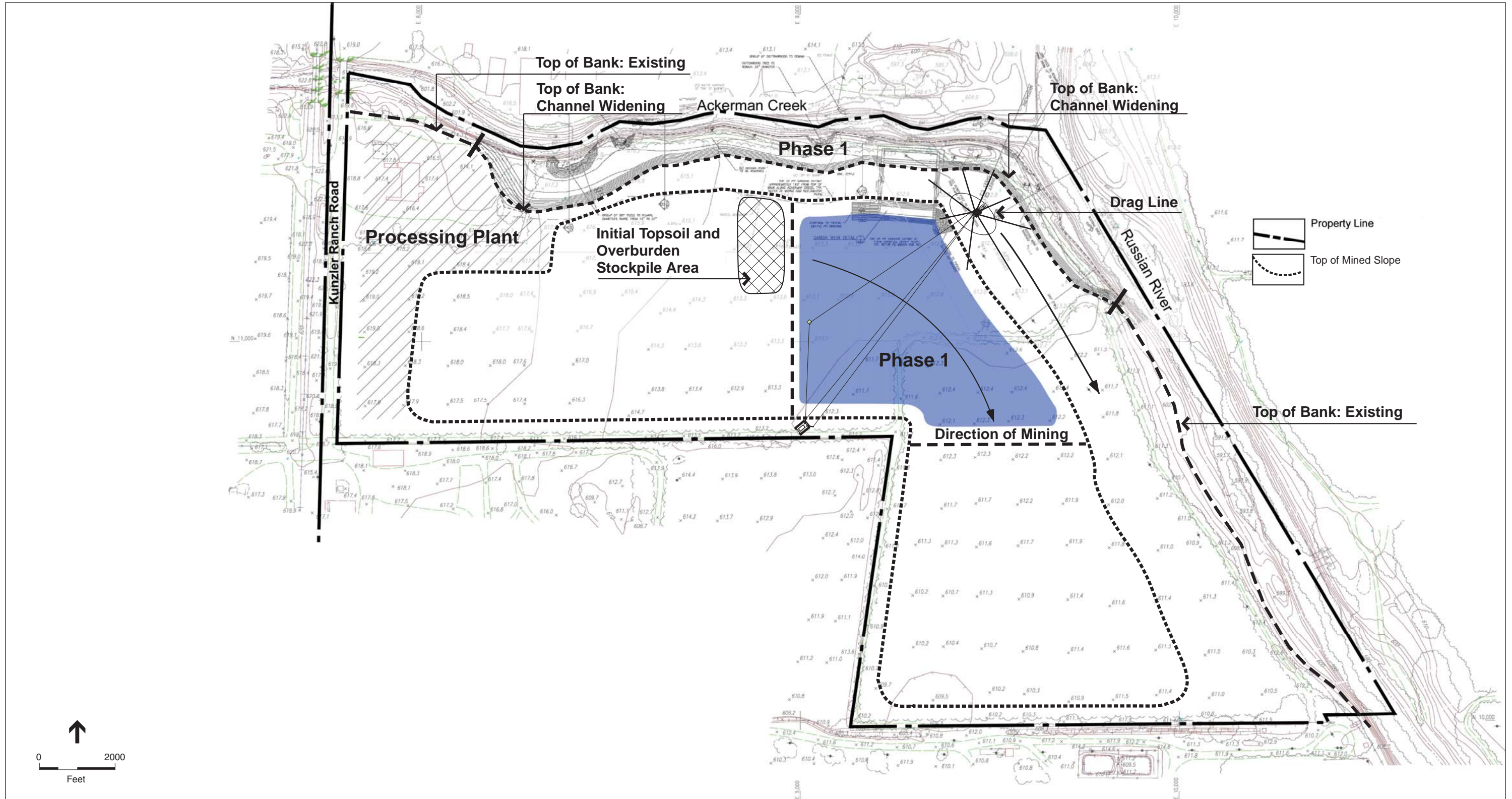
Phase 3 is shown on **Figure 2-3c** and will include the following primary activities:

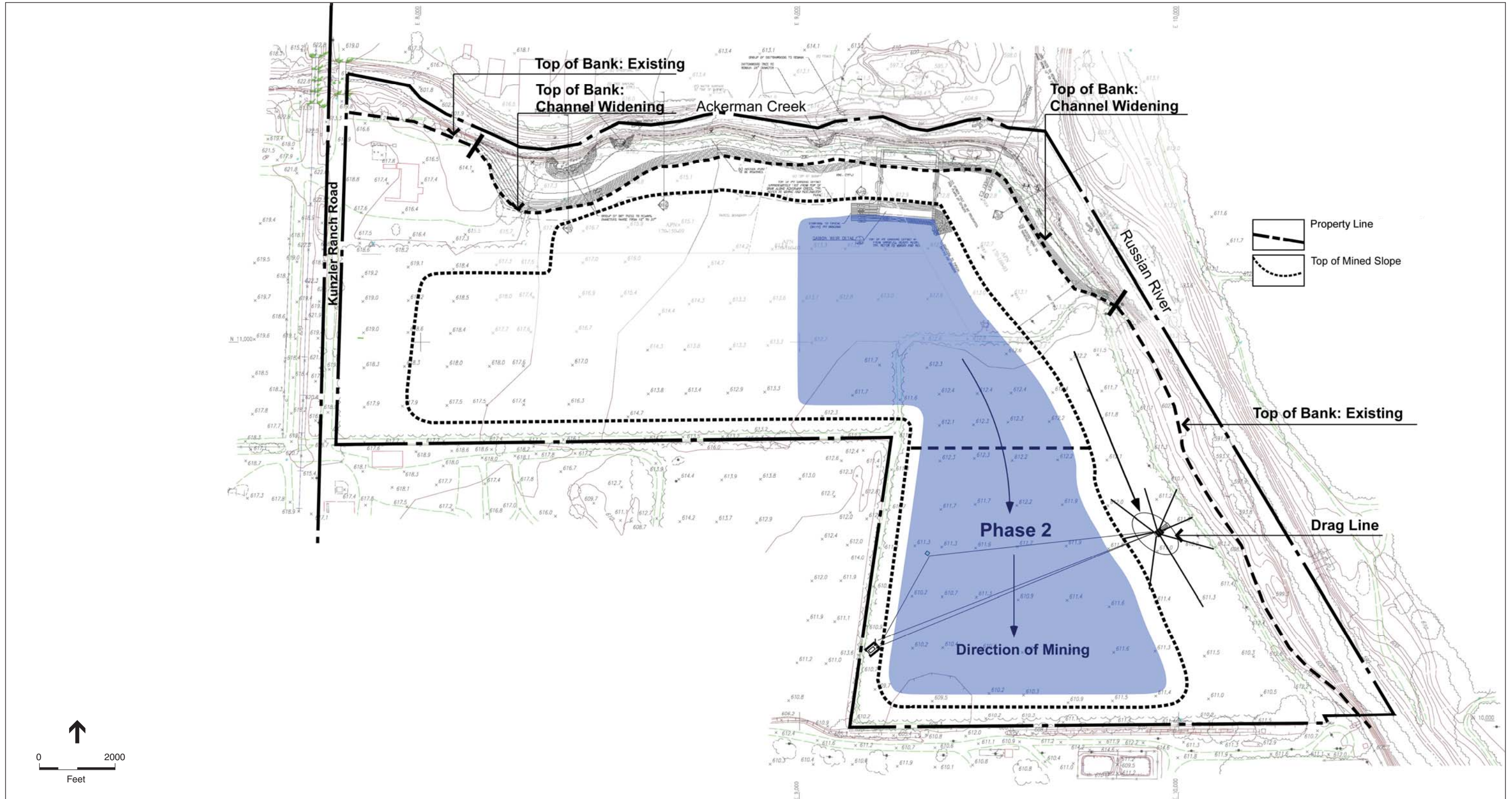
- Extension of the Phase 1 mining area to the west: Phase 3 of the project encompasses approximately 11.7 acres within the western section of APN 170-160-03 and eastern section of APN 170-150-09. The western boundary of Phase 3 is located approximately 190 feet east of the Hollow Tree Road property line, turning east 450 feet north of the southern property line, turning north at a point 550 feet east of the Hollow Tree Road property line. The northern boundary runs parallel to Ackerman Creek at a 150-foot setback from the active channel, while the southern boundary is set back a minimum of 50 feet from the property line. Reserves associated with Phase 3 are estimated at approximately 1.30 million tons, and will take an estimated 5.2 to 13.3 years to complete, depending upon market conditions.
- End of mining reclamation: End of mining reclamation activities will include final contouring and revegetation of un-reclaimed slopes, revegetation of remaining disturbed areas, and monitoring for revegetation success. The office, scale, wash ponds, and aggregate plant will be removed and prepared for final configuration per specifications contained within the reclamation plan.

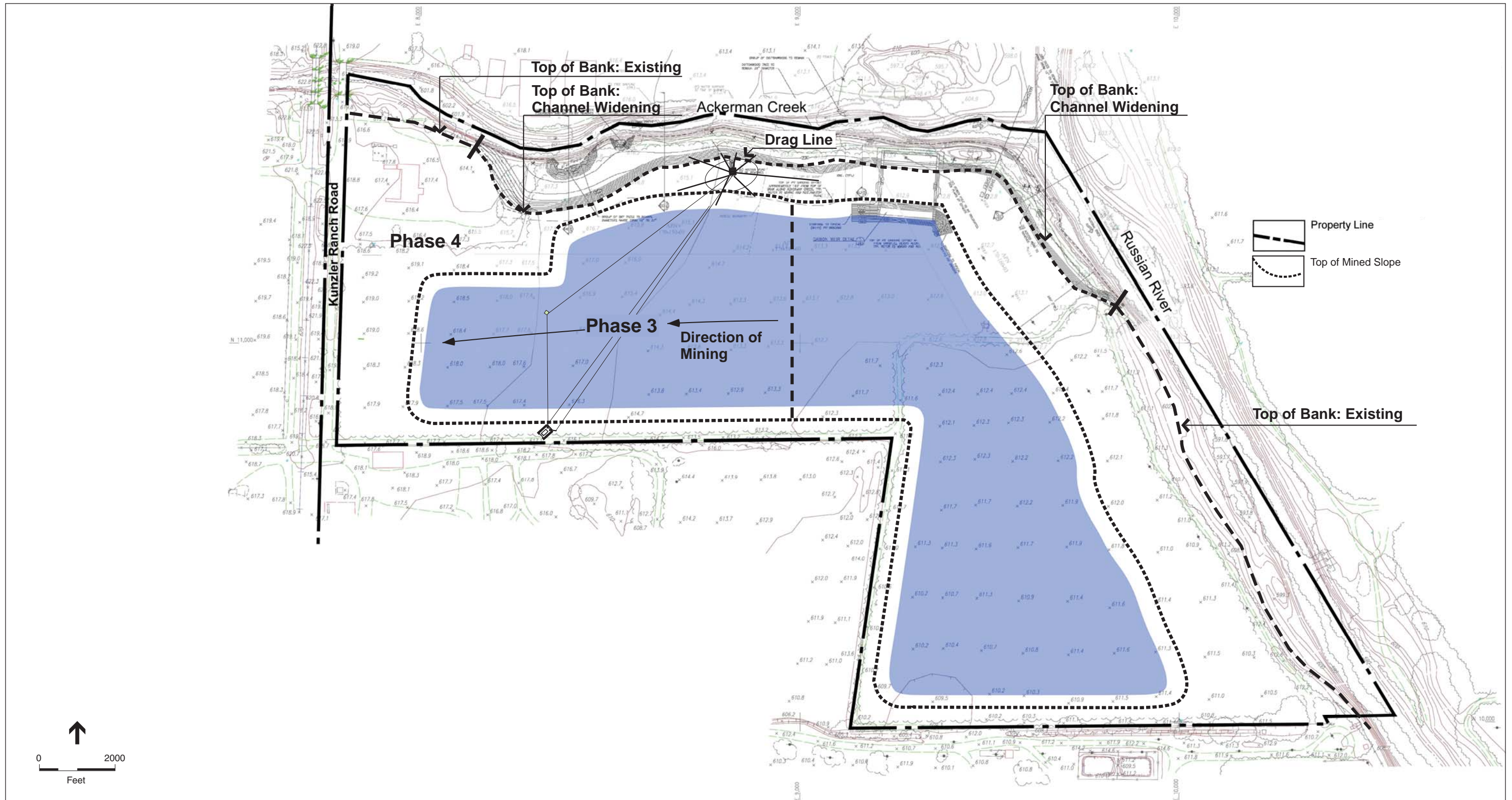
Reclamation

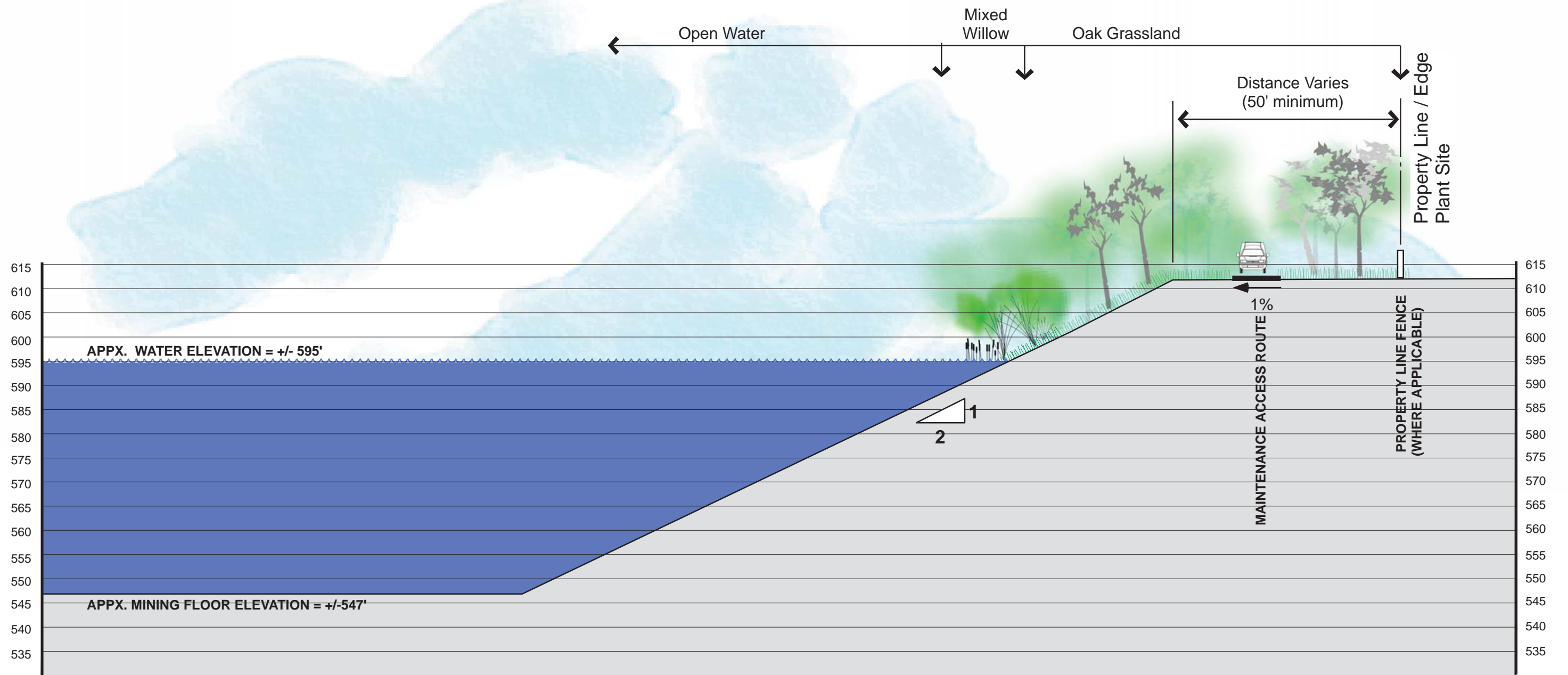
Granite has prepared a reclamation plan for the facility, dated February 2008, pursuant to the requirements of the State Surface Mining and Reclamation Act (SMARA) and the County's mining ordinance. The plan will be revised and modified pursuant to comments by the state Department of Conservation.

The reclamation plan is for the mining and processing of sand and gravel on a 65.3-acre project site (see Exhibits 1 and 2). 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).









Plan Organization

This Reclamation Plan provides an overview of reclamation activities and specific reclamation descriptions organized around the “Reclamation Plan Review Checklist” of the California Department of Conservation’s Office of Mine Reclamation (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.

Area Covered Under Reclamation Plan

This Reclamation Plan covers all areas proposed for mining and the disposition of the proposed processing plant site. Also included are plans for the widening of Ackerman Creek and a portion of the Russian River channel, and the construction of an overflow weir, fuse plug and swale to:

- improve instream channel flows and fish habitat;
- enhance riparian forest habitat value; and
- convey flood waters in a controlled manner through the project site, including limiting the frequency of overtopping of the weir and the potential for entrapment of fish within the mined bench area.

Reclamation Overview

Reclamation of the Kunzler Terrace Mine will involve creating six general landscapes:

- **Perimeter Riparian Areas:** where established slopes and vegetation will not be disturbed.
- **Widened River Channels:** along Ackerman Creek and the Russian River where the channel will be widened to create a low elevation floodplain and minimize potential for overbank flow, promote greater resistance to lateral erosion, improve flow and fish habitat, and enhance riparian forest habitat value
- **Buffer Setback Areas:** from existing riparian vegetation, Ackerman Creek, the Russian River, and property lines where existing vineyards will be revegetated as either Oak Woodland or as an Oak Grassland landscape. This area will also contain perimeter access routes.
- **Mined Slopes:** around the perimeter of the mined lake. As proposed, 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 a band of Mixed Willow located at the toe of the slopes.
- **Lake:** 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.
- **Plant Site and Sediment-Retention Basin:** that, except for the sediment-retention basin, will be cleared, graded, disked, and hydroseeded for future uses consistent with the existing

I2 (General Industrial) zoning. The sediment-retention basin will be retained for potential future uses by the adjacent industrial land.

The revegetation program for the disturbed areas is described in Exhibit 9 of the Reclamation Plan.

Reclamation Phasing

Reclamation will occur concurrently with mining activities. **Figure 2-3** illustrates the general direction of mining and reclamation through the project site.

End Uses

Following mining, the operator will reclaim the excavated areas to a revegetated open space suitable for habitat and related allowed uses.

2.1.6 List of Permits and Approvals

Regulatory Approvals, Plans, and Permits

SMARA was enacted in 1975, and mandates the California Department of Conservation, California Geological Survey (CGS) to identify and evaluate the mineral resources of the State, including sources of construction aggregate. One of the purposes of this mandate, and of SMARA itself, is to protect significant mineral deposits from potential loss due to incompatible land uses. Based on State Mining and Geology Board guidelines, CGS is authorized to map regions within the State to classify areas with significant aggregate resources.

SMARA requires the preparation of an acceptable reclamation plan and financial assurances for all surface-mining operations. Reclamation plans are developed to meet various performance standards for the protection of wildlife habitat, revegetation, recontouring, erosion control, etc., as well as to eliminate or reduce residual public health and safety hazards and minimize environmental effects. The applicant and its consultants have prepared a reclamation plan for the project site dated February 2008 pursuant to the requirements of SMARA and the County's mining ordinance.

Regulatory approvals for the project are listed below:

- **Mendocino County** – The project would require from the County (lead agency) the approval of a Conditional Use Permit/Surface Mining Permit; approval of the reclamation plan and financial assurances for the project in conformance with SMARA and the State Mining and Geology Board regulations for surface mining and reclamation practice (CCR Title 14, Ch. 8, Article 1, §3500 et seq; Article 9 §3700 et seq.); and issuance of a Flood Hazard Development Permit for any structures that would be within the 100-year floodplain.
- **California Department of Fish and Game** – a Streambed Alteration Agreement (Fish and Game Code Section 1600 et seq.) may be required for floodplain enhancement work within Ackerman Creek and the Russian River and construction of the flood control weir.
- **Regional Water Quality Control Board (RWQCB)** – may issue Waste Discharge Requirements (WDRs) and/or 401 Certification. Filing of a Notice of Intent to comply with the terms of the General Industrial Storm Water Permit, and a Storm Water Pollution Prevention Plan (SWPPP) must be prepared before any construction activities begin.

- **Army Corps of Engineers (ACOE)** - a Section 404 permit will be required for floodplain enhancement work within Ackerman Creek and the Russian River.
- **Mendocino County Environmental Health Dept. (MCEHD)** – a Hazardous Materials Business Plan (HMBP), Storage Statement and a Spill Prevention Control and Countermeasure Plan (SPCC) may be necessary for the site in accordance with 40 CFR 112 and the Above Ground Petroleum Storage Act (Health and Safety Code Section 25270). The SPCC Plan will address the liquid petroleum products that are stored and used at the site, and provide the procedures for the prevention of discharge of the products into any on-site waters. MCEHD implements this state and federal program in its role as the Certified Unified Program Agency (CUPA) for Mendocino County.
- **Mendocino County Air Quality Management District** – Authority to Construct and Permit to Operate must be approved by the air district.