ADMINISTRATIVE DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

WADDELL PIT RECLAMATION & MINING PLAN AMENDMENT
SISKIYOU COUNTY, CALIFORNIA

Prepared for

Siskiyou County

Prepared by

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CEQA ENVIRONMENTAL CHECKLIST
Waddell Pit Reclamation and Mining Plan Amendment

1.0 INTRODUCTION

Project Title: Waddell Pit Reclamation and Mining Plan Amendment

Lead Agency: Siskiyou County

Contact Person: Bernadette Cizin, Associate Planner

Project Location: 8000 Indian Creek Road
Happy Camp, CA 96039
Siskiyou County APNs 009-340-350, 009-330-230, & 009-330-240

Applicant: Hayes & Sons, Inc.
P.O. Box 774
Montague, CA 96064
(530) 598-4040

Consultant: VESTRA Resources, Inc.
5300 Aviation Drive
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General Plan: Surface Hydrology

Zoning: Rural Residential Agriculture (R-R-B-40 and R-R-B-5)

Description of Project: The Project includes an amendment to the Waddell Pit Mining and Reclamation Plan (RP-01-01) and Use Permit to expand the quarry's excavation area and allow continued mining activities at the site for an additional 30 years.

Surrounding Land Uses and Setting: The Project site is located 8 miles north of Happy Camp and north of the intersection of Indian Creek Road and Forest Route 17N32. The Project site is in a rural area consisting of some developed parcels adjacent to federal land (Klamath National Forest). The general site location is included in Figure 1.

The Project site includes portions of Siskiyou County Assessor Parcel Nos. 009-340-350-000, 009-330-230-000, and 009-330-240-000. The parcels are zoned Rural Residential Agricultural (R-R-B-5 and R-R-B-40). Properties adjacent to the Project site are zoned Rural Residential Agriculture (R-R-B-2.5, R-R-B-5, and R-R-B-40). Parcels immediately adjacent to the Project site to the east, south, and west are currently undeveloped. Parcels to the north of the Project site are developed with residences as well as a logging equipment storage yard.

The existing quarry and proposed expansion area are on the hillside east of Indian Creek Road. The processing and stockpile operations occur on the west side of Indian Creek Road on level ground adjacent to Indian Creek. The Project site is within the burn footprint of the 2020 Slater Fire. The fire burned most of the vegetation within the Project site and adjoining areas. Few live trees remain; however, vegetation is observed to be resprouting.

Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):

- Siskiyou County – Approval of the Mining and Reclamation Plan Amendment/CEQA
- California Division of Mine Reclamation (DMR) – Approval of the Mining and Reclamation Plan Amendment
- State Water Resources Control Board – Coverage under the General Permit for Storm Water Discharges Associated with Industrial Activities (Order 2014-0057-DWQ, as amended)
- Siskiyou County Air Pollution Control District – Dust Control Plan and Stationary Source Permits
- State Water Resources Control Board – Initial Statement of Diversion and Use for the diversion and use of water from Indian Creek
- California Department of Fish and Wildlife – Lake or Streambed Alteration Agreement for reclamation activities within the processing and stockpile area, expansion of the processing or stockpile area west of the existing berm, and/or the diversion of water from Indian Creek

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☒	Aesthetics	☒	Agriculture / Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Energy
☒	Geology/Soils	☒	Greenhouse Gas Emissions	☒	Hazards and Hazardous Materials
☒	Hydrology/Water Quality	☐	Land Use/Planning	☒	Mineral Resources
☒	Noise	☐	Population/Housing	☐	Public Services
☐	Recreation	☒	Transportation	☒	Tribal Cultural Resources
☐	Utilities/Service System	☒	Wildfire	☒	Mandatory Findings of Significance

DETERMINATION; (to be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Bernadette Cizin	Signature on File	6/18/2025
Print Name	Signature	Date

2.0 PROJECT DESCRIPTION

2.1 Project Background

The Project includes continued operation and expansion of an existing sand and gravel quarry. The quarry is on the north side of Indian Creek Road across from the intersection with South Indian Creek Road, 8 miles north of Happy Camp. The general site location is shown in Figure 1.

The existing quarry area is approximately 3.2 acres. Rock harvested from the quarry is hauled to a stockpile and processing area located one-third mile north of the quarry on the west side of Indian Creek Road. The stockpile and processing area of the site is approximately 4.6 acres. The existing limits of the quarry are shown in Figure 2.

The quarry and associated activities were approved by Use Permit in 1974. An Environmental Impact Report (EIR) was also certified at that time. The activities included in the 1974 Use Permit for the quarry consisted of harvesting, crushing, washing, batching, and gravel skimming of rock. The quarry and processing area have operated intermittently to provide rock for construction projects in the area. Permitted annual aggregate production from the site is between 5,000 and 30,000 cubic yards (7,000 to 42,000 short tons). Equipment listed in the 1974 EIR for gravel processing as well as quarry operations included:

- Rubber-tired front-end loaders for excavating and hauling material
- 12-yard end dump trucks
- A portable 24-inch by 36-inch jaw crusher
- 45-inch cone crusher
- Three-deck 5-foot by 14-foot flat screen
- 4-inch diesel-operated pump
- 2-inch electric pump
- Portable diesel electric generator
- 40-inch by 22-inch roll crusher or 72-inch impact crusher
- 900 cubic-feet-per-minute portable air compressor
- Tract drill for blasting
- Bulldozer
- Front-end loader

When the Use Permit was approved in 1974, reclamation plans were not required to be prepared. A Mining and Reclamation Plan for the quarry (RP-01-01) was approved by Siskiyou County in 2002 as required by the State Surface Mining and Reclamation Act (SMARA) and County code and an Initial Study/Mitigated Negative Declaration was adopted for the Reclamation Plan by Siskiyou County in 2002 and included a reclamation date of 2017.

As described in Reclamation Plan RP-01-01, following the completion of mining activities, the site would be groomed, spread with topsoil, and replanted with native species displaced during mining activities to result in a site that blends into the natural environment of the area. Reclamation of the stockpile and processing area would include the removal of all equipment and grooming of the disturbed area to restore the flood channel. The planned end use for the quarry contained in

RP-01-01 is Open Space for wildlife habitat and a potential homesite for the portion of the processing area that is not in a flood zone.

2.2 Existing Operations and Proposed Amendments

The Mining and Reclamation Plan and Use Permit Amendment (Project) includes continued operation of the quarry for an additional 30 years as well as the expansion of the limits of the quarry portion of the mine on the eastern side of Indian Creek Road. The proposed expansion area and overall site plan is shown in Figure 2. The Project will increase the size of the quarry area from 3.2 acres to 12 acres and will result in the disturbance of an additional 1.4 acres for topsoil storage. The proposed excavation plan is included in Figure 3. Cross sections are shown in Figure 4.

Within the quarry area, benches will be a minimum of 20 feet wide with a maximum height of 30 feet and a maximum slope of 0.5:1. A stormwater detention pond will be constructed along the toe of the cut slope with a capacity of 64 cubic feet per linear foot. The Amendment does not include the expansion of the existing stockpile and processing area limits on the west side of Indian Creek Road.

The quarry currently operates Monday through Friday from 7:00 a.m. to 5:00 p.m. Maximum production from the quarry is 30,000 short tons per year. Equipment currently used for operations includes the following:

- Portable track-mounted 24-inch by 36-inch jaw crusher
- Portable track-mounted 45-inch cone crusher
- Portable track-mounted impact crusher
- Portable track-mounted 5-foot by 20-foot three-deck screen plant
- CAT dozer
- CAT excavator
- CAT loader
- Semi end dump
- Track drill
- Portable truck scales

Blasting is required every two to three years and occurs in the late winter/early spring between 7:00 a.m. and 5:00 p.m. on weekdays. Transport of material from the site requires an estimated 250 truckloads each year, with an average of five loads each week and one load each day.

The Project does not include a change in existing hours of operation, additional equipment/processing activities, or an increase in the maximum annual production of the quarry. The proposed expansion would increase the material supply to allow the continued operation of the quarry at existing rates for an additional 30 years. The proposed average annual production of the quarry is 5,000 short tons and the estimated maximum annual production is 30,000 short tons. The estimated total production of the quarry is 300,000 short tons.

As with existing operations, rock on the east side of the Indian Creek Road would continue to be mined and hauled to the west side of the road for processing. Processing would include crushing and screening of rock. The gravel skimming operations within the stream and gravel washing authorized by the 1974 Use Permit no longer occur at the site and are not proposed in the Amendment.

The end use of the site upon reclamation would be open ranchland and wildlife use. Reclamation would occur as the bench cuts move north. Reclamation will be completed at an average of 0.25 to 0.5 acres per year based on 15-year periods. Topsoil would be spread onto quarry areas that are level enough for equipment access to depths of three to four inches and the site planted with bluegrass, natural vetch, Douglas fir, and Mahonia/Oregon grape. Trees would be planted at a rate of 100 trees per acre.

The proposed Project changes from existing operations include the following:

- Expansion of the mining and reclamation area by 11.2 acres including expanded excavation area limits and additional acreage for topsoil storage on the east side of Indian Creek Road
- Increase in total production of the mine from 100,000 cubic yards to 214,285 cubic yards, or 141,750 tons to 300,000 tons[1]
- Extension of the life of the mine for an additional 30 years
- Construction of a stormwater detention pond at the toe of the quarry to detain stormwater runoff

3.0 ENVIRONMENTAL CHECKLIST

I. AESTHETICS Except as provided in Public Resources Code Section 21099, Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion

The Project site includes an existing quarry as well as a stockpile and processing area. The 4.6-acre stockpile and processing area contains equipment and stockpiled material. Approximately 3.2 acres of the quarry area are currently disturbed with exposed soil and rock. The proposed quarry expansion area contains montane-conifer forest that has been impacted by recent wildfires and currently contains resprouting vegetation including conifer and oak saplings. The existing quarry and proposed expansion area are located on a slope within a narrow river valley and are not visible from areas a long distance from the Project site due to intervening topography.

a) Expansion of the quarry would result in vegetation and topsoil removal within the expansion area as well as changes in topography throughout the mining area as mining progresses. In addition, a detention pond will be constructed along the toe of the quarry as well as an additional internal road. Reclamation of the quarry would occur as the bench cuts move north and areas where mining has been completed will be revegetated. Approximately 8 to 10 acres of the mining area will be disturbed at a time.

Views of the quarry from a distance are limited due to the topography of the Project area and would become further screened as vegetation regrows within the areas affected by recent wildfires. Since the area from which the Project site would be visible is limited and mining operations are already occurring on a portion of the Project site, the Project would not result in a substantial adverse effect on a scenic vista. **Less than significant impact.**

b) There are no officially designated State Scenic Highways in the Project vicinity. The Project will not damage scenic resources within a state scenic highway. **No impact**.

c) The Project site is visible to the public from segments of Indian Creek Road as well as several forest service roads in the Project vicinity. Quarrying activities are currently visible and continued operation and expansion of the quarry would be consistent with the existing visual character of the site. Following mining activities, reclamation including revegetation of the quarry benches would occur. The Project would not substantially degrade the existing character or quality of public views of the site and its surroundings. **Less than significant impact.**

d) The Project does not include changes to the hours of operations outlined in the existing Use Permit for the site or installation of permanent lighting sources. Quarry activities will occur between 7:00 am to 5:00 pm Monday through Friday. The Project would not result in new sources of light or glare that would affect day or nighttime views in the area. **No impact.**

II. AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining impacts to forest resources including timberland are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
e) Involve other changes in the existing environment which, due to their location or nature that could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

Discussion

The Project site is zoned Rural Residential Agricultural District (R-R). The proposed expansion area meets the definition of forest land as defined in Public Resources Code section 12220(g) since it can support 10 percent native tree cover of any species under natural conditions.

a) The Project site is not designated as prime farmland, unique farmland, or farmland of statewide importance and will not convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use. **No impact.**

b) A Williamson Act Contract is not in effect on the property. The Project site is zoned Rural Residential Agricultural District (R-R). The proposed quarry expansion area is unusable for farming or grazing due to steep slopes. The end use of the site upon reclamation would be open ranchland and wildlife use. The Project would not conflict with a Williamson Act contract or result in a change to the existing zoning of the site. **No impact.**

c) The Project site is not zoned forest land, timberland, or timberland zoned Timberland Production. The Project does not include rezoning of the Project site. **No impact.**

d) The proposed expansion area meets the definition of forest land as defined in Public Resources Code section 12220(g) since it can support 10 percent native tree cover of any species under natural conditions. The Project site has recently burned and currently contains resprouting vegetation. This vegetation will be removed as mining progresses and replaced upon reclamation with Douglas fir at a rate of 100 trees per acre. Since the forested areas of the Project site will be revegetated with trees upon reclamation, impacts to forest land will be temporary and the Project will not result in the permanent conversion of forest land. **Less than significant impact.**

e) As discussed in d) above, the Project will result in the temporary use of forest land for non-forest use but would restore 10 percent native tree cover following reclamation. The Project does not involve other changes in the existing environment that could result in the conversion of farmland to non-agricultural use or the conversion of forest land to non-forest use**. Less than significant impact.**

III. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an	☐	☒	☐	☐

applicable federal or state ambient air quality standard?				
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion

The Project site is within the Northeast Plateau Air Basin which includes the Siskiyou, Modoc, and Lassen Air Pollution Control Districts. The Siskiyou County Air Pollution Control District (SCAPCD) is responsible for the enforcement of federal and state air quality regulations within Siskiyou County. SCAPCD requires Stationary Source Permits for plants, rock crushers, and stationary internal combustion engine generators greater than or equal to 50 horsepower.

Existing operations include the operation of portable crushing equipment, and screening plant powered by generators as well as mobile equipment and trucks to haul material. These operations produce exhaust emissions as well as dust at the Project site. Work areas are watered periodically for dust control.

a) Siskiyou County is in attainment or unclassified for California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) for criteria pollutants and is not subject to an air quality plan. Therefore, the Project would not conflict with or obstruct the implementation of an air quality plan. **No impact.**

b) Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$) and lead. Siskiyou County is in attainment or unclassified for CAAQS and NAAQS and has not adopted mass emission thresholds for criteria air pollutants.

Equipment at the Project site including the screening plant, rock crushers, and stationary internal combustion engine generators greater than or equal to 50 horsepower are subject to SCAPCD permits. Permitted sources are inspected for compliance on a regular basis. The Project does not include changes in equipment operated at the Project site or an increase in annual production that would result in an increase in annual emissions of criteria pollutants from equipment.

Although emissions generated by onsite equipment would not increase compared to existing operations, increased dust (particulate matter) could be generated due to the increased size of the excavation and topsoil storage areas. Similar to existing operations, these areas would be watered periodically to control dust. **Mitigation Measure AIR-1** requires the preparation of a Dust Control Plan to minimize particulate matter generated by the Project. With the implementation of a Dust Control Plan, the Project would not result in a cumulatively considerable net increase of particulate matter or other criteria pollutants. **Less than significant with mitigation incorporated.**

c) As discussed in b) above, the Project does not include changes to processing activities at the Project site and would not result in additional emissions related to crushing, screening, or aggregate

production compared to existing operations. Expansion of the quarry area to the north will result in the excavation and soil stockpiling activities occurring closer to the closest residences (sensitive receptors) located north of the Project site. The closest receptors to the Project site are shown in Figure 5. Activities in the expansion areas would generate dust (particulate matter) that could affect these residences. **Mitigation Measure AIR-1** includes the preparation of a Dust Control Plan to minimize dust emissions from the Project. With the implementation of a Dust Control Plan, the Project would not expose sensitive receptors to substantial pollutant concentrations. **Less than significant with mitigation incorporated.**

d) Diesel-operated equipment can produce odorous emissions. The Project does not include an increase in production or equipment operation at the site over baseline conditions. The Project does not include additional or new odor sources and the site is within a rural, sparsely populated area. The Project would not result in other emissions, including those leading to odors that would adversely affect a substantial number of people. **Less than significant impact**.

Air Quality Mitigation Measures
The following mitigation measure is included to reduce particulate matter emissions from dust within the expanded quarry area to the extent feasible:

> **Mitigation Measure AIR-1: Dust Control Plan**
> Prior to the expansion of the quarry, a Dust Control Plan shall be submitted to the SCAPCD. Control measures in the plan may include, but are not limited to, watering all active parking areas, soil piles, graded areas, and unpaved roads; limiting traffic speeds to 15 mph on unpaved roads; stabilizing inactive areas of the site; and covering haul trucks transporting soil, sand, or other loose materials likely to give rise to airborne dust. The Dust Control Plan shall be authorized by the SCAPCD prior to the expansion and the plan shall be followed during operations at the Project site.

IV. BIOLOGICAL RESOURCES Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or USFWS?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including but not	☐	☐	☐	☒

limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

A Biological Resources Assessment (BRA) was prepared for the Project by GeoServe, Inc. and is included as Appendix A. The Study Area for the assessment consisted of the existing exposed Waddell Rock pit as well as the land immediately adjacent to the current permitted boundaries. According to the BRA, the proposed expansion area is characterized by a former conifer/hardwood forest that has been severely burned; in many areas, mortality approaches 100 percent both onsite and in surrounding visible land. Site visits show a return of these features, largely through oak resprouting and conifer saplings. No water features exist onsite, though Indian Creek runs immediately south of the Study Area on the southern side of Indian Creek Road (GeoServ, 2023).

The expansion area consists of a Montane hardwood-conifer vegetation community. Montane hardwood-conifer communities consist of hardwood species (especially Oregon white oak and/or California black oak) as well as conifers (including Douglas fir, ponderosa pine, incense cedar, etc.); additional vegetation includes pacific madrone and tanoak (CDFW 1988a). Montane hardwood-conifer represents a transitional zone between purer stands of higher-elevation conifer forest and lower· elevation hardwood woodland/forest, and they typically occur on coarse, well-drained mesic soils (CDFW 1988a). The significant presence of both conifers and hardwoods makes this community unique and able to support a wide range of wildlife (CDFW 1988a). Onsite, the montane hardwood-conifer community has been impacted by a recent severe, stand-replacing wildfire. Many portions of the Study Area approach 100 percent mortality of trees, though conifer/oak saplings and oak resprouts demonstrate that the area is recovering (GeoServ, 2023).

a) The BRA prepared for the Project evaluated the presence of special-status species and/or habitats and assessed the potential for special-status species to occur on or near the site of the proposed quarry expansion area. The discussion below is based on the findings of the BRA. Additional details including the records search and literature review conducted and details of the field survey and methodology can be found in Appendix A.

Special-Status Plants

The BRA determined there was potential for sixteen special status plant species to occur within the expansion area which included marbled wild-ginger (*Asarum marmoratum*), Koehler's stipitate rockcress (*Boechera koehleri*), Siskiyou paintbrush (*Castilleja elata*), bunchberry (*Camus unalaschkensis),* Oregon fireweed (*Epilobium oreganum),* Henderson's fawn lily (*Erythronium hendersonii*), Howell's fawn lily (*Erythronium howellii),* California globe mallow *(Iliamna latibracteata),* Heckner's Lewisia *(Lewisia cotyledon* var. *heckneri),* Howell's Lewisia *(Lewisia cotyledon* var. *howellii*), Coast range lomatium (*Lomatium martindalei*), ghost-pipe (*Monotropa uniflora*), white-flowered rein orchid (*Piperia candida*), Redding checkerbloom (*Sidalcea celata*), Hooker's catchfly (*Silene hookeri*), and robust false lupine (*Thermopsis robusta*). The study area was surveyed for these species in April and June 2023. No special-status plants were observed during the botanical surveys and are not expected to occur within the Project area. Therefore, the Project will not result in impacts to special-status plants.

Special-status Fish Species and Habitat

A record search was conducted within the Project area for special-status fish, critical habitat, and essential fish habitat through the following sources: CNDDB, National Oceanic and Atmospheric Administration (NOAA) essential fish habitat mapper, NOAA Protected Resources APP, and the USFWS IPaC report.

No critical habitat was recorded in the Study Area; however, essential fish habitat for Coho salmon (*Oncorhynchus kisutch*) and Chinook salmon (*Oncorhynchus tshawytscha*) is present in Indian Creek, south of the Study Area. Additionally, CNDDB records indicate that the Klamath River lamprey (*Entosphenus similis*) and coast cutthroat trout (*Oncorhynchus clarkia clarkia*) have the potential to occur in the portion of Indian Creek that passes near the Study Area. Lastly, the USFWS IPaC report lists two fish species, Lost River sucker (*Deltistes luxatus*) and shortnose sucker (*Chamistes brevirostris*) as potentially being impacted by the Project.

Indian Creek is not within the Study Area but rather occurs downslope on the opposite side of Indian Creek Road from the proposed rock pit expansion. Nevertheless, significant impacts to these fish species or essential fish habitat could occur if erosion or hazardous materials entered Indian Creek and polluted the downstream habitat. However, no instream quarrying is proposed for the Project. With the implementation of Best Management Practices (BMPs) for erosion control and spill prevention (as described in the Reclamation Plan Amendment), impacts to these fish species and their potential habitat would not occur.

Special-Status Wildlife Species

The CNDDB records and USFWS IPaC records identified the following special status wildlife species that could potentially occur in the Project area:

- American peregrine falcon (*Falco peregrinus anatum*)
- Bald eagle (*Haliaeetus leucoephalus*)
- Franklin's bumblebee (*Bombus franklini*)
- Suckley's cuckoo bumblebee (*Bombus suckleyi*)
- Western bumblebee (*Bombus occidentalis*)
- Conservancy fairy shrimp (*Branchinecta conservation)*
- Vernal pool fairy shrimp (*Lepidurus packardi*)

- Foothill yellow-legged frog-north coast Distinct Population Segment (*Rana boylii population 1*)
- Gray wolf (*Canis lupus*)
- Marbled murrelet (*Brachyramphus marmoratus*)
- Monarch butterfly (*Danaus plexippus*)
- North American wolverine (*Gulo luscus*)
- Northern goshawk (*Accipiter gentilis*)
- Northern spotted owl (*Strix occidentalis caurina*)
- Pacific tailed frog (*Ascaphus truei*)
- Del Norte salamander (*Plethodon elongatus*)
- Siskiyou Mountains salamander (*Plethodon stormi*)
- Southern torrent salamander (*Rhyacotriton variegatus*)
- Yellow-billed cuckoo (*Coccyzus americanus)*

Potential impacts to these wildlife species are discussed below.

American Peregrin Falcon
American peregrine falcons are birds of prey that can be found in woodland, coastal, and forested habitats. The species has been delisted federally and at the state level after recovering from DDT-related declines but remains a state Fully Protected species. Proximity to water, such as inland wetlands or riparian areas, is characteristic of American peregrine falcon habitat in both breeding and non-breeding areas. Typically, American peregrine falcons prey on birds, catching prey while in flight. American peregrine falcons breed from late March to early August, relying on cliff sites for nesting.

American peregrine falcons have been observed in an adjacent quadrangle to the Project site according to CNDDB records and therefore may utilize the Project site. However, a nesting bird survey prior to vegetation removal occurring during the nesting bird season (**Mitigation Measure BIO-1**) would reduce impacts to American peregrine falcons to **less than significant** levels.

Bald Eagles
Bald eagles are birds of prey that can be found across the United States. Once federally endangered due to DDT impacts, bald eagles have been delisted federally but remain listed as Endangered at the State level. Bald eagles require large bodies of water, as their primary food source is fish. Individuals will perch on the limbs of large trees or snags while observing the water below to hunt. Bald eagles typically nest near water too, with over 80 percent of nests found within a mile of water. Nest sites are typically large, live trees, especially ponderosa pine. Bald eagles breed from February to July.

According to CNDDB records, bald eagles have been observed approximately 11 miles southwest of the Project site. However, the recent severe fire has greatly reduced the number of live trees that bald eagles may use to nest or roost. Therefore, bald eagles are not expected to occur in the Study Area but would nevertheless be identified through pre-operation nesting bird surveys included as **Mitigation Measure BIO-1**. Therefore, impacts to bald eagles would be less than significant.

Franklin's Bumble Bee
Franklin's bumble bee is an extremely range-restricted bumble bee, only ever found within Northern California and Southern Oregon between the Sierra-Cascade Mountain and Coast Mountain ranges. Relatively abundant in its range until 1998, the species has experienced steep declines since then and was last seen in 2006 in Oregon near Mt. Ashland. Habitat requirements for Franklin's bumble bee are poorly understood, but the species is known to require floral plants such as Agastache, Eschscholzia, Lupinus, Monardella, and Vicia for a food source. Abandoned rodent burrows or rotting logs are also crucial as dwelling sites for the species.

Solitary queen bees who have successfully mated establish Franklin's bumble bee colonies, collecting nectar and pollen to support egg production. As the colony develops, offspring begin to assume food gathering and colony defense tasks. Eventually, new queens are produced that mate with males, allowing the colonization process to begin again. At this point, the original queen, males, and workers die, allowing the mated females to carry on the lineage. In total, colonies consist of 50 to 400 worker bees plus the queen. Franklin's bumble bees may be extirpated in California and may be extinct in general. Provided the species still exists in California, threats include introduced diseases from commercial bees as well as pesticide use in its area.

CNDDB records indicate that the nearest occurrence of Franklin's bumblebee occurred in 1997 approximately 26 miles southeast east of the Study Area, outside of the normal nine-quad scoping area for the Project. Additionally, the last sighting of Franklin's bumblebee occurred in 2006 near Mt. Ashland in Oregon, even farther away. Therefore, Franklin's bumblebee is not expected to occur in the Project area, and no impacts to Franklin's bumblebee would occur as a result of the Project.

Western Bumble Bee and Suckley's Cuckoo Bumble Bee
Western bumble bees are current candidates for California Endangered Species Act protections. The species has experienced sharp declines since the 1990s, likely due to a variety of factors, including novel pathogens, insecticide use, and habitat fragmentation. Western bumble bees require a diversity of wildflower resources and a stable supply of pollen; they are known to visit a wide array of bee-pollinated flower species, though their short tongues hamper their ability to feed from tube-shaped flowers. Western bumble bees will typically use abandoned rodent burrows as areas to establish colonies.

Like most bumble bees, western bumble bees come in three forms: queens, workers, and males. Fertilized queens begin colonies in the spring, first producing worker bees and caring for them herself). Once a supply of workers is established, the queen focuses her time on egg-laying, while the workers take care of additional offspring The queen will then produce males and additional queens, who will then mate before entering diapause (similar to hibernation) to overwinter. A rare form of parasitic bumble bee, Suckley's cuckoo bumble bee, has also become a Candidate for CESA protection. Suckley's cuckoo bumble bee is a social parasite, meaning queens cannot establish a viable colony on her own. Suckley's cuckoo bumble bees cannot produce worker bees, and therefore seek out the colony of another bumble bee species (such as *Bombus occidentalis*), incapacitate the queen, and then commandeer the colony. The parasitized colony then enables the queen Suckley's cuckoo bumble bee to lay her own eggs (males and queens), as the workers will provide for the offspring. Once males and queens mature and mate, queens overwinter and repeat the process the following spring.

Suckley's cuckoo bumble bees have similar habitat requirements to other bumble bee species in that they require a diversity and constant supply of flowers. The species has short- to medium-sized tongues, meaning they too struggle to feed on flowers with deep tube shapes. Within the Study Area, floral diversity is somewhat limited due to the disturbance at the existing Waddell rock pit extents. Additionally, because CNDDB recorded observations of the species approximately nine miles away from the Study Area, these bumble bees are not expected to occur in the Study Area. Therefore, no impacts to these bumble bees are expected to occur.

Crustaceans

The USFWS IPaC report for the Project identified vernal pool fairy shrimp (*Branchinecta lynchi*, U.S. Threatened), Conservancy fairy shrimp (*Branchinecta conservation* U.S. Endangered), and vernal pool tadpole shrimp (*Lepidurus packardi*, U.S. Endangered) as potentially occurring in the Project area. The vernal pool fairy shrimp and Conservancy fairy shrimp are both dependent on vernal pools and vernal pool-like habitats. The vernal pool tadpole shrimp occurs in a wider variety of ephemeral wetland habitats in addition to vernal pools. However, field surveys confirmed no ephemeral wetland habitats that could support these shrimp species are present on the Project site; therefore, vernal pool fairy shrimp, Conservancy fairy shrimp, and vernal pool tadpole shrimp have no potential to occur in the Project area, and Project implementation would have no impacts on these species.

Foothill Yellow-Legged Frog

The Foothill yellow-legged frog is a species found in or near rocky streams in hardwood, hardwood-conifer, riparian, pine, mixed conifer, coastal scrub, chaparral, and wet meadows (CDFW 2000b), with the stream habitat being the most crucial. The species is rarely found far from permanent water, with normal home ranges less than 33 feet in length (CDFW 2000b).

Foothill yellow-legged frog adults consume invertebrates, especially insects (California Herps 2022). Adults will bask on exposed rock surfaces near streams but will quickly retreat to underwater sediments or rocks when they perceive a threat. Winter activities are typically spent hiding under rocks in or near the stream (CDFW 2000b).

Foothill yellow-legged frogs typically begin breeding/egg-laying from mid-March to May, with amplexus occurring in the water (CDFW 2000b, California Herps 2022). Egg clusters of 200 to 300 eggs are attached to gravel or rocks in moving water near the edge of a stream (CDFW 2000b). Tadpoles require at least three to four months of water to survive to metamorphosis (CDFW 2000b). Tadpoles eat detritus and algae attached to the rocky substrate (California Herps 2022).

Ecologically, garter snakes are the primary predator of foothill yellow-legged frogs (CDFW 2000b). The species faces a variety of threats, including habitat modification from dam construction and altered streamflows/water releases, which can force adults upland and disrupt/detach egg masses within the stream areas (CFGC 2020). According to the California Fish and Game Commission (CFGC), habitat modifications that threaten the species include mining, illegal cannabis cultivation, grazing, timber harvest, and even some restoration projects (CFGC 2020). Drought, wildfires, and other climate-related events also may impact Foothill yellow-legged frog populations (CFGC 2020). Environmental threats such as chytrid fungus and agricultural pesticides add an additional threat to the species (CFGC 2020).

CNDDB records indicate that Foothill yellow-legged frogs have been found near streams approximately 13 miles northwest of the Study Area. However, the lack of wet areas within the Study Area precludes Foothill yellow-legged frog presence in the Study Area, and none were observed onsite during field surveys. Therefore, no impacts to Foothill yellow-legged frogs would occur.

Gray Wolf

The gray wolf is a habitat generalist that only recolonized California in 2009 (CDFW 2022a). Historically, wolves have occurred in forests, grasslands, deserts, and the tundra (CDFW 2011). In general, crucial habitat components include a water source, adequate prey (typically ungulates such as deer and elk), and a lack of human disturbance or population (CDFW 2011). Wolves historically occurred over large portions of the state, especially in the north; however, their total abundance was likely somewhat low (CDFW 2011).

Individual wolves can travel over 30 miles in a day and can disperse as far as 680 miles from their birthing place (CDFW 2011). Wolves typically travel in packs consisting of a mating alpha pair, as well as subordinate wolves, typically offspring (CDFW 2011). Subordinate wolves may leave the pack to start their own or join another pack (CDFW 2011). Packs typically claim and defend territories from other wolves; these territories can range from 20 square miles to 400 square miles (CDFW 2011). These large territorial needs, plus gray wolves' relatively successful recovery, has necessitated the species' expansion into new areas, including California.

Typically, alpha wolf pairs begin to breed at two years of age and thereafter produce one litter of pups per year (CDFW 2011). Successful pup-rearing requires a den for birthing, such as a hole, crevice, or hollow log/stump; as pups grow, they typically remain near older wolves at rendezvous sites, while the rest of the pack hunts (CDFW 2011). Wolves that survive to adulthood typically live four years, though they can live up to 13 years (CDFW 2011).

Currently, gray wolf individuals and packs have been sighted in Siskiyou and Trinity counties, and even farther south in rare instances. As gray wolves are habitat generalists with the propensity for long-distance dispersal, it is possible that gray wolves could use the Study Area for foraging, dispersal, or denning. If a gray wolf den or rendezvous site is present in the Project area, construction activities could potentially impact the gray wolf. These impacts would be significant. However, the potential for gray wolves to occur on the Project area is exceedingly low, due to the current and historic disturbances (severe fire, rock quarrying, and nearby quarry material processing). Additionally, no gray wolves, dens, or rendezvous sites were observed onsite during field surveys or in CNDDB records. Therefore, there would be no impacts to the gray wolf.

Marbled Murrelet

Marbled murrelets are coastal birds that rely on old-growth forest characteristics for their habitats (USFWS 1997). These old-growth characteristics include large trees, multistoried canopies, and moderate to high canopy closure (USFWS 1997). Marbled murrelets are rarely found more than 50 miles inland from the coast (USFWS 1997). Therefore, as the Project is approximately 53 miles due east of the California coast and the region has lost its old-growth characteristics from recent severe, stand-replacing fire, marbled murrelets have no potential to occur in the Study Area. No impacts to the marbled murrelet are expected as a result of this Project.

Monarch Butterfly
The USFWS IPaC report for the Project identified the monarch butterfly (*Danaus plexippus*, U.S. Candidate) as potentially occurring in the Project area. The monarch butterfly is a migratory butterfly species that uses northern California as part of its vast summer breeding area, before overwintering in coastal California and Baja California (USFWS 2020). Adult monarch butterflies require a diversity of blooming nectar resources during breeding and migration, with its obligate host plant, milkweed (*Asclepias* sp.) essential for breeding (USFWS 2020).

When monarch caterpillars hatch in their breeding grounds, they spend 9 to 18 days as caterpillars, eating milkweed and molting several times (USFWS 2020). After 6 to 14 days in a chrysalis, adult monarch butterflies begin their reproductive life, mating, laying eggs on milkweed, and replenishing lipid stores with nectar-producing flowers (USFWS 2020). Typically, monarch butterflies live 2 to 5 weeks as adults before dying (USFWS 2020). This reproductive cycle occurs multiple times throughout the warm summer months; however, every year the final generation of monarchs become overwintering monarchs, with a different life history (USFWS 2020).

Overwintering monarchs enter reproductive diapause and instead make a migratory journey of 500 km to 1600 km (310 to 995 miles) to the overwintering grounds on the coast of California or Baja California. Here, the monarchs wait out the winter, still relying on nectar-producing flowers to feed (USFWS 2020). The following spring, monarch adults who survived the winter breed at the overwintering site before migrating back to the area where they hatched. Adult female monarchs lay their eggs on milkweed as they encounter it along the way (USFWS 2020). In total, overwintering monarchs live 6 to 9 months as adults (USFWS 2020).

As discussed, the monarch butterfly requires its host plant, milkweed (*Asclepias* sp.), to breed in the area. Two heartleaf milkweed (*Asclepias cordifolia*) plants were observed during the 2023 botanical surveys within the Study Area, making the Study Area potentially suitable for monarch butterfly use. Quarrying activities that remove these milkweeds could significantly impact the species if monarch butterflies are using the milkweeds at the time of vegetation removal, and the removal of these plants would constitute a small reduction of monarch butterfly habitat.

To mitigate these impacts, observed milkweeds will be flagged by a qualified biologist and checked for monarch butterfly adults, caterpillars, or chrysalises prior to removal (**Mitigation Measure BIO-2**). If monarch butterflies of any life stage are discovered, milkweed removal will not occur until the butterflies have completed their use of the plants. Given that milkweed is present abundantly in the wider region (having recovered well post-fire), the removal of the two observed milkweed plants onsite will not result in significant impacts to the monarch butterfly. Impacts to monarch butterfly will be **less than significant with mitigation incorporated.**

North American Wolverine
Wolverines are highly mobile mammals that can travel long distances in a day and typically inhabit very large home ranges (upwards of 100 square miles) (USFWS 2018b). Wolverines are extremely territorial, with individuals of the same sex rarely inhabiting the same areas (USFWS 2018b). The large wolverine territories plus the strong territorial behavior in wolverines is a major factor for the low population densities of wolverines, even in areas where the species is thriving (CDFW 1988b).

Wolverines typically inhabit coniferous forest, alpine dwarf-shrub, or montane riparian habitats (CDFW 1988b). However, wolverines strongly prefer to settle in territories with low human disturbance and are commonly found in relatively human-inaccessible areas (USFWS 2018b). Wolverines will both scavenge for food and will hunt, with prey often changing based on the season and available prey/carrion items. The species uses caves as well as hollows in logs, rock outcrops, and burrows for cover.

Wolverines exhibit an unusual reproductive behavior: males are polygamous, but females have an extended pregnancy, as implantation can be delayed for up to six months, followed by a short (40 days or less) gestation period (USFWS 2018b). This reproductive life history leads wolverines to reproduce from May to July, but wolverine births typically occur from January to April (CDFW 1988b).

CNDDB records indicate a wolverine was observed 2.1 miles southwest of the study area in 1971. However, the study area has gone through recent severe fire and nearby rock quarrying and quarry material processing. Therefore, the amount of human disturbance and low-quality habitat in the area precludes wolverine occupancy of the area. Therefore, there is minimal potential for wolverines to occur in the Study Area. No impact would occur to North American wolverines.

Northern Goshawk

Northern goshawks are birds of prey that typically do not exhibit migratory behavior, relying mainly on a specific territory or home range as habitat and prey conditions allow (CDFW 2005a). Northern goshawks typically occur in dense, mature, closed-canopy coniferous forests, though they will also occur in deciduous forests with similar habitat characteristics (CDFW 2005a). Prey requirements include various bird and mammal species such as Douglas squirrels, Belding's ground squirrels, northern flickers, and Steller's jays (Shuford and Gardali 2008).

Northern goshawks typically begin to breed in April to June and will aggressively defend their nest (CDFW 2005a). Water is a crucial component of northern goshawks' territory, with a water source typically nearby; in particular, northern goshawks will typically construct nests in a dense part of their forested habitat, yet in an area near an opening in the forest and near water (CDFW 2005a). Habitat loss and degradation are the primary threats to the species (Shuford and Gardali 2008).

CNDDB records indicate that a northern goshawk was observed 13 miles southwest of the Study Area. However, northern goshawks rely on mature coniferous forests for their habitat and are sensitive to human disturbance. Therefore, severe fire impacts that occurred in the Study Area preclude northern goshawk habitation of the site. Nevertheless, as part of environmental mitigations, the Project area will be subject to a nesting bird survey prior to vegetation removal **(Mitigation Measure BIO-1)**, eliminating any possible harm to northern goshawks. Therefore, impacts to northern goshawks would be less than significant.

Northern Spotted Owl

Northern spotted owls are birds of prey that require old-growth coniferous forests for nesting and roosting (USFWS 2011). Specific habitat requirements are stand complexity, including a multilayered, multispecies canopy with high canopy closure, including decadent trees, snags, broken-topped trees, and cavities for nesting (USFWS 2011). Northern spotted owls feed on rodents; woodrats are a primary food source (USFWS 2011).

Northern spotted owls typically begin their breeding season in late February with the prelaying stage, with the female spending most of her time in the selected nest cavity (USFWS 2012). Copulation and nesting last for approximately six days, followed by an approximate 30-day incubation period, where the female will only leave the eggs for 10 to 20 minutes at a time (USFWS 2012). Upon hatching, spotted owl nestlings spend approximately 35 days as nestlings, temporarily exiting the nest to perch on nearby limbs (USFWS 2012). Fledglings spend 80 to 120 days (until mid to late September) out of the nest but remain dependent on their parents for food (USFWS 2012).

Northern spotted owls are primarily threatened by the loss of old-growth habitat due to logging and catastrophic wildfire (USFWS 2011); however, the introduction of the barred owl (*Strix varia)* to historic northern spotted owl habitat has created an additional threat, as barred owls will outcompete, harm, and even hybridize with spotted owls (USFWS 2011).

In the Northern California Klamath region, northern spotted owls typically occupy home ranges within a 1.3-mile radius (USFWS 2012). Disturbances, noise impacts, and/or vegetation removal within this home range of a known spotted owl activity center would be considered significant impacts to the species. Additionally, northern spotted owl critical habitat (within U.S. Forest Service ownership) abuts the quarry area to the north.

According to CNDDB records, the nearest spotted owl observation from the Project area is approximately 1.7 miles away, which places the Project area outside of any northern spotted owl home range. Additionally, the high-severity burn that moved through the Study Area and the nearby critical habitat make the area unsuitable for spotted owl nesting, roosting, or foraging. Northern spotted owls have minimal potential to occur in the Project area, and thus would not be impacted by the Project. As quarrying will not occur on public land, critical habitat will also be unaffected by the Project.

Pacific Tailed Frog

The Pacific tailed frog (also known as the coastal tailed frog) is found from the northern California coast to as far inland as eastern Siskiyou County (CDFW 2013). The Pacific tailed frog is found in permanent streams, which are crucial to the species' reproductive methods. Mating occurs underwater, and eggs are attached to the underside of submerged rocks (CDFW 2000c). Tadpoles require 2 to 3 years to metamorphose into adults, so only permanent streams are capable of supporting the species. Therefore, although CNDDB records place Pacific tailed frogs as close as eight miles away from the Study Area, the species has no potential to occur in the Study Area which lacks streams. Therefore, no impacts would occur to Pacific tailed frogs.

Salamanders

Two species of terrestrial salamanders, Del Norte salamander (*Plethodon elongatus*, CA Watchlist) and Siskiyou Mountains salamander (*Plethodon stormi*, CA Threatened), have been recorded within one mile of the Study Area, according to CNDDB records. Both salamander species are part of the closely related *Plethodon elongatus* species complex, a trio of recently diverged taxa that also include the Scott Bar salamander (*Plethodon asupak*). These terrestrial salamanders typically occur in "old-growth with rocky soils containing fractured rock outcrops or stable talus" (USFWS 2018c). Wildfire is noted as a primary threat to the species complex, as the removal of old-growth forest conditions can cause the desiccation of soil that previously provided suitable moisture levels for these salamanders (USFWS 2018c). Therefore, similar to the northern spotted owl, the Study

Area likely provided suitable habitat for these salamanders prior to the recent severe, stand-replacing fire. Given the current, post-fire conditions, these salamanders have no potential to occur within the study area, and no impacts to the Del Norte salamander or Siskiyou Mountains salamander would occur.

A third salamander species, the southern torrent salamander (*Rhyacotriton variegatus*, CA Species of Special Concern) relies on cold, well-shaded permanent streams and spring seepages (CDFW 2005b). As there are no permanent springs or streams mapped or observed in the Study Area, southern torrent salamanders have no potential to occur in the Study Area, and no impacts to southern torrent salamanders would occur.

Yellow-billed Cuckoo
Yellow-billed cuckoos are insectivorous birds that generally breed in large blocks of riparian habitat; in particular, cottonwood and willow trees are important habitat components for yellow-billed cuckoos (USFWS 2014). In the western United States, yellow-billed cuckoos tend to be restricted to the larger rivers that cut through more arid environments, such as the Sacramento River (Cornell 2022b).

Large caterpillars are the main food source for yellow-billed cuckoos (Cornell 2022b). In the arid west, cuckoos will forage in cottonwoods, but will build stick nests on horizontal branches in willow trees near their cottonwood foraging sites (Cornell 2022b).

The USFWS IPaC report for the Project identified the yellow-billed cuckoo (*Coccyzus americanus*, U.S. Threatened) as potentially occurring in the Project area. However, no riparian elements nor cottonwoods occur in the Study Area, though Indian Creek is south of the Study Area. Nevertheless, the nesting bird survey conducted prior to Project construction (**Mitigation Measure BIO-1**) would eliminate the possibility of impacts to yellow-billed cuckoos, if present. Therefore, impacts to yellow-billed cuckoos would not be significant.

b) No sensitive natural communities were observed within the study area during the biological surveys conducted for the BRA. The stockpile area of the Project site is adjacent to the riparian corridor of Indian Creek and contains riparian habitat within the westernmost limits of the boundary. The current footprint of processing and stockpile operations within the stockpile area is separated from the riparian habitat by an earthen berm. Prior to any activities west of this berm and prior to the reclamation of this area upon the completion of mining activities, CDFW will require notification to determine if a Lake or Streambed Alteration Agreement (LSA) is required. In addition, if the diversion of water from Indian Creek is required to supply water for dust suppression, an LSA would be required from CDFW. The LSA would include measures to protect fish and wildlife resources including screening criteria for water diversions. **Less than significant impact.**

c) Based on the BRA prepared for the Project, no water features exist onsite. No wetlands potentially subject to U.S. Army Corps of Engineers jurisdiction were identified on the site. Additionally, no wetland features were mapped onsite by the National Wetland Inventory mapper or National Hydrography Dataset. Therefore, the Project will have no impact to State or federally protected wetlands. **No impact.**

d) The Project will expand the boundary of the excavation area by an additional 8.8 acres. Reclamation will occur as mining is completed. The expansion would not interfere substantially with the movement of any native resident or migratory fish or wildlife species and there are no established native resident or migratory wildlife corridors within the Project site. The Project could impede the use of native wildlife nursery sites for nesting birds if expansion or blasting occurs during the nesting bird season. **Mitigation Measure BIO-1** would avoid impacts to nesting birds. **Less than significant with mitigation incorporated.**

e) There are no applicable local policies or ordinances protecting biological resources applicable to the Project. **No impact.**

f) The Project site is not subject to a Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan. **No impact.**

Biological Resources Mitigation Measures
The following mitigation measures have been developed, so that Project implementation will have a less than significant impact to special-status wildlife species, nesting birds, and riparian habitat.

Mitigation Measure BIO-1: Nesting Bird Surveys
Vegetation removal or ground-disturbing activities within previously undisturbed areas of the Project site as well as blasting will occur between September 1 and January 31, when birds are not anticipated to be nesting if feasible. If this is not feasible, a pre-construction nesting bird survey shall be conducted by a qualified biologist to identify active nests in and adjacent to the Project area no more than one week prior to the initiation of activities. If activities are delayed or suspended for more than one week after the pre-construction nesting bird survey, the site should be resurveyed. Results of the nesting bird survey shall be documented in a report and provided to Siskiyou County.

If an active nest is located during preconstruction surveys, a non-disturbance buffer should be established around the nest by a qualified biologist in consultation with CDFW and USFWS to comply with FGC sections 3503 and 3503.5 and the Migratory Bird Treaty Act. Compliance measures may include, but are not limited to, exclusion buffers, sound-attenuation measures, seasonal work closures based on the known biology and life history of the species identified during the survey, as well as ongoing monitoring by biologists.

Mitigation Measure BIO-2: Milkweed Survey
If feasible, new vegetation removal shall occur outside of the monarch development season (between November 1 and March 31). If vegetation disturbance occurs between April 1 and October 31, surveys will be completed for native milkweed species prior to completing activities. If milkweed is found, then a survey shall be completed to determine if any eggs or caterpillars are present on the plant(s). If monarch eggs or larvae are present, then disturbance to the plant would be avoided until the following year's management period (June 1 to September 30). If avoidance is not possible, and disturbance is unavoidable, then mitigation requirements for monarch butterfly would be determined through consultation with the USFWS.

V. CULTURAL RESOURCES Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Discussion

An Archaeological Survey and Findings Report was prepared for the Project by Vann Cultural Resource Management in 2023. A records search through the Northeast Information Center at CSU-Chico was conducted by the Siskiyou County Planning Department to determine if there have been any sites previously recorded within or in the vicinity of the Project area. Following the records search a pedestrian survey of the Area of Potential Effect (APE) was conducted by Vann Cultural Resource Management to determine if any undocumented archaeological resources exist and to properly record them. Fieldwork procedures followed guidelines set forth by the State Historic Preservation Office (SHPO).

Based on the final Project recommendations included in the Archaeological Survey and Findings Report, a comprehensive and thorough effort was made to identify all Heritage Resources located within the APE for the Project and the results of the survey have been incorporated into the Project design. The areas that will be impacted are located on extremely steep terrain. Based on this and the low probability of encountering cultural resources, the archaeologist concluded that no impacts would occur to cultural resources.

a-b) The Archaeological Survey and Findings Report prepared for the Project determined no impacts to known cultural resources would occur from the Project. However, the report is based on an inventory-level surface survey only and there is always the possibility that significant sub-surface cultural resources could be encountered below ground level during Project activities. In the event that previously unidentified cultural resources are encountered during Project implementation, work will be suspended and archaeological consultation should be sought immediately **(Mitigation Measure CR-1)**. Impacts to cultural resources will be **less than significant with mitigation incorporated.**

c) No known burial sites are located within the Project site. Although unlikely, human remains could be inadvertently unearthed during excavation within the quarry. **Mitigation Measure CR-2** includes proper treatment of human remains should they be encountered during Project activities. Impacts to human remains would be **less than significant with mitigation incorporated**.

Cultural Resources Mitigation Measures
The following mitigation measures have been developed so that Project implementation will have a **less than significant impact to cultural resources:**

Mitigation Measure CR-1: **Discovery of Cultural Resources**
If cultural resources, such as chipped or ground stone, or bone are discovered during disturbance activities, work shall be stopped within 50 feet of the discovery, as required by the California Environmental Quality Act (CEQA; January 1999 Revised Guidelines, Title 14 California Code of Regulations [CCR] 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the material and offered recommendations for further action.

Mitigation Measure CR-2: Discovery of Human Remains
Although unlikely, if human remains are encountered, all work must stop in the immediate vicinity of the discovered remains and the County Coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the Native American Heritage Commission must be contacted by the coroner so that a "Most Likely Descendant" can be designated and further recommendations regarding treatment of the remains is provided. Specific treatment of human remains shall occur consistent with State and Federal law.

VI. ENERGY Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Discussion

The Energy Element of the Siskiyou County General Plan contains goals, policies, and implementation measures pertaining to energy needs, efficient land use and transportation, efficient buildings, efficient commerce and agriculture, efficient community services, renewable resource use, and energy facilities; however, the implementation measures included in the Energy Element are not directly applicable to mining operations or the proposed Project.

a) The Project does not include an increase in the currently permitted annual production from the quarry, an increase in hours of equipment operation, or an increase in annual haul trucks.

Therefore, the annual energy consumption of the Project would not be increased compared to existing operations. Extension of the life of the mine an additional 30 years and expansion of the quarry would prolong the energy use of the Project.

Compliance with State, federal, and local air quality regulations (limiting idling times, etc.) would reduce and/or minimize energy demand during Project operations to the extent feasible. In addition, the Project would provide a source of material for local construction Projects and could result in an overall decrease in energy use from reduced transport distances that would be required if the material was sourced from a site at a location further from local demand. Energy use would occur based on demand for material from the site and would cease upon the end of the 30-year operational period of the Project. Project energy use would not be wasteful, inefficient, or unnecessary. **Less than significant impact**.

b) The Project would not obstruct the goals or policies contained in the Siskiyou County General Plan Energy Element. The Project does not include buildings that would be subject to the California Energy Commission Building Energy Efficiency Standards. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **No impact.**

VII. GEOLOGY AND SOILS Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☒	☐	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☒	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code	☐	☐	☐	☒

(1994), creating substantial risks to life or property?				
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Discussion

A slope stability analysis (*Waddell Rock Quarry Slope Stability Analysis Report)* was prepared for the Project by GeoServ, Inc. (GSI) and is included as Appendix B. The slope stability analysis determined the existing slopes of the quarry have a Factor of Safety (FOS) of 1 for static conditions and that the design slopes have a FOS greater than 1.5 under static conditions.

The quarry is not located within an Alquist-Priolo Earthquake Fault Zone established by the State. Multiple pre-quaternary faults are located within one to two miles of the Project site. the closest quaternary faults (Sulfur Creek Fault and Lost Man Fault) are west of the Project site along the coast of California.

ai) The quarry is not located within an Alquist-Priolo Earthquake Fault Zone; therefore, the likelihood of faulting across the quarry site is very low. The Project is not likely to cause the risk of loss, injury, or death from rupture of a known earthquake fault. **Less than significant impact**.

aii, aiv) The Project will result in ground disturbance and the creation of cut benches within the existing quarry and expansion area as material is mined from the quarry. Mining activities on the slope of the hillside could result in landslide due to seismic ground shaking or other factors. Based on the slope stability analysis completed for the Project by GSI, slope stability modeling results indicate that the existing slopes have A FOS of 1 for static conditions. The design slopes have a FOS greater than 1.5 under static conditions. Modeling results for static rock slope stability conditions indicate the proposed quarry geometry is stable with FOS greater than the design criteria. Based on this information, the existing slope of the quarry face will become more stable as mining continues and benches are constructed pursuant to the proposed excavation plan.

The final bench geometry of the quarry will be the same as that contained in the existing reclamation plan for the quarry, but benches will be created over an expanded area. Benches will be a minimum of 20 feet wide and a maximum of 30 feet in height. The maximum slope of the bench faces will be 0.5:1. A mitigation measure was included in the CEQA document for RP-01-01 requiring the mine operator to observe a schedule of daily risk management including grooming of cut slopes to remove material that may be prone to sliding to mitigation of potential impacts to public safety associated with falling rock. This measure will be required for continued operations at the quarry and within the proposed expansion area and is included as **Mitigation Measure GEO-1** in this document. In addition, k-rail will be placed at the toe of the quarry slope to contain rock within the mining area**. Less than significant with mitigation incorporated.**

aiii) The Project site is not within a liquefaction zone and the Project does not include construction of structures or permanent development. The Project would not result in the risk of loss, injury, or death from liquefaction or seismic-related ground failure. **No impact**.

b) Mining and reclamation activities have the potential to result in erosion and loss of topsoil within the Project site. As described in the Reclamation Plan Amendment and shown in the excavation plan, topsoil removed from the site during mining activities would be stored in two areas adjacent to the quarry, planted, and not disturbed until reclamation.

Erosion control measures for the Project are outlined in the Reclamation Plan Amendment and Stormwater Pollution Prevention Plan (SWPPP) for the site and include construction and repair of stormwater runoff controls including berms, filter fences, and/or energy dissipaters and repairing areas of erosion, implementation of effective wind erosion control, stabilization of inactive areas, finished slopes, and other erodible areas prior to forecasted storm events, maintaining perimeter controls and all site entrances and exits to control discharge or erodible materials, diversion of run-on and stormwater within the facility away from all erodible material, and use of water bars on slopes. With the erosion controls described in the Reclamation Plan Amendment and SWPPP, the Project is not anticipated to result in substantial soil erosion or loss of topsoil. **Less than significant impact.**

c) Quarrying activities have the potential to result in slope failures from blasting and activities on the quarry face. As discussed under a) above, modeling results for static rock slope stability conditions indicate the proposed quarry geometry is stable with FOS greater than the design criteria. The Project site is currently quasi-stable under static conditions and will become more stable as benches are constructed pursuant to the proposed excavation plan. **Mitigation Measure GEO-1** requires grooming of cut slopes to remove material that may be prone to sliding to reduce the potential impacts of falling rock. Impacts related to landslide will be **less than significant with mitigation incorporated**.

d) The Project does not include construction of structures, therefore there will be no risk to life or property from expansive soils**. No impact.**

e) The Project does not include installation of a septic system onsite. The Project will use portable toilets. **No impact.**

f) There are no known paleontological resources onsite or unique geologic features at this site. **No impact.**

Geology and Soils Mitigation Measures
The following mitigation measure is included to reduce the risk of falling rocks at the site:

> **Mitigation Measure GEO-1: Daily Risk Management**
> The mine operator shall observe a schedule of daily risk management during operations, including grooming of cut slopes to remove material that may be prone to sliding.

VIII. GREENHOUSE GAS EMISSIONS Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

The existing operation produces greenhouse gas emissions from the operation of mobile and processing equipment and the transport of material. Neither the SCAPCD nor Siskiyou County has adopted numerical thresholds of significance for GHG emissions that would apply to the proposed Project.

a) The Project does not include additional equipment or processes at the site and does not include an increase in annual production or annual duration of equipment operation. The Project will result in increased overall GHG emissions due to the extended life of the mine but will not result in an increase in annual GHGs generated by existing baseline operations at the site.

The SCAPCD has not adopted numerical thresholds of significance for GHG emissions. Due to the intermittent operations at the site, few pieces of equipment used onsite, and the low number of annual truck trips required to haul material, the Project is not anticipated to generate greenhouse gas emissions that may have a significant impact on the environment. In addition, continued operation of the quarry will provide a supply of aggregates for local construction projects, which could reduce emissions for material transport compared to the use of material sourced farther away. **Less than significant impact.**

b) The Project would not result in increased annual GHG emissions compared to existing, baseline operations. The Project will not result in substantial greenhouse gas emissions or conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing greenhouse gas emissions. **Less than significant impact.**

IX. HAZARDS AND HAZARDOUS MATERIALS Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport/use/disposal of hazardous materials?	☐	☒	☐	☐

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Discussion

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. Based on a review of the California Environmental Protection Agency Cortese List Data Resources (CalEPA, 2024), the Project site does not contain facilities identified as meeting the Cortese List requirements.

a,b) No hazardous materials or fuels are currently stored at the Project site for existing operations and hazardous material storage is not proposed in the reclamation plan amendment. Fuels and lubricants are used in onsite equipment and volumes are limited to the tank capacity of each piece of equipment. BMPs are included in the SWPPP for the site including preventative maintenance of vehicles and equipment and procedures for reporting and cleaning spills or leaks at the site.

As with existing operations, blasting within the quarry would be required every two to three years. Explosives are not stored at the Project site. Blasting operations are planned so that the explosives will be used on the day of delivery or the surplus returned to the supplier's magazine. Blasting is conducted by A qualified blasting contractor properly trained and licensed in accordance with all federal and State agencies and regulations. The Project does not include a change in blasting practices but would require blasting within a larger area and closer to adjacent developed land uses

as a result of the expanded quarry boundary. **Mitigation Measure HAZ-1** includes the preparation of a Blasting Plan for expanded quarry operations to address and minimize potential hazards of blasting to the public and surrounding uses. Hazards to the public or environment through the routine use and transport of hazardous material and from accident conditions involving the release of hazardous material into the environment would be **less than significant with mitigation incorporated**.

c) The Project is not located within one-quarter mile of a school and will not emit hazardous emissions or handle acutely hazardous materials, substances, or waste. **No impact.**

d) The Project is not located on sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and will not create a significant hazard to the public or the environment. **No impact.**

e) The Project site is not located within two miles of an airport. The closest airport (Happy Camp Airport) is more than six miles south of the Project site. The Project will not result in a safety hazard related to airports for the people working in the Project area. **No impact.**

f) The Project is accessed using Indian Creek Road which serves as an evacuation route for the Happy Camp area. The Project does not include any changes to traffic or operations that would impair the implementation of or physically interfere with an adopted emergency response or evacuation plan. **No impact.**

g) The Project does not include changes to activities at the site that would increase the risk of wildland fires. Fire prevention requirements applicable to operations at the site are discussed in more detail in Section XX (Wildfire) of this document. The Project does not include the construction of additional structures. The Project will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires**. Less than significant impact.**

Hazards and Hazardous Materials Mitigation Measures
The following mitigation measure has been included to ensure public safety during blasting operations at the Project site:

> **Mitigation Measure HAZ-1**: **Blasting Plan**
> Prior to blasting activities in the expanded quarry area, the mine operator shall provide a site-specific Blasting Plan to Siskiyou County for approval. The Blasting Plan shall identify general blasting procedures including safety, use, storage, and transportation of explosives that are consistent with the minimum safety requirements of federal, State, and local regulations. Blasting activities shall be conducted in accordance with the approved Blasting Plan.

X. HYDROLOGY Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would	☐	☐	☒	☐
i) result in substantial erosion or siltation on or off site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk of release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Discussion

The Project site does not contain surface water or wetlands. The Project site is adjacent to Indian Creek, a tributary to the Klamath River and portions of the existing processing and stockpile area are within the FEMA 100-year flood zone of Indian Creek. The boundaries of the 100-year flood zone are shown on Figure 2.

The Project site is not within the boundaries of a groundwater basin. The closest groundwater basin to the Project site is the Happy Camp Town Area Groundwater Basin (Basin Number 1-015) 5.6 miles south of the Project site.

a) The Project does not include discharges of waste to land and does not have the potential to substantially degrade groundwater quality. Stormwater discharges from the Project site flow to Indian Creek and could potentially impact surface water quality. The quarry currently has coverage under the *General Permit for Storm Water Discharges Associated with Industrial Activities* (IGP) and a SWPPP has been prepared for the site. Compliance with the IGP and implementation of the BMPs included in the SWPPP for the site will minimize pollutants in stormwater discharge from the site. The Project impacts to surface or groundwater quality would be less than significant. **Less than significant impact**.

b) The Project does not include changes at the site that would interfere with groundwater recharge in the area. The Project would require continued occasional use of 3,000 to 5,000 gallons of water per day for dust abatement which would be imported to the site. The source of water would be the Happy Camp Community Service District or Indian Creek. Water demands of the Project would cease upon reclamation of the site. The Project would not substantially decrease groundwater supplies or interfere with groundwater recharge. **Less than significant impact.**

c) Project activities would not alter the course of a stream or river or result in additional impervious surfaces at the Project site. The Project would result in minor changes to the existing drainage pattern of the site as the quarry is expanded and mining progresses.

- **i)** The Project includes stormwater drainage features to minimize erosion or siltation on and offsite including construction of a stormwater detention pond along the toe of the quarry. Erosion control outlined in the SWPPP for the site and in the Mining and Reclamation Plan Amendment would minimize erosion or siltation from the site while the Project is operational. Following mining operations, the mining area would be revegetated and stabilized as outlined in the Reclamation Plan Amendment. The Project would not result in substantial erosion or siltation onsite or offsite. **Less than significant impact.**
- **ii)** The Project could increase the rate or amount of surface runoff from the quarry area as vegetation and topsoil are removed as the quarry expands. As mining progresses, areas where mining has been completed will be reclaimed which will minimize the size of the disturbed areas. As discussed under i) above, the Project includes the construction of a stormwater detention pond along the toe of the quarry that would contain some stormwater runoff onsite, and the Project is not anticipated to result in flooding on or offsite. **Less than significant impact.**
- **iii)** The Project could result in additional stormwater runoff following removal of vegetation and topsoil as the size of the quarry increases. As discussed in ii), the Project includes the construction of a stormwater detention pond at the toe of the quarry slope sized to accommodate stormwater runoff from the site. The Project would not contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. **Less than significant impact**.
- **iv)** The western portion of the Project site is within the 100-year floodplain of Indian Creek. No changes to the volume of material stored within this area are proposed. However, the volume of material stored is small and would not redirect or impact flood flows. **Less than significant impact.**

d) A portion of the Project site is within the 100-year floodplain of Indian Creek as shown in Figure 2. The Project does not include changes from baseline conditions within this portion of the site. Blasted material is only stored in the processing area during the summer months of operation or is left in the pit face above the floodplain until it can be processed. This material contains the highest concentration of fines. The material generated consists of ¾- to 1-½-inch aggregate base rock containing 5 percent or less of fine materials. Other materials consist of 2- and 3-inch clean, screened rock and rip-rap boulders stacked in the northwestern section of the property. The low percentage of fines in the blasted material and methods of stockpiling will not result in a significant release of sedimentation. **Less than significant impact.**

e) The Project site is not within a groundwater basin and is not subject to a sustainable groundwater management plan. BMPs to reduce pollutants in stormwater from the Project site will be implemented as outlined in the SWPPP for the operation to minimize the impacts of the Project to surface water quality. The Project will not conflict with a water quality control plan or sustainable groundwater management plan. **No impact.**

XI. LAND USE AND PLANNING Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion

a) The Project site includes an existing quarry, processing area, and adjacent undeveloped land. The Project would not divide an established community. **No impact.**

b) The Project will not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. There is no conflict with any land use plan, policy, or regulation. **No impact.**

XII. MINERAL RESOURCE Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

The Project site is not within a California Geological Survey (CGS) study area where mineral resources have been studied or mapped. The Siskiyou County General Plan does not include maps or a discussion of locally important mineral resource areas.

a) The Project includes continued extraction of mineral resources of value and will not result in a loss of availability of mineral resources that would be of value to the region and the residents of the state. The Project would not preclude future mining activities at the Project site. **No impact.**

b) The Project includes continued extraction of mineral resources. The Project will not result in the loss of a locally important mineral resources recovery site delineated on a local general plan, specific plan, or other land use plan. **No impact.**

XIII. NOISE Would the project result in:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Noise sources within the Project vicinity include noise generated by existing mining operations at the Project site as well as vehicle traffic on Indian Creek Road. Mining activities consist of excavation and blasting within the quarry and processing (crushing, screening, and aggregate production) in the stockpile portion of the Project site. Reference noise levels for various equipment are included in Table 1.

Table 1 REFERENCE EQUIPMENT NOISE LEVELS	
Equipment/Process	**Maximum Noise Level (L_{max}) @ 50 feet**
Dozer	82
Dump Truck	76
Excavator	81
Front End Loader	79
Rock Drill	81
Generator	81
Blasting	94
Source: FHWA, 2006.	

The Siskiyou County General Plan Noise Element contains noise criteria for various land use categories. Properties adjacent to the Project site are zoned for rural residential agriculture and light industrial uses. For residential land uses, exterior noise levels up to 60 dB L_{dn} are considered acceptable according to the Siskiyou County General Plan Noise Element. The closest residences to the Project site (sensitive receptors) are shown in Figure 5.

The Day-Night Average Sound Level (L_{dn}) is a noise metric to describe noise exposure over a 24-hour period. The L_{dn} describes a receiver's cumulative noise exposure from all events over a full 24 hours with a 10 dB penalty applied to nighttime hours (between 10 p.m. and 7:00 a.m.). This metric corresponds well to human annoyance levels (FHWA, 2017b).

a) No changes in processes or equipment at the site are proposed that would result in increased noise levels from the processing or stockpile area compared to existing operations. The Project would expand the excavation area of the quarry so that excavation, topsoil storage, and blasting would occur closer to the residences north of the Project site. As shown in Table 1, rock drills, bulldozers, and excavators produce maximum noise levels of up to 82 dB at a distance of 50 feet. Blasting produces noise up to 94 dB at a distance of 50 feet.

Activities within the new topsoil storage area adjacent to the property line would be limited to initial vegetation removal and occasional use of an excavator and/or truck to unload topsoil removed from the mining area and to load topsoil during reclamation activities. Activities within the excavation limits of the mine would involve the use of equipment for longer periods of time and could exceed 60 dB Ldn at the adjacent residential property line depending on the proximity of equipment to the property line and duration of equipment operation each day. The Project would also include blasting closer to the nearest residential land use.

The northernmost portion of the excavation area is approximately 250 feet from the property line of the closest residential land use and 500 feet from the exterior of the residential structure. Estimated noise levels for the simultaneous operation of a dozer, excavator, and dump truck at these distances are included in Table 2. Since blasting would occur infrequently and the duration of blasting noise would be short, blasting would result in minimal contribution to the 24-hour noise metric (L_{dn}) and is not included in the noise estimate in Table 2. Blasting is discussed further under impact b).

Table 2 ESTIMATED NOISE LEVELS FROM EXCAVATION AREA			
Distance from Equipment (feet)	**Estimated L_{max}[1]**	**Estimated L_{eq}[2]**	**Estimated L_{dn}[3]**
250	67.7	66.9	64
500	61.7	60.9	60

Source: Roadway Construction Noise Model

[1]Lmax of Maximum Sound Level descriptor is the highest sound level measured during a single noise event (such as a vehicle pass-by), in which the sound level changes value as time goes on. The maximum sound level is important in judging he interference caused by a noise event with common activities. Lmax ignores the number and duration of these events, and cannot be totaled into a one-hour or a 24-hour cumulative measure of impact (FHWA 2017b)

[2]The Leq(t), or Time-Equivalent Sound Level, descriptor accounts for noise fluctuations from moment to moment by averaging the louder and quieter moments, and giving more weight to the louder moments. It represents the equivalent continuous sound pressure level over a given period of time (FHWA 2017b)

[3]The Ldn (Day-Night Average Sound Level) descriptor describes a receiver's cumulative noise exposure from all events over a full 24 hours with a 10 decibel (dB) penalty applied to nighttime hours (between 10pm and 7am)(FHWA 2017b). The estimated Ldn was calculated assuming equipment would be operated from 7:00 a.m. to 5:00 p.m. (during proposed hours of operation) and that background noise levels during the remaining hours are 50 dB.

Noise levels from the expanded excavation area are not anticipated to exceed 60 dB L_{dn} at the exterior of the closest residence; however, equipment operated closer than 500 feet could exceed 60 dB L_{dn} at the property line of the residence. **Mitigation Measure NOI-1** includes the configuration of topsoil stockpiles along the northern boundary of the topsoil storage area to form a noise berm prior to excavation activities within 500 feet of the northern property line of the quarry. Noise barriers high enough to block the line of sight between a noise source and noise receptor can result in a 5 dB or more reduction in noise levels, and a berm will typically provide an extra 1 to 3 dB of attenuation (FHWA). Construction of the barrier would reduce estimated noise levels from excavation activities within the expanded excavation area to comply with the 60 dB L_{dn} standard at the closest residential property line. **Less than significant with mitigation incorporated**.

b) The Project does not include a change to equipment in the stockpile and processing area of the site that would result in increased levels of vibration. The Project will include continued excavation, drilling, and blasting within the quarry area. The proposed expansion will result in these activities occurring closer to the residential land uses north of the Project site.

The vibration threshold of perception for humans is approximately 65 VdB, a vibration level of 85 VdB in a residence can cause strong annoyance, and a vibration level of 100 VdB is the threshold for the risk of minor cosmetic damage for fragile buildings. The vibration velocity level $L_V(D)$, at any distance (D) from the vibration source is determined by the following equation:

$$Lv(D)= Lv(25\text{ feet})-(30 \times \log_{10} (D/25\text{ feet}))$$

Blasting will be the strongest source of vibration generated by Project activities and can generate a vibration velocity level of 100 VdB at a distance of 50 feet from the source (FTA, 2018). The closest structure to the Project site is a residence located more than 500 feet north of the excavation area where blasting could be conducted. At this distance from blasting, the estimated vibration velocity is 70 VdB. Vibration levels at the nearest structures will be highest when blasting is conducted in the northern portion of the excavation area, with levels lower for blasting conducted further from the northern property line. Other equipment in the expansion area will result in lower levels of vibration than blasting.

Vibration from blasting is not anticipated to cause a risk of damage to the closest residential structure. Estimated vibration from blasting will be perceptible at the closest residence but below the strong annoyance threshold of 85 VdB. Blasting will only occur intermittently at the site (every two to three years) during the daytime operational hours of the mine. In addition, Code of Federal Regulations (CFR) 816.62 requires notifications of all residents or owners of dwellings or structures located within ½ mile of the Project area of blasting at least 30 days before initiation of blasting as well as pre-blasting surveys of structures within this area. **Less than significant impact.**

c) The Project is not within an airport land use plan, or within two miles of a public airport, or within the vicinity of a private airstrip. The Project will not expose people residing or working in the Project area to excessive noise levels from aircraft. **No impact.**

Noise Mitigation Measures
The following mitigation measure is included to reduce noise levels from excavation activities in the expanded excavation area at the closest residential property line:

> **Mitigation Measure NOI-1: Topsoil Noise Berm**
> Prior to excavation activities within 500 feet of the northern residential property line, topsoil shall be stockpiled along the northernmost portion of the stockpile area to create a noise berm blocking the line of sight between the expanded excavation area and the closest residence to the north of the quarry. The portion of the stockpile along the northern boundary shall be maintained during mining activities and used last during reclamation activities. The topsoil stockpile is on the east side of Indian Creek Road and not in the existing stockpile area.

XIV. POPULATION AND HOUSING Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) Continued operation of the quarry would not require additional employees or result in population growth in the area. The Project does not include the extension of roads or other infrastructure that would facilitate population growth in the area. **No impact**.

b) The Project includes expansion and continued operation of an existing quarry on undeveloped land. The Project would not displace a substantial number of people requiring the construction of replacement housing elsewhere. **No impact**.

XV. PUBLIC SERVICES Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion

Continued operation and expansion of the existing quarry would not require new or altered facilities for fire protection, police protection, schools, parks, or other public facilities. **No impact**.

XVI. RECREATION Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a) The Project would not result in population increases or an increase in the use of existing neighborhood and regional parks or other recreational facilities. The Project will not result in the physical deterioration of a recreational facility. **No impact.**

b) The Project does not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. **No impact.**

XVII. TRANSPORTATION Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA guidelines 15064.3, subdivision?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
d) Result in inadequate emergency access?	☐	☐	☐	☒

Discussion

The Project site is adjacent to and accessed from Indian Creek Road (County Road 7J001 and Forest Road 48). Indian Creek Road is a two-lane paved road used for travel between Happy Camp and southwest Oregon. Existing operations include the excavation of materials on the east side of Indian Creek Road and the transport of materials to the stockpile and processing area on the west side of the road.

Mitigation Measure 5 for the currently permitted operations required an encroachment permit to be procured for any operations within the County right-of-way. The existing Use Permit and Reclamation Plan for the mine does not include a limit on traffic for the operations. Existing operations require an average of 250 truckloads each year (an average of five each week and one each day) to transport material.

a) The Project does not include a change to existing site access or traffic volumes generated by existing operations. The Project will not conflict with any program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities. **Less than significant impact.**

b) Section 15064.3 states that "vehicle miles traveled" (VMT) is the preferred method for evaluating transportation impacts. The Use Permit and Reclamation Plan for the quarry do not include information or limits on haul trips or vehicle traffic from the site or a limit for the number of trips from the site. The Project does not include an increase to the maximum annual or daily production previously authorized for the quarry and would not result in an increase in annual VMT generated by current operations. **Less than significant impact.**

c) The Project does not include additional driveways or access points off Indian Creek Road. The proposed expansion area will be adjacent to, but not within, the County right-of-way. Any activities

within the County right-of-way will require an encroachment permit. This requirement was included as a mitigation measure for the current Reclamation Plan and is included as **Mitigation Measure TRAN-1** in this document. In addition, "Trucks Entering Roadway" signs will be placed at locations within 500 feet of truck access points during active hauling operations to alert drivers on the roadway and the Blasting Plan required pursuant to **Mitigation Measure HAZ-1** will outline when road closures are required during blasting activities. Road closures, when required, will be coordinated with the Siskiyou County Public Works Department. **Less than significant with mitigation incorporated.**

d) The Project does not include changes to the existing access to the Project site. **No impact.**

Transportation Mitigation Measures
The following mitigation measure is included to reduce traffic hazards from trucks and equipment operated within and adjacent to Indian Creek Road:

> **Mitigation Measure TRAN-1: Encroachment Permit**
> An encroachment permit shall be procured from Siskiyou County for any operation within the County road right-of-way. All operations shall be performed in compliance with permit conditions or limitations, including but not limited to the use of warning signage and/or flaggers. A copy of the permit shall be provided to the Planning Department prior to operations within the County right-of-way.

XVIII. TRIBAL CULTURAL RESOURCES Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:	☐	☐	☒	☐
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k) or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Discussion

AB 52 was enacted on July 1, 2015, and establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource when feasible (PRC Section 21084.3).

Public Resources Code Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and meets either of the following criteria:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California cities, counties, and tribes regarding tribal cultural resources. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Tribal notification letters were mailed on February 3, 2023 to the standard Siskiyou County list of tribes. No comments were received as a result of the notification.

a) i-ii There is no evidence of historical resources at the site that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code 5024.1. There are no known tribal cultural resources within the Project site and mitigation measures included in Section V include measures that will be taken in the event that archaeological resources or remains are encountered during Project activities. **Less than significant impact.**

XIX. UTILITIES AND SERVICE SYSTEMS Would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Require or result in the construction of new water or wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction	☐	☐	☐	☒

or relocation of which could cause significant environmental effects?				
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

There are no water or wastewater services at the Project site. Electric power is available but not used for current operations. There is no water service provided or wastewater systems at the Project site. Water for dust suppression is imported to the site. A portable toilet and bottled drinking water are provided onsite for employees during mining operations.

a) The Project includes the construction of a pond to detain stormwater runoff from the quarry area along the toe of the cut slope. Construction of the stormwater detention basin is considered in the analysis of this Project and would not cause significant environmental effects. Drinking water for employees will be provided as bottled water, and a portable toilet will be onsite when the quarry is operational. Water for dust suppression will be transported to the site in a water truck. No additional utilities are proposed. **Less than significant impact.**

b) The Project does not include an increase in existing onsite water use. Drinking water at the Project site will be supplied as bottled water. As with existing operations, the Project will require the use of 3,000 to 5,000 gallons of water periodically for dust suppression Water for dust suppression will be sourced from the Happy Camp Community Services District or Indian Creek. Water supplies have been sufficient to serve the Project during normal, dry, and multiple dry years. Water use will cease upon reclamation of the site. **Less than significant impact**.

c) The Project site is not served by a wastewater treatment provider. Portable toilets will continue to be used at the site. The Project will not generate wastewater. **No impact.**

d) The Project will not generate large quantities of solid waste. Small quantities of solid waste generated by the Project employees will be bagged, removed from the site, and transported to the Happy Camp Transfer Station for disposal. The Project would not generate solid waste in quantities that would exceed the capacity of local infrastructure or impair the attainment of solid waste reduction goals. **Less than significant impact.**

e) The Project will comply with all federal state and local statues and regulations relating to solid waste and disposal. **No impact.**

XX. WILDFIRE If located on or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☒	☐
c) Require installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

State Responsibility Areas (SRAs) are lands in California where the California Department of Forestry and Fire Protection (CAL FIRE) has legal and financial responsibility for wildland fire protection and where CAL FIRE administers fire hazard classifications and building standard regulations. The site is within an SRA and a Very High Hazard Severity Zone

As Siskiyou County has small pockets of population centers, no countywide evacuation plan has been developed for the region. The major highways that traverse Siskiyou County act as the primary routes for Siskiyou County communities (GreenDot, 2021). Greyback Road serves as an emergency evacuation route for the Happy Camp area when State Route 96 is affected.

a) Siskiyou County does not have a countywide evacuation plan. The Project does not include increases in traffic volumes or other changes to the existing site access off of Greyback Road. The Project does not include changes that would impair an adopted emergency response plan or emergency evacuation plan. **No impact**.

b) The Project includes expansion and continued operation of an existing quarry. The Project does not include a change to mining methods or equipment operated onsite and would not result in an increased risk of fire compared to existing operations. In addition, mining operations are

required to follow Mine Safety and Health Administration (MSHA) rules related to fire prevention and control included in Part 56 Subpart C of Title 30 of the Federal Regulations (CFR). Compliance with MSHA fire prevention and control requirements would reduce the risk and uncontrolled spread of fire at the Project site. The Project is also subject to Public Resource Code Section 4427, which requires clearing of flammable material within 10 feet of equipment operation and maintenance of a shovel and fire extinguisher for use in the immediate area any time of year when burning permits are required. The Project does not include the construction of new housing and the only occupants of the Project site would be employees onsite during active mining or processing operations. The Project does not include changes that would increase the exposure of Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. **Less than significant impact.**

c) The Project includes installation of an additional internal mine road which is analyzed as part of the Project. The Project will not result in temporary or ongoing impacts to the environment beyond that evaluated in this document. **No impact.**

d) The Project does not include construction of structures and the Project site will not be permanently occupied. The Project would require workers to be onsite intermittently during mining operations during the 30-year life of the mine. Following reclamation, the quarry would be reclaimed to open ranchland and wildlife use. There have been multiple wildfires in the Project vicinity. The most recent wildfire affecting the Project site was the Slater Fire that occurred in 2020. Vegetation has started to resprout since the fire occurred and no post-fire slope instability, flooding, or drainage changes have affected the Project site since the fire occurred. The Project does not include any changes that would increase the surrounding people or structure to significant risks from downslope or downstream flooding, post-fire slope instability, or drainage changes. **Less than significant impact.**

XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
	Potentially Significant Impact	**Less Than Significant w/ Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of	☐	☒	☐	☐

past projects, the effects of other current projects, and the effects of probable future projects)				
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) Impacts to Biological Resources and Cultural and Tribal Cultural Resources are discussed in Sections IV, V, and XVIII of this document. Mitigation measures are included to reduce potentially significant impacts to these resources to a less-than-significant level. Implementation of the mitigation measures included Sections IV, V, and XVIII will ensure the Project does not degrade any quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. **Less than significant with mitigation incorporated.**

b) The Project includes continued operation and expansion of an existing quarry. With the exception of the reconstruction of residential structures burned during the Slater Fire, which would result in minimal impacts to the environment, there are no other planned development projects within the Project vicinity. With the implementation of the mitigation measures included in this document, cumulative impacts of the Project would be less than significant. **Less than significant with mitigation incorporated**.

c) Project impacts that could result in adverse effects on human beings either directly or indirectly including impacts related to air quality, geologic hazards, hazards and hazardous materials, and noise were evaluated in this document and determined to be less than significant with mitigation incorporated. No additional adverse effects to humans beyond those analyzed in this document are anticipated. **Less than significant with mitigation incorporated.**

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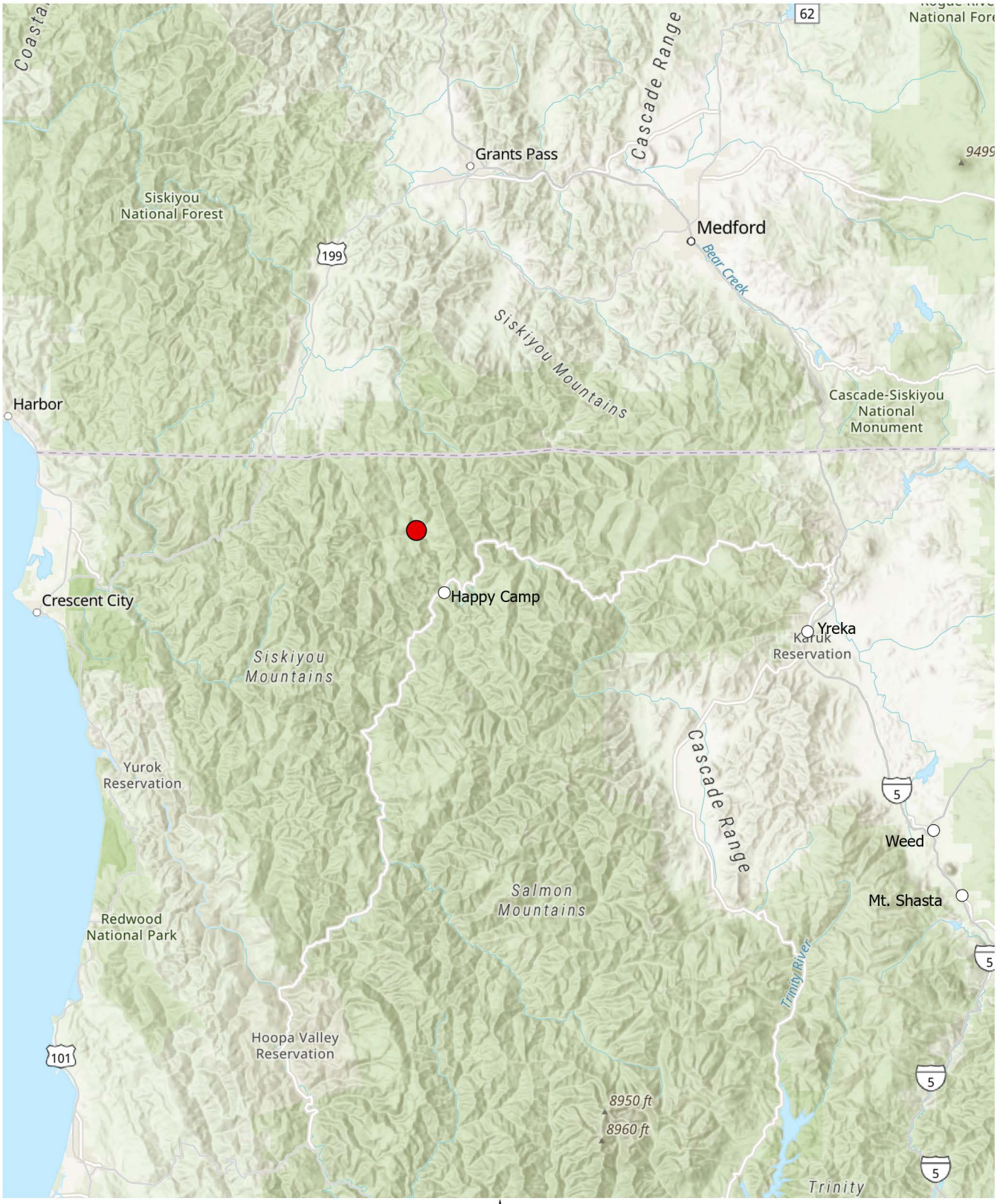

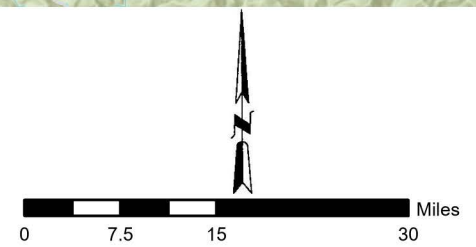

VESTRA

FIGURE 1
GENERAL SITE LOCATION
WADDELL ROCK QUARRY
SISKIYOU COUNTY, CALIFORNIA

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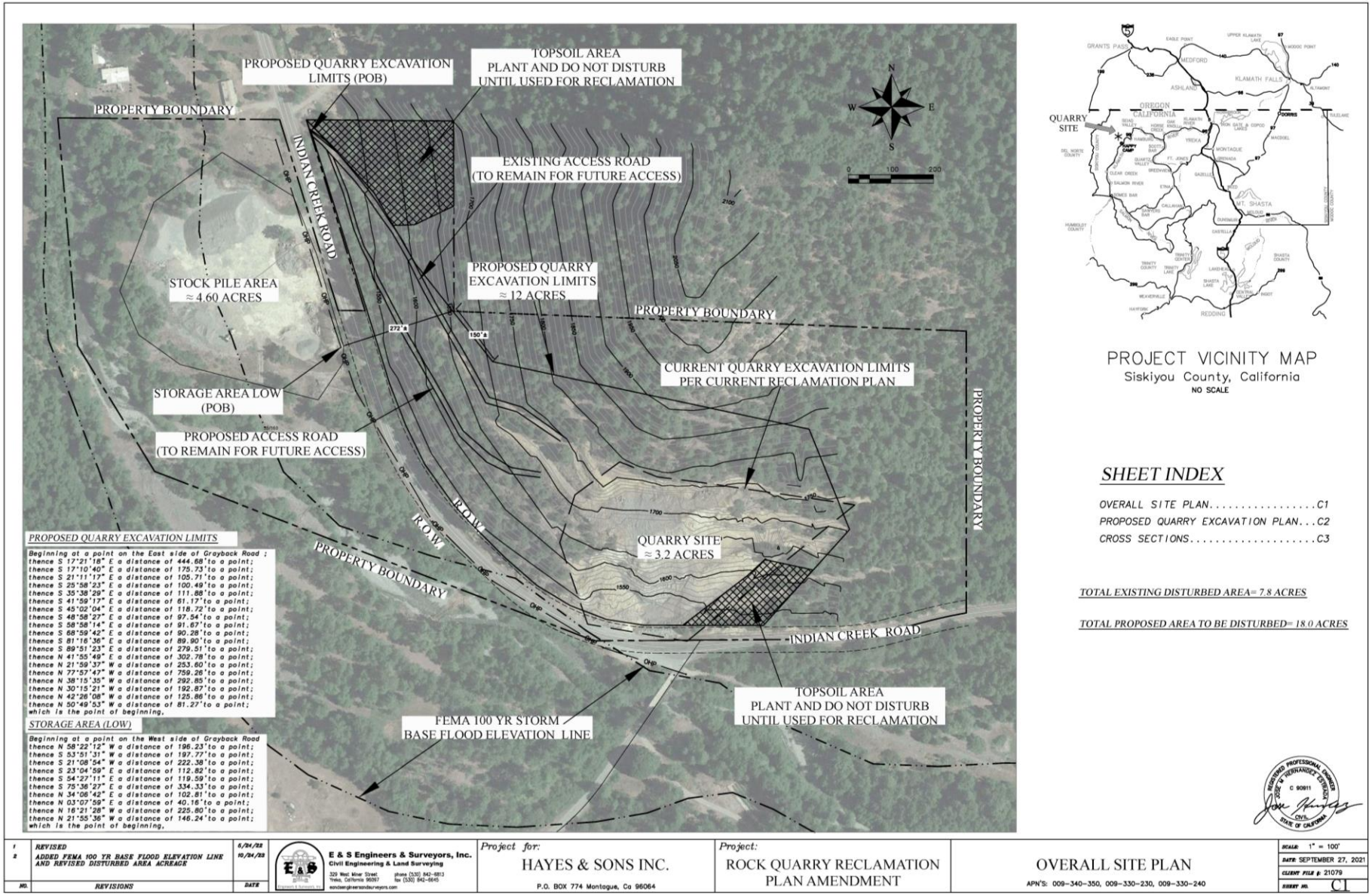

VESTRA

SOURCE: E & S ENGINEERS & SURVEYORS, INC.

FIGURE 2
OVERALL SITE PLAN
WADDELL ROCK QUARRY
SISKIYOU COUNTY, CALIFORNIA

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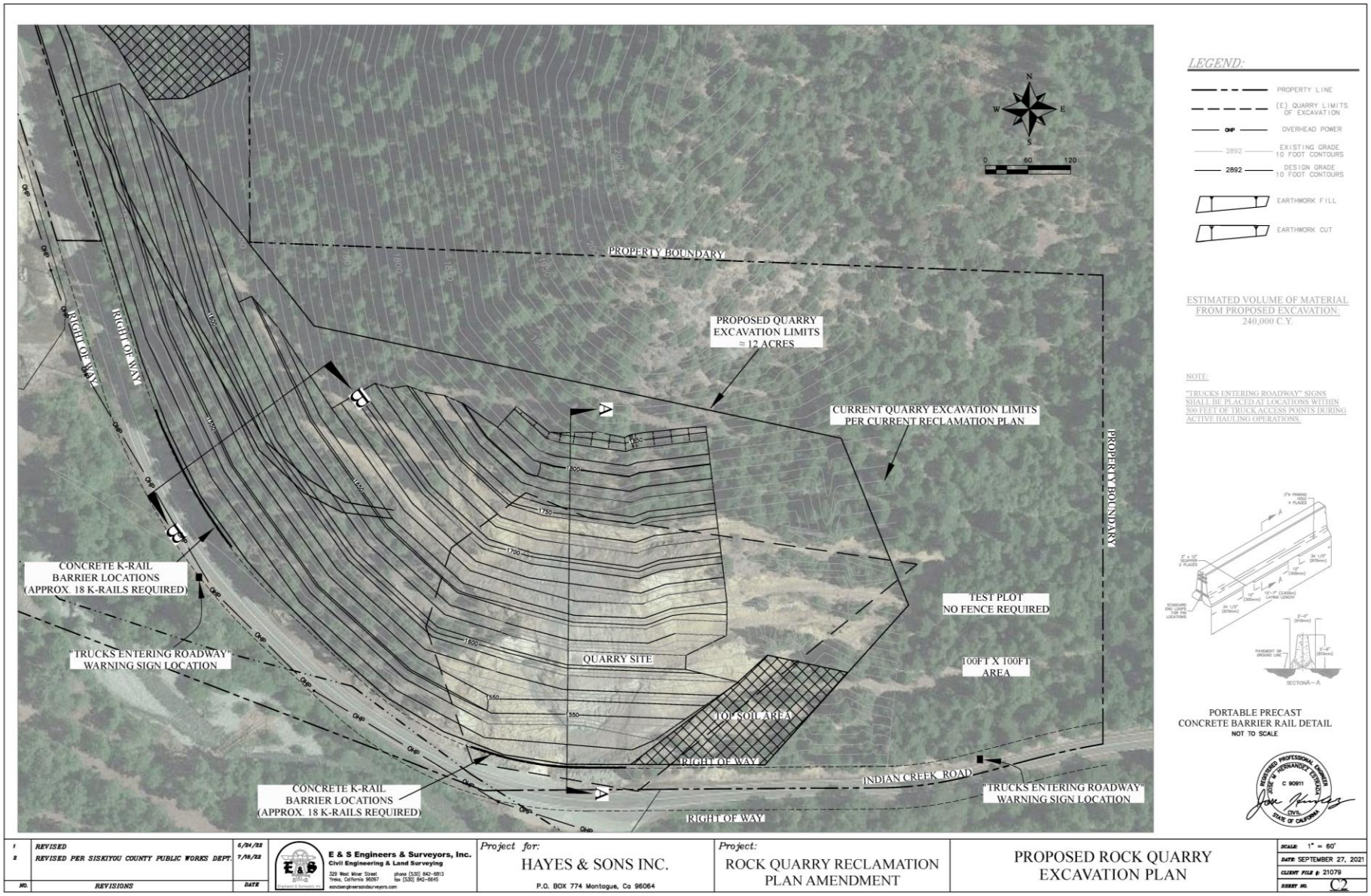

FIGURE 3
PROPOSED ROCK QUARRY EXCAVATION PLAN
WADDELL ROCK QUARRY
SISKIYOU COUNTY, CALIFORNIA

VESTRA

SOURCE: E & S ENGINEERS & SURVEYORS, INC.

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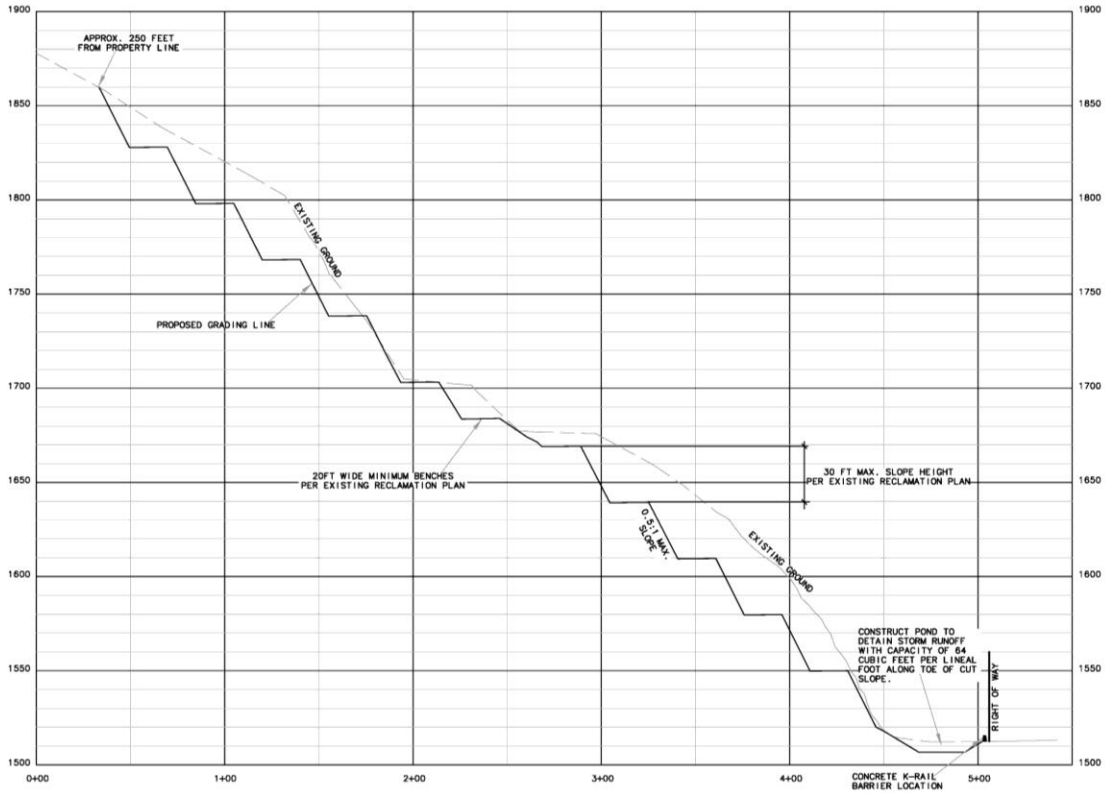
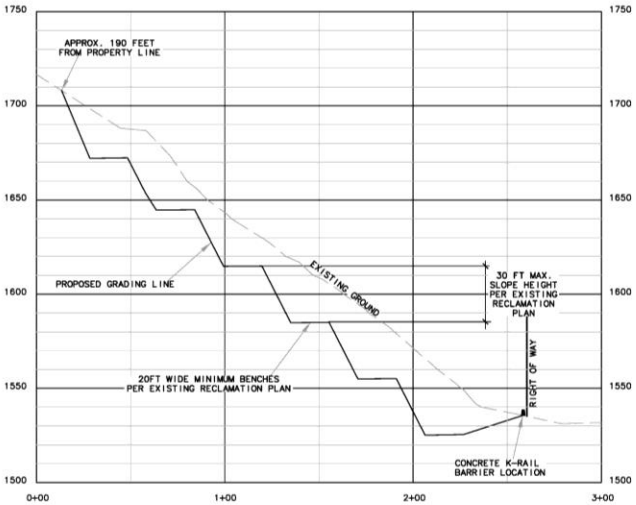


CROSS SECTION A-A

SCALE: 1" = 30'



CROSS SECTION B-B

SCALE: 1" = 30'

REGISTERED PROFESSIONAL ENGINEER
JOSE M. HERNANDEZ ESTRADA
C 90911
CIVIL
STATE OF CALIFORNIA

NO.	REVISIONS	DATE
1	REVISED PER SISKIYOU COUNTY PUBLIC WORKS DEPT.	7/18/22

E & S Engineers & Surveyors, Inc.
Civil Engineering & Land Surveying
329 West Miner Street, Yreka, California 96097
phone (530) 842-6813
fax (530) 842-6645
eandsengineersandsurveyors.com

Project for:
HAYES & SONS INC.
P.O. BOX 774 Montague, Ca 96064

Project:
ROCK QUARRY RECLAMATION PLAN AMENDMENT

CROSS SECTIONS

SCALE: 1" = 30'
DATE: SEPTEMBER 27, 2021
CLIENT FILE #: 21079
SHEET NO. C3

VESTRA

SOURCE: E & S ENGINEERS & SURVEYORS, INC.

FIGURE 4
CROSS SECTIONS
WADDELL ROCK QUARRY
SISKIYOU COUNTY, CALIFORNIA

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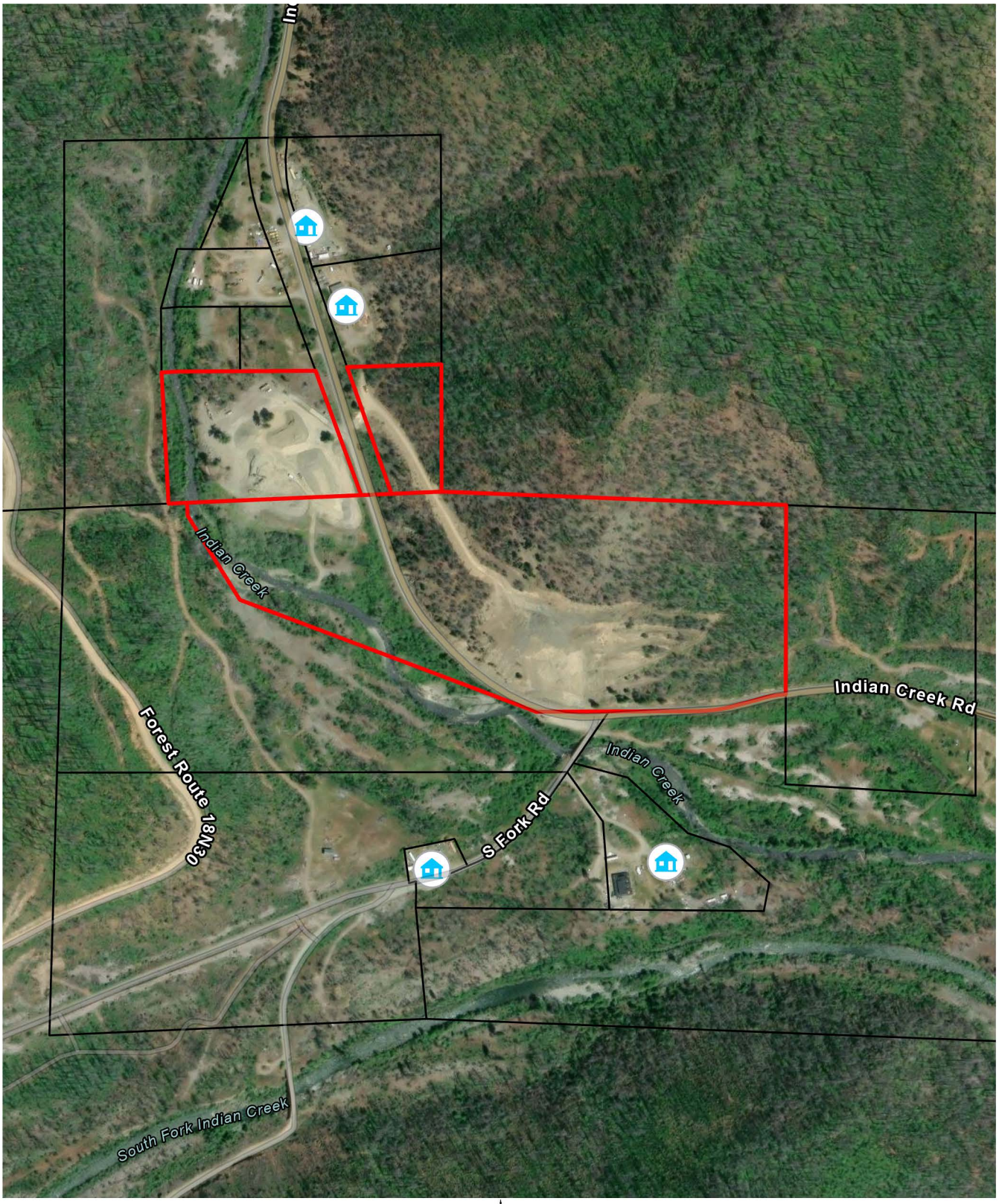

Residence

Approximate Project Site Parcel

Approximate Parcel Boundary

N

0 250 500 1,000 Feet

VESTRA

SOURCE: SISKIYOU COUNTY GIS PARCELS 2024

FIGURE 5
ADJACENT PARCELS AND CLOSEST SENSITIVE RECEPTORS
WADDELL ROCK QUARRY
SISKIYOU COUNTY, CALIFORNIA

P:\GIS\72448\WaddellQuarry\WaddellQuarry.aprx

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Appendix A

Biological Resources Assessment

Biological Resources Assessment

WADDELL ROCK PIT EXPANSION

Happy Camp, Ca 96039

Siskiyou County APNs:

009-330-230, 009-330-240 & 009-340-350

2024
GeoServ, Inc
Mount Shasta, CA

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INTRODUCTION

GeoServ, Inc. conducted a Biological Resources Assessment (BRA) for a Study Area located north of Happy Camp, Siskiyou County, California. The purpose of the assessment was to collect information on sensitive biological resources present or with the potential to occur in the Study Area.

PURPOSE

The purpose of this reconnaissance-level BRA is to evaluate the presence of special-status species and/or habitats, as well as assess the potential for special-status species discussed in this BRA and listed in Appendices A-C to occur on or near the site of the proposed Waddell Rock Pit Expansion, pursuant to applicable Federal, State, and local regulations. This BRA also analyzes the potential for jurisdictional wetlands and other Waters of the United States to exist onsite.

PROJECT DESCRIPTION

The proposed Project would involve expanding the boundaries of the existing Waddell Rock Pit to allow for additional rock quarrying. The surrounding area contains recently burned forestland as well as industrial uses. Indian Creek Road runs through the Study Area, while Indian Creek itself runs south and west of the existing materials stockpile area. Public land previously identified as Northern Spotted Owl critical habitat occurs adjacent to the project on its northern end.

LOCATION

Site Overview

The Study Area is located north of Happy Camp in Siskiyou County. The Study Area encompasses portions of Section 08, Township 17 North, Range 7 East of the Deadman Point USGS 7.5-minute Quadrangle. It is situated at an elevation range between approximately 1515 feet and 2040 feet above mean sea level. The Study Area is located on Siskiyou County Assessor Parcel Numbers (APNs) 009-330-230, 009-330-240, and 009-340-350. The approximate center of the Study Area is located at latitude 41°53'4.36"N (WGS84) and longitude 123°25'46.32"W (WGS84) within the Lower Klamath (Hydrologic Unit Code #18010209) Watershed (Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016).

Critical Habitat

Critical Habitat is designated by the U.S. Fish & Wildlife Service and provides special protections for habitats considered important for long-term persistence of endangered or threatened species. Specific to fish species, critical habitat and essential fish habitat are also designated by the National Oceanic and Atmospheric Administration (NOAA).

According to the NOAA Essential Fish Habitat Mapper, the portion of Indian Creek that runs near the materials stockpile area contains Essential Fish Habitat for Coho salmon and Chinook Salmon. However, with the implementation of best management practices (BMPs) for erosion and sedimentation, the expansion of the Waddell Rock Pit would not significantly impact Indian Creek. The existing stockpile area would not significantly impact Essential Fish Habitat/Critical Habitat through the continued implementation of its existing BMPs.

According to the USFWS IPaC report for the project (Appendix C), critical habitat for the Northern Spotted Owl (*Strix occidentalis caurina*, US Threatened) overlaps with the Study Area. site visits confirmed that the critical habitat does not occur in the Study Area, but rather is adjacent to the Study Area boundary on public (US Forest Service) ownership.

Landforms & Water Features

The Study Area consists of the existing exposed Waddell rock pit, the land adjacent to the current permitted boundaries, and the existing materials stockpile area (See Sheet C1, “Overall Site Plan”, in the Reclamation Plan Amendment application associated with this project). The area is characterized by former conifer/hardwood forest that has been severely burned; in many areas, mortality approaches 100 percent both onsite and in surrounding visible land. Site visits show a return of these features, largely through oak resprouting and conifer saplings. No water features exist onsite, though Indian Creek runs west of the existing materials stockpile area.

Existing Structures

The Study Area includes the existing quarry area, with clear evidence of previous rock extraction. The materials stockpile area includes various stockpiles of rock/gravel, truck weighing scales, and various pieces of construction equipment (excavators, etc.). The materials stockpile area has a large gate to prevent public access. Indian Creek Road runs through the Study Area, running between the materials stockpile area and the proposed quarry boundaries.

Regional Land Uses

Surrounding land uses are largely public land and industrial uses. Public (US Forest Service) forestland exists to the north of the Study Area and is coincident with the Northern Spotted Owl critical habitat in the area. Additional forested land exists further out from the project. Additional industrial uses occur north of the Study Area.

METHODS

Records Search & Literature Review Conducted

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) record search for the "Deadman Point" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (Appendix A);
- California Native Plant Society (CNPS) electronic Inventory of Rare and Endangered Plants of California was queried for the "Deadman Point" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (Appendix B).

- United States Fish and Wildlife Service (USFWS) Information, Planning, and Consultation (IPaC) System Resource Report List for the Study Area (USFWS 2024, Appendix C).
- National Oceanic and Atmospheric Administration (NOAA) Protected Resources Map Application (NOAA 2024a).
- NOAA Essential Fish Habitat Map Application (NOAA 2024b).
- USFWS National Wetlands Inventory (NWI) Mapper (USFWS 2024).
- National Resource Conservation Service (NRCS) Web Soil Survey (NRCS 2024).

Additional literature was consulted to determine if sensitive species discussed have any potential to occur in the Study Area. See the References section for a full list.

Field Surveys

Two botanical and wildlife surveys were conducted throughout the Study Area in April and June 2023, when all sensitive plant species searched for would have been in bloom across the two dates. A follow-up survey was conducted in February 2024. Using CNDDB, CNPS, and USFWS records, the biologist developed a target list of sensitive species. Prior to the surveys, this target list was narrowed down by removing species which would not occur in the area due to characteristics such as elevation and habitat type. The survey was conducted by an experienced biologist, who has over six years of professional wildlife and botanical experience. The botanist extensively searched the project area, focusing on areas that contained habitat elements that may include one of the target species.

No sensitive species were discovered during the biological reconnaissance surveys, though several sensitive species have the potential to occur in the study area. These species have been addressed in mitigation recommendations later in this document.

RESULTS

NATURAL COMMUNITIES IN THE EVALUATION AREA

Using the field visits, a review of published literature, and the knowledge of GeoServ, Inc. staff, the natural communities present in the Study Area were cataloged and evaluated to determine the presence or likely presence of sensitive natural communities.

NATURAL COMMUNITIES WITHIN THE PROJECT SITE

Vegetation communities were identified within the Study Area based on the classification system presented in the California Wildlife Habitat Relationships

System. CNDDB results (Appendix A) indicate that there are no sensitive natural communities within the study area, though two *Darlingtonia* seep areas were identified within the nine-quad scoping area.

No sensitive natural communities were observed within the Project area during the biological surveys. Vegetation types and communities observed during the field survey include the following:

Montane Hardwood-Conifer

Montane hardwood-conifer communities consist of hardwood species (especially Oregon white oak and/or California black oak) as well as conifers (including douglas-fir, ponderosa pine, incense cedar, etc.); additional vegetation includes pacific madrone and tanoak (CDFW 1988a). Montane hardwood-conifer represents a transitional zone between purer stands of higher-elevation conifer forest and lower-elevation hardwood woodland/forest, and they typically occur on course, well-drained mesic soils (CDFW 1988a). The significant presence of both conifers and hardwoods makes this community unique and able to support a wide range of wildlife (CDFW 1988a).

Onsite, the montane hardwood-conifer community has been impacted by recent severe, stand-replacing wildfire. Many portions of the Study Area approach 100 percent mortality of trees, though conifer/oak saplings and oak resprouts demonstrate that the area is recovering.

Unvegetated

The materials stockpile area, as well as portions of the existing quarry area, are largely unvegetated.

SPECIAL-STATUS PLANTS WITHIN THE PROJECT SITE

The botanical scoping process included a sensitive species search from the California Native Plant Society (CNPS) and California Natural Diversity Database (CNDDB) within a nine-quadrangle area centered around the Study Area. The USFWS IPaC report (Appendix C) was also consulted, but did not include any federally listed plant species.

The records searches yielded a total of 74 sensitive species detections within the 9-quadrangle area. Of

these 74 species, 13 were deemed to have no potential to occur due to the Project's elevational range: cut-leaf anemone (*Anemone multifida var. multifida*), green shield-moss (*Buxbaumia viridis*), split-hair paintbrush (*Castilleja schizotricha*), Mt. Eddy draba (*Draba carnosula*), yellow willowherb (*Epilobium luteum*), Siskiyou fireweed (*Epilobium siskiyouense*), Oregon bedstraw (*Galium oreganum*), Regel's rush (*Juncus regelii*), Oregon bluebells (*Mertensia bella*), Siskiyou phacelia (*Phacelia leonis*), snow dwarf bramble (*Rubus nivalis*), water bulrush (*Schoenoplectus subterminalis*), and Cascade stonecrop (*Sedum divergens*). All of these species have a lower elevational range well above the Study Area's maximum elevation of 2,040 feet.

Nine species were deemed to have no potential to occur due to the absence of their required serpentine habitat: Waldo rockcress (*Arabis aculeolata*), McDonald's rockcress (*Arabis mcdonaldiana*), serpentine sedge (*Carex serpenticola*), Waldo daisy (*Erigeron bloomeri var. nudatus*), Klamath mountain buckwheat (*Eriogonum hirtellum*), Siskiyou iris (*Iris bracteata*), horned butterwort (*Pinguicula macroceras*), Gasquet rose (*Rosa gymnocarpa var. serpentina*), and Del Norte checkerbloom (*Sidalcea elegans*).

Thirty-six species were considered non-status species, as they have a CNPS Rare Plant Rank of 4. The remaining 16 special status species were surveyed throughout the Study Area in April and June 2023, and February 2024. Focal plants included:

Scientific Name	Common Name	CNPS Rare Plant Rank
Asarum marmoratum	Marbled wild-ginger	2B.3
Boechera koehleri	Koehler's stipitate rockcress	1B.3
Castilleja elata	Siskiyou paintbrush	2B.2
Cornus unalaschkensis	Bunchberry	2B.2
Epilobium oreganum	Oregon fireweed	1B.2
Erythronium hendersonii	Henderson's fawn lily	2B.3
Erythronium howellii	Howell's fawn lily	1B.3
Iliamna latibracteata	California globe mallow	1B.2
Lewisia cotyledon var. heckneri	Heckner's lewisia	1B.2
Lewisia cotyledon var. howellii	Howell's lewisia	3.2
Lomatium martindalei	Coast range lomatium	2B.3

Monotropa uniflora	Ghost-pipe	2B.2
Piperia candida	White-flowered rein orchid	1B.2
Sidalcea celata	Redding checkerbloom	3
Silene hookeri	Hooker's catchfly	2B.2
Thermopsis robusta	Robust false lupine	1B.2

All species observed during the survey were recorded, regardless of rare plant status, and are listed below:

Scientific Name	Common Name	Comment
Achillea millefolium	Common Yarrow	
Adelinia grandis	Hound's tongue	
Allium bolanderi	Bolander's onion	
Amsinckia menziesii	Fiddleneck	
Arbutus menziesii	Pacific madrone	
Asclepias cordifolia	Heartleaf milkweed	Monarch butterfly host plant
Berberis aquifolium	Oregon grape	
Bromus tectorum	Cheatgrass	
Cardamine sp.	Bittercress	
Ceanothus sp.	Ceanothus	
Claytonia perfoliata	Miner's lettuce	
Cytisus scoparius	Scotch Broom	
Eriogonum nudum	Naked buckwheat	
Eriophyllum lanatum	Common woolly sunflower	
Erythranthe moschata	Musk monkeyflower	Genus formerly *Mimulus*
Grindelia nana	Idaho gumweed	
Isatis tinctoria	Dyer's woad	
Juncus occidentalis	Western rush	

Lupinus sp.	Lupine	
Nicotiana attenuata	Tobacco	
Notholithocarpus densiflorus	Tanoak	
Penstemon heterophyllus	Foothill penstemon	
Penstemon deustus	Hot rock penstemon	
Pinus lambertiana	Sugar pine	ID'd by cone given post-fire conditions
Pinus ponderosa	Ponderosa pine	ID'd by cone given post-fire conditions
Plantago lanceolata	Ribwort plantain	
Polystichium munitum	Western swordfern	
Primula hendersonii	Henderson's shooting star	
Pseudotsuga menziesii	Douglas-fir	ID'd by cone given post-fire conditions
Pteridium aquilinum	Western brackenfern	
Hordeum murinum	Barley	
Tragopogon sp.	Salsify	
Trifolium sp.	Clover	
Ranunculus sp.	Buttercup	
Ribes roezlii	Sierra gooseberry	
Rubus armeniacus	Himalayan blackberry	
Sanicula graveolens	Northern sanicle	
Quercus kelloggii	California black oak	ID'd from resprout
Quercus garryana	Oregon white oak	ID'd from resprout

No special-status plants were observed during the botanical surveys, and they are not expected to occur within the Project area.

WILDLIFE

Special-status Fish Species and Habitat:

Fish:

A records search was conducted within the Project area for special-status fish, critical habitat, and essential fish habitat through the following sources: CNDDB (Appendix A), NOAA essential fish habitat mapper, NOAA Protected Resources App, and the USFWS IPaC report (See Appendix C).

No critical habitat was recorded in the Study Area; however, essential fish habitat for Coho salmon (*Oncorhynchus kisutch*) and Chinook salmon (*Oncorhynchus tshawytscha*) is present in Indian Creek, which runs south and east of the materials stockpile area. Additionally, CNDDB records indicate that the Klamath River lamprey (*Entosphenus similis*, CA Species of Special Concern) and coast cutthroat trout (*Oncorhynchus clarkii clarkii*, CA Species of Special Concern) have the potential to occur in the portion of Indian Creek that passes near the Study Area.

Indian Creek runs south and west of the existing materials stockpile area, while the existing and proposed quarry areas are further from the creek across Indian Creek Road. No instream mining is proposed for this project; however, significant impacts to these fish species or essential fish habitat could occur if erosion or hazardous materials entered Indian Creek and polluted downstream habitat. With the implementation of Best Management Practices (BMPs) for erosion control and spill prevention (as described in the project's associated reclamation plan amendment), impacts to these fish species and their potential habitat would not occur. This would include existing BMPs as implemented at the existing materials/stockpile area, as well as BMPs associated with the current and expanded quarry area.

Special-Status Wildlife Species

The CNDDB records and USFWS IPaC records identified the following special-status wildlife species that could potentially occur in the Project area:

- American peregrine falcon (*Falco peregrinus anatum*, CA Fully Protected)
- Bald Eagle (*Haliaeetus leucocephalus*, CA Endangered, CA Fully Protected)
- Bumble Bees:
- Franklin's bumblebee (*Bombus franklini*, US Endangered)
- Suckley's cuckoo bumblebee (*Bombus suckleyi*, CA Candidate endangered)
- Western bumblebee (*Bombus occidentalis*, CA Candidate Endangered)
- Crustaceans:
- Conservancy fairy shrimp (*Branchinecta conservatio*, US Endangered)
- Vernal pool fairy shrimp (*Branchinecta lynchi*, US Threatened)
- Vernal pool tadpole shrimp (*Lepidurus packardi*, US Endangered)

- Foothill yellow-legged frog - north coast Distinct Population Segment (DPS) (*Rana boylii* population 1)
- Gray wolf (*Canis lupus,* US Endangered)
- Pacific marten, Coastal Distinct Population Segment (*Martes Caurina*)
- Marbled murrelet (*Brachyramphus marmoratus*, US Threatened)
- Monarch butterfly (*Danaus plexippus*, US Candidate)
- North American Wolverine (*Gulo gulo luscus*, US Proposed Threatened, CA Threatened, CA Fully Protected).
- Northern goshawk (*Accipiter gentilis*, CA Species of Special Concern)
- Northern spotted owl (*Strix occidentalis caurina*, US Threatened, CA Threatened)
- Pacific tailed frog (*Ascaphus truei*, CA Species of Special Concern)
- Salamanders:
- Del Norte salamander (*Plethodon elongatus*, CA Watchlist)
- Siskiyou Mountains Salamander (*Plethodon stormi*, CA Threatened)
- Southern torrent salamander (*Rhyacotriton variegatus*, CA Species of Special Concern)
- Yellow-billed cuckoo (*Coccyzus americanus*, US Threatened)

American Peregrine Falcon:

American peregrine falcons are birds of prey that can be found in woodland, coastal, and forested habitats (CDFW 2000a). The species has been delisted federally and at the state level after recovering from DDT-related declines (CDFW 2000a, Cornell 2023a), but remains a state Fully Protected species.

Proximity to water, such as inland wetlands or riparian areas, is characteristic of American peregrine falcon habitat in both breeding and non-breeding areas (CDFW 2000a). Typically, American peregrine falcons' prey on birds, catching prey while in flight (CDFW 2000a).

American peregrine falcons breed from late March to early August, relying on cliff sites for nesting (CDFW 2000a).

American peregrine falcons have been observed in an adjacent quadrangle to the Study Area according to CNDDB records, and therefore may utilize the project site. However, a nesting bird survey prior to vegetation removal would reduce impacts to American peregrine falcons to less than significant levels.

Bald Eagle:

Bald eagles are birds of prey that can be found across the United States. Once federally endangered due to DDT impacts, bald eagles have been delisted federally but remain listed as Endangered at the state level.

Bald eagles require large bodies of water, as their primary food source is fish (CDFW 1999). Individuals will perch on the limbs of large trees or snags while observing the water below to hunt (CDFW 1999).

Bald eagles typically nest near water too, with over 80% of nests found within 1 mile of water (CDFW 1999). Nest sites are typically large, live trees, especially Ponderosa pine (CDFW 1999). Bald eagles breed from February to July (CDFW 1999).

According to CNDDB records, bald eagles have been observed approximately 11 miles southwest of the Study Area. However, the recent severe fire has greatly reduced the number of live trees that bald eagles may use to nest or roost. Therefore, bald eagles are not expected to occur in the Study Area, but would nevertheless be identified through pre-operation nesting bird surveys. Therefore, impacts to bald eagles would be less than significant.

Franklin's bumble bee:

Franklin's bumble bee is an extremely range-restricted bumble bee, only ever found within Northern California and Southern Oregon between the Sierra-Cascade Mountain ranges and Coast Mountain ranges (USFS 2022). Relatively abundant in its range until 1998, the species has experienced steep declines since that point, and was last seen in 2006 in Oregon near Mt. Ashland (USFS 2022, USFWS 2018a).

Habitat requirements for Franklin's bumble bee are poorly understood (USFWS 2018a, USFWS 2021), but the species is known to require floral plants such as *Agastache, Eschscholzia, Lupinus, Monardella*, and *Vicia*, for a food source (USFS 2022). Abandoned rodent burrows or rotting logs are also crucial as dwelling sites for the species (USFS 2022, USFWS 2018a).

Solitary queen bees who have successfully mated establish Franklin's bumble bee colonies, collecting nectar and pollen to support egg production (USFS 2022, USFWS 2018a). As the colony develops, offspring begin to assume food gathering and colony defense tasks (USFS 2022, USFWS 2018a). Eventually, new queens are produced, who mate with males, allowing the colonization process to begin again (USFS 2022). At this point, the original queen, males, and workers die, allowing the mated females to carry on the lineage (USFWS 2018a). In total, colonies consist of 50-400 worker bees plus the queen (USFWS 2018a).

Franklin's bumble bees may be extirpated in California and may be extinct in general (USFWS 2018a). Provided the species still exists in California, threats include introduced diseases from commercial bees, as well as pesticide use in its area (USFS 2022).

CNDDB records indicate that the nearest occurrence of Franklin's bumblebee occurred in 1997 approximately 26 miles southeast east of the Study Area, outside of the normal nine-quad scoping area for the project. Additionally, the last sighting of Franklin's bumblebee occurred in 2006 near Mt. Ashland in Oregon, even further away. Therefore, Franklin's bumblebee is not expected to occur in the Project area, and no impacts to Franklin's bumblebee would occur as a result of the Project.

Western Bumble Bee and Suckley's Cuckoo Bumble Bee:

Western bumble bees are current candidates for California Endangered Species Act protections. The species has experienced sharp declines since the 1990s, likely due to a variety of factors, including novel pathogens, insecticide use, and habitat fragmentation (Xerces 2008). Western bumble bees require a diversity of wildflower resources and a stable supply of pollen; they are known to visit a wide array of bee-pollinated flower species, though their short tongues hamper their ability to feed from tube-shaped flowers (Xerces 2008). Western bumble bees will typically use abandoned rodent burrows as areas to establish colonies (Xerces 2008).

Like most bumble bees, western bumble bees come in three forms: queens, workers, and males. Fertilized queens begin colonies in the spring, first producing worker bees and caring for them herself (Xerxes 2008). Once a supply of workers are established, the queen focuses her time on egg-laying, while the workers take care of additional offspring (Xerxes 2008). The queen will then producing males and additional queens, who will then mate before entering diapause (similar to hibernation) to overwinter (Xerxes 2008).

A rare form of parasitic bumble bee, Suckley's cuckoo bumble bee, has also become a Candidate for CESA protections. Suckley's cuckoo bumble bee is a social parasite, meaning queens cannot establish a viable colony on her own. Suckley's cuckoo bumble bees cannot produce worker bees, and therefore seek out the colony of another bumble bee species (such as Bombus occidentalis), incapacitate the queen, and then commandeer the colony (Xerxes 2008). The parasitized colony then enables the queen Suckley's cuckoo bumble bee to lay her own eggs (males and queens), as the workers will provide for the offspring. Once males and queens mature and mate, queens overwinter and repeat the process the following spring (Xerces 2008).

Suckley's cuckoo bumble bees have similar habitat requirements to other bumble bee species in that they require a diversity and constant supply of flowers (Xerces 2008). The species has short to medium sized tongues, meaning they too struggle to feed on flowers with deep tube shapes (Xerces 2008).

Within the Study Area, floral diversity is somewhat limited due to the disturbance at the existing Waddell rock pit extents. Additionally, because CNDDB records

observed these species approximately nine miles away from the Study Area, these bumble bees are not expected to occur in the Study Area. Therefore, no impacts to these bumble bees are expected to occur.

Crustaceans:

The USFWS IPaC report for the Project identified vernal pool fairy shrimp (Branchinecta lynchi, US Threatened), Conservancy fairy shrimp (Branchinecta conservation US Endangered), and vernal pool tadpole shrimp (Lepidurus packardi, US Endangered) as potentially occurring in the Project area. The vernal pool fairy shrimp and Conservancy fairy shrimp are both dependent on vernal pools and vernal pool-like habitats (USFWS 2005). The vernal pool tadpole shrimp occurs in a wider variety of ephemeral wetland habitats in addition to vernal pools (USFWS 2007). However, field surveys confirmed no ephemeral wetland habitats that could support these shrimp species are present on the project site; therefore, vernal pool fairy shrimp, Conservancy fairy shrimp, and vernal pool tadpole shrimp have no potential to occur in the Project area, and Project implementation would have no impacts on these species.

Foothill Yellow-legged Frog:

The foothill yellow-legged frog is a species found in or near rocky streams in hardwood, hardwood-conifer, riparian, pine, mixed conifer, coastal scrub, chaparral, and wet meadows (CDFW 2000b), with the stream habitat being the most crucial. The species is rarely found far from permanent water, with normal home ranges less than 33 feet in length (CDFW 2000b).

Foothill yellow-legged frog adults consume invertebrates, especially insects (California Herps 2022). Adults will bask on exposed rock surfaces near streams but will quickly retreat to underwater sediments or rocks when they perceive a threat; winter activities are typically spent hiding under rocks in or near the stream (CDFW 2000b).

Foothill yellow-legged frogs typically begin breeding/egg-laying from mid-March to May, with amplexus occurring in the water (CDFW 2000b, California Herps 2022). Egg clusters of 200-300 eggs are attached to gravel or rocks in moving water near the edge of the stream (CDFW 2000b). Tadpoles require at least three to four months of water to survive to metamorphosis (CDFW 2000b); tadpoles eat detritus and algae attached to the rocky substrate (California Herps 2022).

Ecologically, garter snakes are the primary predator of foothill yellow-legged frogs (CDFW 2000b). The species faces a variety of threats, including habitat modification from dam construction and altered streamflows/water releases, which can force adults upland and disrupt/detach egg masses within the stream areas (CFGC 2020). According to the California Fish and Game Commission (CFGC),

habitat modifications that threaten the species include mining, illegal cannabis cultivation, grazing, timber harvest, and even some restoration projects (CFGC 2020). Drought, wildfires, and other climate-related events also may impact foothill yellow-legged frog populations (CFGC 2020). Environmental threats such as chytrid fungus and agricultural pesticides add an additional threat to the species (CFGC 2020).

CNDDB records indicate that foothill yellow-legged frogs have been found near streams approximately 13 miles northwest of the Study Area. However, the lack of wet areas within the Study Area precludes foothill yellow-legged frog presence in the Study Area, and none were observed onsite during field surveys. Therefore, no impacts to foothill yellow-legged frogs would occur.

Gray Wolf:

The gray wolf is a habitat generalist that only recolonized California in 2009 (CDFW 2022). Historically, wolves have occurred in forests, grasslands, deserts, and the tundra (CDFW 2011). In general, crucial habitat components include a water source, adequate prey (typically ungulates such as deer and elk), and a lack of human disturbance or population (CDFW 2011). Wolves historically occurred over large portions of the state, especially in the north; however, their total abundance was likely somewhat low (CDFW 2011).

Individual wolves can travel over 30 miles in a day and can disperse as far as 680 miles from their birthing place (CDFW 2011). Wolves typically travel in packs consisting of a mating alpha pair, as well as subordinate wolves, typically offspring (CDFW 2011). Subordinate wolves may leave the pack to start their own or join another pack (CDFW 2011). Packs typically claim and defend territories from other wolves; these territories can range from 20 square miles to 400 square miles (CDFW 2011). These large territorial needs, plus gray wolves' relatively successful recovery, has necessitated the species' expansion into new areas, including California.

Typically, alpha wolf pairs begin to breed at two years of age, and thereafter produce one litter of pups per year (CDFW 2011). Successful pup rearing requires a den for birthing, such as a hole, crevice, or hollow log/stump; as pups grow, they typically remain near older wolves at rendezvous sites, while the rest of the pack hunts (CDFW 2011). Wolves that survive to adulthood typically live four years, though they can live up to 13 years (CDFW 2011).

Currently, gray wolf individuals and packs have been sighted in Siskiyou County, Trinity County, and even further south in rare instances. As gray wolves are habitat generalists with the propensity for long-distance dispersal, it is possible that gray wolves could use the Study Area for foraging, dispersal, or denning. If a gray wolf den or rendezvous site is present on the Project area, construction

activities could potentially impact the gray wolf. These impacts would be significant. However, the potential for gray wolves to occur on the project area is exceedingly low, due to the current and historic disturbances (severe fire, rock quarrying, and nearby quarry material processing). Additionally, no gray wolves, dens, or rendezvous sites were observed onsite during field surveys or in CNDDB records. Therefore, there would be no impacts to the gray wolf.

Pacific Marten (Coastal Distinct Population Segment):

The Pacific marten is a mammal found in the forests of the North Coast, Sierra Nevada, Cascade, and Klamath Mountains (CDFW 1988c). Martens are carnivorous and typically eat small mammals, but will also take birds, insects, and even fruit if other food sources are unavailable (CDFW 1988c). Martens are primarily nocturnal or crepuscular.

In general, martens require old-growth coniferous forest with decadent features for denning and nesting purposes. Martens rely on cavities for denning, and may utilize large tree cavities, snags, stumps/logs, burrows, or caves/crevices for such purposes. Martens will use similar den habitats for nesting (CDFW 1988c). Small clearings, meadows, and riparian areas are crucial for foraging, but large areas with no tree canopy are typically avoided (CDFW 1988c). Human disturbance typically excludes martens from using a habitat area.

Pacific martens are not considered sensitive species in their inland populations. However, the Coastal Distinct Population Segment (DPU) is listed as threatened under the U.S. Endangered Species Act, while it is also listed as Endangered by the California Endangered Species Act (USFWS 2020a, CDFW 2024).

Similar to other species dependent on old-growth forests discussed in this document, the severe, stand-replacing fires that have recently occurred in and around the project area preclude Pacific martens from utilizing the site. As mentioned above, martens typically refrain from using areas with human disturbance and areas with no tree canopy. Taken together, the severe fire, previous human disturbance, and lack of tree canopy all indicate that Pacific martens do not use the Study Area, and no impacts to Pacific martens would occur as a result of the Project.

Marbled Murrelet:

Marbled murrelets are coastal birds that rely on old-growth forest characteristics for their habitats (USFWS 1997). These old growth characteristics include large trees, multistoried canopies, and moderate to high canopy closure (USFWS 1997). Marbled murrelets are rarely found more than 50 miles inland from the coast (USFWS 1997). Therefore, as the project is approximately 53 miles due east of the California coast and the region has lost its old growth characteristics from recent

severe, stand-replacing fire, marbled murrelets have no potential to occur in the Study Area. No impacts to the marbled murrelet are expected as a result of this project.

Monarch Butterfly:

The USFWS IPaC report for the Project identified the monarch butterfly (Danaus plexippus, US Candidate) as potentially occurring in the Project area.

The monarch butterfly is a migratory butterfly species which uses northern California as part of its vast summer breeding area, before overwintering in coastal California and Baja California (USFWS 2020b). Adult monarch butterflies require a diversity of blooming nectar resources during breeding and migration, with its obligate host plant, milkweed (Asclepias sp.) essential for breeding (USFWS 2020b).

When monarch caterpillars hatch in their breeding grounds, they spend 9-18 days as caterpillars, eating milkweed and molting several times (USFWS 2020b). After 6-14 days in a chrysalis, adult monarch butterflies begin their reproductive life, mating, laying eggs on milkweed, and replenishing lipid stores with nectar-producing flowers (USFWS 2020b). Typically, Monarch butterflies live 2-5 weeks as adults before dying (USFWS 2020b). This reproductive cycle occurs multiple times throughout the warm summer months; however, every year the final generation of monarchs become overwintering monarchs, with a different life history (USFWS 2020b).

Overwintering monarchs enter reproductive diapause, and instead make a migratory journey of 500 km to 1600 km (310 to 995 miles) to the overwintering grounds on the coast of California or Baja California. Here, the monarchs wait out the winter, still relying on nectar-producing flowers to feed (USFWS 2020b). The following spring, monarch adults who survived the winter breed at the overwintering site before migrating back to the area where they hatched; adult female monarchs lay their eggs on milkweed as they encounter it along the way (USFWS 2020b). In total, overwintering monarchs live 6-9 months as adults (USFWS 2020b).

As discussed above, the monarch butterfly requires its host plant, milkweed (Asclepias sp.) to breed in the area. Two heartleaf milkweed (Asclepias cordifolia) plants were observed during the 2023 botanical surveys within the Study Area, making the Study Area potentially suitable for monarch butterfly use. Quarrying activities which remove these milkweeds could significantly impact the species of monarch butterflies are using the milkweeds at the time of vegetation removal, and the removal of these plants would constitute in a small reduction of monarch butterfly habitat.

To mitigate these impacts, observed milkweeds will be flagged by a qualified biologist and checked for monarch butterfly adults, caterpillars, or chrysalises prior to removal. If monarch butterflies of any life stage are discovered, milkweed removal will not occur until the butterflies have completed their use of the plants. Given that milkweed is present abundantly in the wider region (having recovered well post-fire), the removal of the two observed milkweed plants onsite will not result in significant impacts to the monarch butterfly.

North American Wolverine:

Wolverines are highly mobile mammals that can travel long distances in a day and typically inhabit very large home ranges (upwards of 100 square miles) (USFWS 2018b). Wolverines are extremely territorial, with individuals of the same sex rarely inhabiting the same areas (USFWS 2018b). The large wolverine territories plus the strong territorial behavior in wolverines is a major factor for the low population densities of wolverines, even in areas where the species is thriving (CDFW 1988b).

Wolverines typically inhabit coniferous forest, alpine dwarf-shrub, or montane riparian habitats (CDFW 1988b). However, wolverines strongly prefer to settle in territories with low human disturbance and are commonly found in relatively human-inaccessible areas (USFWS 2018b). Wolverines will both scavenge for food and will hunt, with prey often changing based on the season and available prey/carrion items. The species uses caves as well as hollows in logs, rock outcrops, and burrows for cover.

Wolverines exhibit an unusual reproductive behavior: males are polygamous, but females have an extended pregnancy, as implantation can be delayed for up to six months, followed by a short (40 days or less) gestation period (USFWS 2018b). This reproductive life history leads wolverines to reproduce from May to July, but wolverine birth typically occurs from January to April (CDFW 1988b).

CNDDB records indicate a wolverine was observed 2.1 miles southwest of the study area in 1971. However, the study area has gone through recent severe fire, nearby rock quarrying, and quarry material processing. Therefore, the amount of human disturbance and low-quality habitat in the area precludes wolverine occupancy of the area. Therefore, there is minimal potential for wolverines to occur in the Study Area. No impact would occur to North American wolverines.

Northern Goshawk:

Northern goshawks are birds of prey which typically do not exhibit migratory behavior, relying mainly on a specific territory or home range as habitat and prey conditions allow (CDFW 2005a). Northern goshawks typically occur in dense, mature, closed-canopy coniferous forests, though they will also occur in deciduous forests with similar habitat characteristics (CDFW 2005a). Prey requirements

include various bird and mammal species such as Douglas squirrels, Belding's ground squirrels, Northern flickers, and Steller's jays (Shuford and Gardali 2008).

Northern goshawks typically begin to breed in April to June and will aggressively defend their nest (CDFW 2005a). Water is a crucial component of northern goshawks' territory, with a water source typically nearby; in particular, northern goshawks will typically construct nests in a dense part of their forested habitat, yet in an area near an opening in the forest and near water (CDFW 2005a). Habitat loss and degradation are the primary threats to the species (Shuford and Gardali 2008).

CNDDB records indicate that a northern goshawk was observed 13 miles southwest of the Study Area. However, northern goshawks rely on mature coniferous forests for their habitat and are sensitive to human disturbance. Therefore, severe fire impacts that occurred in the Study Area preclude northern goshawk habitation of the site. Nevertheless, as part of environmental mitigations, the Project area will be subject to a nesting bird survey prior to vegetation removal, eliminating any possible harm to northern goshawks. Therefore, impacts to northern goshawks would be less than significant.

Northern Spotted Owl:

Northern spotted owls are birds of prey which require old-growth coniferous forests for nesting and roosting (UWFWS 2011). Specific habitat requirements include stand complexity, including a multilayered, multispecies canopy with high canopy closure, including decadent trees, snags, broken-topped trees, and cavities for nesting (USFWS 2011). Northern spotted owls feed on rodents; woodrats are a primary food source (USFWS 2011).

Northern spotted owls typically begin their breeding season in late February with the prelaying stage, with the female spending most of her time in the selected nest cavity (USFWS 2012). Copulation and nesting lasts for approximately six days, followed by an approximate 30-day incubation period, where the female will only leave the eggs for 10 to 20 minutes (USFWS 2012). Upon hatching, spotted owl nestlings spend approximately 35 days as nestlings, temporarily exiting the nest to perch on nearby limbs (USFWS 2012). Fledglings spend 80 – 120 days (until mid to late September) out of the nest but still dependent on their parents for food (USFWS 2012).

Northern spotted owls are primarily threatened by loss of old-growth habitat due to logging and catastrophic wildfire (USFWS 2011); however, the introduction of the barred owl (Strix varia) to historic Northern spotted owl habitat has created an additional threat, as barred owls will outcompete, harm, and even hybridize with spotted owls (USFWS 2011).

In the Northern California Klamath region, northern spotted owls typically occupy home ranges with a 1.3-mile radius (USFWS 2012). Disturbances, noise impacts, and/or vegetation removal within this home range of a known spotted owl activity center would be considered significant impacts to the species. Additionally, Northern Spotted Owl critical habitat (US Forest Service ownership) abuts the quarry area to the north.

According to CNDDB records, the nearest spotted owl observation from the project area is approximately 1.7 miles away, which places the project area outside of any northern spotted owl home range. Additionally, the high-severity burn that moved through the Study Area and the nearby critical habitat make the area unsuitable for spotted owl nesting, roosting, or foraging. Northern spotted owls have minimal potential to occur in the project area, and thus would not be impacted by the project. As quarrying will not occur on public land, critical habitat will also be unaffected by the project.

Pacific Tailed Frog:

The Pacific tailed frog (also known as the coastal tailed frog) is a frog found from the northern California coast to as far inland as eastern Siskiyou County (CDFW 2013). The Pacific tailed frog is found in permanent streams, which is crucial to the species' reproductive methods. Mating occurs underwater, and eggs are attached to the underside of submerged rocks (CDFW 2000c). Tadpoles require 2 to 3 years to metamorphose into adults, so only permanent streams are capable of supporting the species. Therefore, although CNDDB records place Pacific tailed frogs as close as eight miles away from the Study Area, the species has no potential to occur in the Study Area, which lacks streams. Therefore, no impacts would occur to Pacific tailed frogs.

Salamanders:

Two species of terrestrial salamanders, Del Norte salamander (Plethodon elongatus, CA Watchlist) and Siskiyou Mountains salamander (Plethodon stormi, CA Threatened), have been recorded within one mile of the Study Area, according to CNDDB records. Both salamander species are part of the closely-related Plethodon elongatus species complex, a trio of recently-diverged taxa which also includes the Scott Bar salamander (Plethodon asupak). These terrestrial salamanders typically occur in "old-growth with rocky soils containing fractured rock outcrops or stable talus" (USFWS 2018c). Wildfire is noted as a primary threat to the species complex, as the removal of old-growth forest conditions can cause the dessication of soil which previously provided suitable moisture levels for these salamanders (USFWS 2018c). Therefore, similar to the northern spotted owl, the Study Area likely provided suitable habitat for these salamanders prior to the recent severe, stand-replacing fire. Given the current, post-fire conditions, these salamanders have no

potential to occur within the study area, and no impacts to the Del Norte salamander or Siskiyou Mountains salamander would occur.

A third salamander species, the southern torrent salamander (Rhyacotriton variegatus, CA Species of Special Concern) relies on cold, well-shaded permanent streams and spring seepages (CDFW 2005b). As there are no permanent springs or streams mapped or observed in the Study Area, southern torrent salamanders have no potential to occur in the Study Area, and no impacts to southern torrent salamanders would occur.

Yellow-billed Cuckoo:

Yellow-billed cuckoos are insectivorous birds that generally breed in large blocks of riparian habitat; in particular, cottonwood and willow trees are an important habitat component for yellow-billed cuckoos (USFWS 2014). In the Western United States, yellow-billed cuckoos tend to be restricted to the larger rivers which cut through more arid environments, such as the Sacramento River (Cornell 2022b).

Large caterpillars are a main food source for yellow-billed cuckoos (Cornell 2022b). In the arid west, cuckoos will forage in cottonwoods, but will build stick nests on horizontal branches in willow trees near their cottonwood foraging sites (Cornell 2022b).

The USFWS IPaC report for the Project identified the yellow-billed cuckoo (Coccyzus americanus, U.S. Threatened) as potentially occurring in the Project area. However, no riparian elements nor cottonwoods occur in the Study Area, though Indian Creek is south of the Study Area. Nevertheless, the nesting bird survey conducted prior to project construction would eliminate the possibility of impacts to yellow-billed cuckoos, if present. Therefore, impacts to yellow-billed cuckoos would not be significant.

Non-status Wildlife:

CNDDB records identified nine non-status animals as potentially occurring in the area: hooded lancetooth (Ancotrema voyanum), great blue heron (Ardea herodias), obscure bumblebee (Bombus caliginosus), western ridged mussel (Gonidea angulata), highcap lanx (Lanx alta), silver-haired bat (Lasionycteris noctivagans), hoary bat (Lasiurus cinereus), western pearlshell (Margaritifera falcata), and Klamath taildropper (Prophysaon sp. 1). Though no specific actions are proposed for non-status species, great blue herons would be identified and protected if encountered during a nesting bird survey. Aquatic species would likewise be protected from best management practices for erosion and sedimentation. Additionally, none of these species were observed during field surveys.

WETLANDS AND STREAMS

The NWI wetland mapper identified an 0.57-acre Riverine habitat classified as R4SBC (Riverine, Intermittent, Streambed, Seasonally Flooded) as occurring within the Study Area. The mapped feature purportedly runs across the western side of the materials stockpile area from the northeast to the southwest. However, the feature was not observed during the biological surveys, and appears to be nonexistent. The feature was mapped from aerial imagery captured in 1975 at a 1:80,000 scale; therefore, it appears the feature is an imprecision of the wetland mapping effort, and not a real feature.

As mentioned previously, Indian Creek runs to the west and south of the materials stockpile area. The NWI wetland mapper identifies Indian Creek as R3USC (Riverine, Upper Perennial, Unconsolidated Shore, Seasonally Flooded). Though Indian Creek is not within the quarrying area or materials stockpile area, BMPs for erosion and sedimentation for quarrying and stockpiling operations should be implemented to prevent impacts to Indian Creek. The existing BMPs for the materials stockpile area should also be maintained.

SOILS & LOCAL GEOMORPHOLOGY

According to the Natural Resources Conservation Service Web Soil Survey (NRCS 2024), three soil types were identified in the Study Area:

- Clallam, deep-Deadwood families association, 50 to 90 percent slopes (112)
- Clallam family, very deep-River wash association, 0 to 15 percent slopes (115)
- Deadwood-Clallam, deep families association, 50 to 90 percent slopes (118)

The soil units are composed of residuum weathered from metamorphic rock, as well as sandy and gravelly alluvium.

SUMMARY & CONCLUSIONS

Wildlife

Protection measures for surveyed species are summarized below:

Species	Preemptive Action	Protection Trigger	Follow-up Action
Nesting Bird or Raptor	Nesting Bird Survey prior to vegetation removal or noise disturbance in	Nest Site	CDFW Consultation

	quarry expansion area		
Monarch butterfly	Examine Milkweed (*Asclepias sp.*) for chrysalis prior to removal	Discovery of Monarch butterfly, caterpillar, or chrysalis	USFWS Consultation; no milkweed removal until monarch use of milkweed is complete.
Sensitive Fish & Essential Fish Habitat	Best management practices for erosion and sedimentation.	N/A	N/A

With the implementation of the above protection measures, sensitive species potentially occurring on the Project area would not be significantly impacted.

Plants

No special-status species were observed during the botanical surveys. Therefore, no protection measures are required.

Wetlands

Surveys confirmed that no wetlands occur within the Project boundaries. However, Indian Creek flows near to the materials stockpile area, and BMPs for erosion/sedimentation should be implemented to prevent impacts to Indian Creek.

REGULATORY FRAMEWORK

FEDERAL ENDANGERED SPECIES ACT

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally listed threatened and endangered species under the federal Endangered Species Act (FESA). The ESA protects plants and animals that are listed as endangered or threatened by USFWS and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits, without authorization, the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" [50 Code of Federal Regulations (CFR) 17.3]. For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant under federal jurisdiction and removing, cutting, digging up, damaging, or destroying any listed plant in any other area in knowing violation of state law [16 U.S. Code (USC) 1538].

Under Section 7 of ESA, federal agencies are required to consult with USFWS and/or NMFS if their actions, including permit approvals and funding, could

adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), USFWS and NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for the issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch,

capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for incidental to otherwise lawful projects under permits issued by CDFW.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria include definitions like definitions used in ESA, the California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on

a species that has not been listed under ESA, the California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as species of special concern (SSC) by CDFW, and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

CLEAN WATER ACT

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into

waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction.

Projects involving activities that have no more than minimal individual and cumulative adverse environmental effects may meet the conditions of one of the Nationwide Permits already issued by USACE (Federal Register [FR] 82:1860, January 6, 2017). If impacts on wetlands could be substantial, an individual permit is required. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

CALIFORNIA WATER QUALITY REGULATORY PROGRAMS

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Stormwater Pollution Prevention Plan.

Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” [Water Code 13260(a)]. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” [Water Code 13050 (e)]. The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

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Appendix A

CNDDB Results

SNAME	CNAME	TAXONGROUP	FEDLIST	CALLIST	RPLANTRANK	CDFWSTATUS	
Accipiter gentilis	northern goshawk	Birds	None	None		SSC	
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Ancotrema voyanum	hooded lancetooth	Mollusks	None	None			
Anemone multifida var. multifida	cut-leaf anemone	Dicots	None	None	2B.2		
Arabis aculeolata	Waldo rockcress	Dicots	None	None	2B.2		
Arabis mcdonaldiana	McDonald's rockcress	Dicots	Endangered	Endangered	1B.1		
Arabis mcdonaldiana	McDonald's rockcress	Dicots	Endangered	Endangered	1B.1		
Ardea herodias	great blue heron	Birds	None	None			
Ardea herodias	great blue heron	Birds	None	None			
Ardea herodias	great blue heron	Birds	None	None			
Ardea herodias	great blue heron	Birds	None	None			
Ardea herodias	great blue heron	Birds	None	None			
Ardea herodias	great blue heron	Birds	None	None			
Asarum marmoratum	marbled wild-ginger	Dicots	None	None	2B.3		
Asarum marmoratum	marbled wild-ginger	Dicots	None	None	2B.3		
Asarum marmoratum	marbled wild-ginger	Dicots	None	None	2B.3		
Asarum marmoratum	marbled wild-ginger	Dicots	None	None	2B.3		
Asarum marmoratum	marbled wild-ginger	Dicots	None	None	2B.3		
Asarum marmoratum	marbled wild-ginger	Dicots	None	None	2B.3		
Asarum marmoratum	marbled wild-ginger	Dicots	None	None	2B.3		
Ascaphus truei	Pacific tailed frog	Amphibians	None	None		SSC	
Ascaphus truei	Pacific tailed frog	Amphibians	None	None		SSC	
Ascaphus truei	Pacific tailed frog	Amphibians	None	None		SSC	
Ascaphus truei	Pacific tailed frog	Amphibians	None	None		SSC	
Ascaphus truei	Pacific tailed frog	Amphibians	None	None		SSC	
Boechera koehleri	Koehler's stipitate rockcress	Dicots	None	None	1B.3		
Boechera koehleri	Koehler's stipitate rockcress	Dicots	None	None	1B.3		
Boechera koehleri	Koehler's stipitate rockcress	Dicots	None	None	1B.3		
Bombus caliginosus	obscure bumble bee	Insects	None	None			
Bombus occidentalis	western bumble bee	Insects	None	Candidate Endangered			
Bombus suckleyi	Suckley's cuckoo bumble bee	Insects	None	Candidate Endangered			
Buxbaumia viridis	green shield-moss	Bryophytes	None	None	2B.2		
Carex serpenticola	serpentine sedge	Monocots	None	None	2B.3		
Castilleja elata	Siskiyou paintbrush	Dicots	None	None	2B.2		
Castilleja elata	Siskiyou paintbrush	Dicots	None	None	2B.2		
Castilleja schizotricha	split-hair paintbrush	Dicots	None	None	1B.3		
Castilleja schizotricha	split-hair paintbrush	Dicots	None	None	1B.3		
Castilleja schizotricha	split-hair paintbrush	Dicots	None	None	1B.3		
Castilleja schizotricha	split-hair paintbrush	Dicots	None	None	1B.3		
Castilleja schizotricha	split-hair paintbrush	Dicots	None	None	1B.3		

Cornus unalaschkensis	bunchberry	Dicots	None	None	2B.2		
Darlingtonia Seep	Darlingtonia Seep	Marsh	None	None			
Darlingtonia Seep	Darlingtonia Seep	Marsh	None	None			
Draba carnosula	Mt. Eddy draba	Dicots	None	None	1B.3		
Entosphenus similis	Klamath River lamprey	Fish	None	None		SSC	
Entosphenus similis	Klamath River lamprey	Fish	None	None		SSC	
Entosphenus similis	Klamath River lamprey	Fish	None	None		SSC	
Entosphenus similis	Klamath River lamprey	Fish	None	None		SSC	
Epilobium luteum	yellow willowherb	Dicots	None	None	2B.3		
Epilobium oreganum	Oregon fireweed	Dicots	None	None	1B.2		
Epilobium siskiyouense	Siskiyou fireweed	Dicots	None	None	1B.3		
Epilobium siskiyouense	Siskiyou fireweed	Dicots	None	None	1B.3		
Epilobium siskiyouense	Siskiyou fireweed	Dicots	None	None	1B.3		
Erigeron bloomeri var. nudatus	Waldo daisy	Dicots	None	None	2B.3		
Erigeron bloomeri var. nudatus	Waldo daisy	Dicots	None	None	2B.3		
Erigeron bloomeri var. nudatus	Waldo daisy	Dicots	None	None	2B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Eriogonum hirtellum	Klamath Mountain buckwheat	Dicots	None	None	1B.3		
Erythronium hendersonii	Henderson's fawn lily	Monocots	None	None	2B.3		
Erythronium howellii	Howell's fawn lily	Monocots	None	None	1B.3		
Falco peregrinus anatum	American peregrine falcon	Birds	Delisted	Delisted		FP	
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			

Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gonidea angulata	western ridged mussel	Mollusks	None	None			
Gulo gulo	wolverine	Mammals	Proposed Threatened	Threatened		FP	
Gulo gulo	wolverine	Mammals	Proposed Threatened	Threatened		FP	
Haliaeetus leucocephalus	bald eagle	Birds	Delisted	Endangered		FP	
Iliamna latibracteata	California globe mallow	Dicots	None	None	1B.2		
Juncus regelii	Regel's rush	Monocots	None	None	2B.3		
Lanx alta	highcap lanx	Mollusks	None	None			
Lasionycteris noctivagans	silver-haired bat	Mammals	None	None			
Lasionycteris noctivagans	silver-haired bat	Mammals	None	None			
Lasiurus cinereus	hoary bat	Mammals	None	None			
Lewisia cotyledon var. heckneri	Heckner's lewisia	Dicots	None	None	1B.2		
Lewisia cotyledon var. heckneri	Heckner's lewisia	Dicots	None	None	1B.2		
Lomatium martindalei	Coast Range lomatium	Dicots	None	None	2B.3		
Margaritifera falcata	western pearlshell	Mollusks	None	None			
Margaritifera falcata	western pearlshell	Mollusks	None	None			
Margaritifera falcata	western pearlshell	Mollusks	None	None			
Margaritifera falcata	western pearlshell	Mollusks	None	None			
Margaritifera falcata	western pearlshell	Mollusks	None	None			
Mertensia bella	Oregon bluebells	Dicots	None	None	2B.2		
Mertensia bella	Oregon bluebells	Dicots	None	None	2B.2		
Mitellastra caulescens	leafy-stemmed mitrewort	Dicots	None	None	4.2		
Monotropa uniflora	ghost-pipe	Dicots	None	None	2B.2		
Oncorhynchus clarkii clarkii	coast cutthroat trout	Fish	None	None		SSC	
Phacelia leonis	Siskiyou phacelia	Dicots	None	None	1B.3		
Phacelia leonis	Siskiyou phacelia	Dicots	None	None	1B.3		
Phacelia leonis	Siskiyou phacelia	Dicots	None	None	1B.3		
Phacelia leonis	Siskiyou phacelia	Dicots	None	None	1B.3		
Pinguicula macroceras	horned butterwort	Dicots	None	None	2B.2		
Pinguicula macroceras	horned butterwort	Dicots	None	None	2B.2		
Pinguicula macroceras	horned butterwort	Dicots	None	None	2B.2		
Piperia candida	white-flowered rein orchid	Monocots	None	None	1B.2		
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	
Plethodon elongatus	Del Norte salamander	Amphibians	None	None		WL	

Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Plethodon stormi	Siskiyou Mountains salamander	Amphibians	None	Threatened			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Prophysaon sp. 1	Klamath taildropper	Mollusks	None	None			
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		

Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Ptilidium californicum	Pacific fuzzwort	Bryophytes	None	None	4.3		
Rana boylii pop. 1	foothill yellow-legged frog - north coast DPS	Amphibians	None	None		SSC	
Rana boylii pop. 1	foothill yellow-legged frog - north coast DPS	Amphibians	None	None		SSC	
Rana boylii pop. 1	foothill yellow-legged frog - north coast DPS	Amphibians	None	None		SSC	
Rhyacotriton variegatus	southern torrent salamander	Amphibians	None	None		SSC	
Rhyacotriton variegatus	southern torrent salamander	Amphibians	None	None		SSC	
Rhyacotriton variegatus	southern torrent salamander	Amphibians	None	None		SSC	
Rosa gymnocarpa var. serpentina	Gasquet rose	Dicots	None	None	1B.3		
Rubus nivalis	snow dwarf bramble	Dicots	None	None	2B.3		
Rubus nivalis	snow dwarf bramble	Dicots	None	None	2B.3		
Sedum divergens	Cascade stonecrop	Dicots	None	None	2B.3		
Sedum divergens	Cascade stonecrop	Dicots	None	None	2B.3		
Silene hookeri	Hooker's catchfly	Dicots	None	None	2B.2		
Thermopsis robusta	robust false lupine	Dicots	None	None	1B.2		
Thermopsis robusta	robust false lupine	Dicots	None	None	1B.2		
Thermopsis robusta	robust false lupine	Dicots	None	None	1B.2		
Thermopsis robusta	robust false lupine	Dicots	None	None	1B.2		
Thermopsis robusta	robust false lupine	Dicots	None	None	1B.2		

Appendix B

CNPS- RPI

ScientificName	CommonName	CRPR	CESA	FESA	BloomingPeriod	ElevationLow_ft	ElevationHigh_ft
Galium oreganum	Oregon bedstraw	3	None	None	May-Sep	4920	4920
Sidalcea celata	Redding checkerbloom	3	None	None	Apr-Aug	445	5005
Lewisia cotyledon var. howellii	Howell's lewisia	3.2	None	None	Apr-Jul	490	6595
Iris bracteata	Siskiyou iris	3.3	None	None	May-Jun	590	3510
Sidalcea elegans	Del Norte checkerbloom	3.3	None	None	May-Jul	705	4480
Carex geyeri	Geyer's sedge	4.2	None	None	May-Aug	3790	7200
Cypripedium californicum	California lady's-slipper	4.2	None	None	Apr-Aug(Sep)	100	9025
Cypripedium fasciculatum	clustered lady's-slipper	4.2	None	None	Mar-Aug	330	7990
Cypripedium montanum	mountain lady's-slipper	4.2	None	None	Mar-Aug	605	7300
Darlingtonia californica	California pitcherplant	4.2	None	None	Apr-Aug	0	8480
Dicentra formosa ssp. oregana	Oregon bleeding heart	4.2	None	None	Apr-May	1395	4870
Fritillaria glauca	Siskiyou fritillaria	4.2	None	None	(Apr-May)Jun-Jul	5695	8005
Hesperocyparis bakeri	Baker cypress	4.2	None	None		2690	6545
Lilium bolanderi	Bolander's lily	4.2	None	None	Jun-Jul	100	5250
Lilium rubescens	redwood lily	4.2	None	None	(Mar)Apr-Aug(Sep)	100	6265
Mitellastra caulescens	leafy-stemmed mitrewort	4.2	None	None	(Mar)Apr-Oct	15	5580
Pleuropogon refractus	nodding semaphore grass	4.2	None	None	(Feb-Mar)Apr-Aug	0	5250
Allium siskiyouense	Siskiyou onion	4.3	None	None	(Apr)May-Jul	2805	8205
Antennaria suffrutescens	evergreen everlasting	4.3	None	None	Jan-Jul	1640	5250
Arabis modesta	modest rockcress	4.3	None	None	Mar-Jul	395	2625
Arnica cernua	serpentine arnica	4.3	None	None	Apr-Jul	1640	6300
Arnica spathulata	Klamath arnica	4.3	None	None	May-Aug	2100	5905
Arnica viscosa	Mt. Shasta arnica	4.3	None	None	Aug-Sep	5595	9005
Callitropsis nootkatensis	Alaska cedar	4.3	None	None		2135	8205
Cardamine bellidifolia var. pachyphylla	fleshy toothwort	4.3	None	None	Jun-Aug	6235	9300
Carex scabriuscula	Siskiyou sedge	4.3	None	None	May-Jul	2330	7695
Doellingeria glabrata	Siskiyou aster	4.3	None	None	Jun-Sep	395	8875
Draba howellii	Howell's draba	4.3	None	None	Jun-Jul	4495	9845
Epilobium rigidum	Siskiyou Mountains willowherb	4.3	None	None	Jul-Aug	490	3935
Erigeron cervinus	Siskiyou daisy	4.3	None	None	Jun-Aug	80	6235
Eriogonum congdonii	Congdon's buckwheat	4.3	None	None	(May)Jun-Aug(Sep)	2625	7695
Eriogonum ternatum	ternate buckwheat	4.3	None	None	Jun-Aug	1000	7300
Iris thompsonii	Thompson's iris	4.3	None	None	(Mar-Apr)May-Jun(Jul-Aug)	295	1970
Lathyrus delnorticus	Del Norte pea	4.3	None	None	Jun-Jul	100	4755
Lilium pardalinum ssp. wigginsii	Wiggins' lily	4.3	None	None	Jun-Aug	1590	6560
Pedicularis howellii	Howell's lousewort	4.3	None	None	Jun-Aug	4920	6235
Ptilidium californicum	Pacific fuzzwort	4.3	None	None	May-Aug	3740	5905
Ribes marshallii	Marshall's gooseberry	4.3	None	None	Jun-Jul	3935	6890
Sedum laxum ssp. heckneri	Heckner's stonecrop	4.3	None	None	Jun-Jul	330	6890
Trifolium howellii	Howell's clover	4.3	None	None	Jun-Aug	2625	5905
Veratrum insolitum	Siskiyou false-hellebore	4.3	None	None	Jun-Aug	150	5365
Arabis mcdonaldiana	McDonald's rockcress	1B.1	CE	FE	May-Jul	445	5905
Epilobium oreganum	Oregon fireweed	1B.2	None	None	Jun-Sep	1640	7350
Iliamna latibracteata	California globe mallow	1B.2	None	None	Jun-Aug	195	6560
Lewisia cotyledon var. heckneri	Heckner's lewisia	1B.2	None	None	(Apr)May-Jul	740	6890

Piperia candida	white-flowered rein orchid	1B.2	None	None	(Mar-Apr)May-Sep	100	4300
Thermopsis robusta	robust false lupine	1B.2	None	None	May-Jul	490	4920
Boechera koehleri	Koehler's stipitate rockcress	1B.3	None	None	(Mar)Apr-Jul	510	5445
Castilleja schizotricha	split-hair paintbrush	1B.3	None	None	Jul-Aug	4920	7545
Draba carnosula	Mt. Eddy draba	1B.3	None	None	Jul-Aug	6350	9845
Epilobium siskiyouense	Siskiyou fireweed	1B.3	None	None	Jul-Sep	5580	8205
Eriogonum hirtellum	Klamath Mountain buckwheat	1B.3	None	None	Jul-Sep	2000	6235
Erythronium howellii	Howell's fawn lily	1B.3	None	None	Apr-May	655	3755
Phacelia leonis	Siskiyou phacelia	1B.3	None	None	Jun-Aug	3935	6560
Rosa gymnocarpa var. serpentina	Gasquet rose	1B.3	None	None	Apr-Jun(Aug)	1310	5660
Anemone multifida var. multifida	cut-leaf anemone	2B.2	None	None	Apr-Jul	5580	9025
Arabis aculeolata	Waldo rockcress	2B.2	None	None	Apr-Jun	1345	5905
Buxbaumia viridis	green shield-moss	2B.2	None	None		3200	7220
Castilleja elata	Siskiyou paintbrush	2B.2	None	None	May-Aug	0	5740
Cornus unalaschkensis	bunchberry	2B.2	None	None	May-Jul	195	6300
Mertensia bella	Oregon bluebells	2B.2	None	None	May-Jul	4920	6560
Monotropa uniflora	ghost-pipe	2B.2	None	None	Jun-Aug(Sep)	35	1805
Pinguicula macroceras	horned butterwort	2B.2	None	None	Apr-Jun	130	6300
Silene hookeri	Hooker's catchfly	2B.2	None	None	(Mar)May-Jul	490	4135
Asarum marmoratum	marbled wild-ginger	2B.3	None	None	Apr-Aug	655	5905
Carex serpenticola	serpentine sedge	2B.3	None	None	Mar-May	195	3935
Epilobium luteum	yellow willowherb	2B.3	None	None	Jul-Sep	4920	7200
Erigeron bloomeri var. nudatus	Waldo daisy	2B.3	None	None	Jun-Jul	1970	7545
Erythronium hendersonii	Henderson's fawn lily	2B.3	None	None	Apr-Jul	985	5250
Juncus regelii	Regel's rush	2B.3	None	None	Aug	2495	6235
Lomatium martindalei	Coast Range lomatium	2B.3	None	None	May-Jun(Aug)	785	9845
Rubus nivalis	snow dwarf bramble	2B.3	None	None	Jun-Aug	3560	4430
Schoenoplectus subterminalis	water bulrush	2B.3	None	None	Jun-Aug(Sep)	2460	7380
Sedum divergens	Cascade stonecrop	2B.3	None	None	Jul-Sep	5250	7645

Appendix C

U.S. Department of Interior
List of threatened and endangered species

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
Phone: (530) 842-5763 Fax: (530) 842-4517

In Reply Refer To: February 28, 2024
Project Code: 2023-0098598
Project Name: Waddell Rock Pit Expansion

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
(530) 842-5763

PROJECT SUMMARY

Project Code: 2023-0098598
Project Name: Waddell Rock Pit Expansion
Project Type: Surface Extraction - Non Energy Materials
Project Description: Expansion of the Waddell Rock Pit, near Happy Camp, California. The new area will expand the rock quarry to roughly 17 acres, with newly quarried areas adjacent to the current quarry. Approval is being sought so that work can begin later this year (2023).

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.88441855,-123.43058040459852,14z

Counties: Siskiyou County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Threatened
Pacific Marten, Coastal Distinct Population Segment *Martes caurina* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9081	Threatened

BIRDS

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

INSECTS

NAME	STATUS
Franklin's Bumble Bee *Bombus franklini* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7022	Endangered
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* https://ecos.fws.gov/ecp/species/1123#crithab	Final

IPAC USER CONTACT INFORMATION

Agency: GeoServ
Name: Jake Ewald
Address: PO Box 831
City: Mount Shasta
State: CA
Zip: 96067
Email je@geoscienceserv.com
Phone: 5304088492

Appendix B

Slope Stability Analysis

November 23, 2022 GeoServ, Inc. Job No. 210126

Attention: Jim Hayes

Subject: Waddell Rock Quarry Slope Stability Analysis Report

Dear Jim,

In accordance with your request and authorization of GeoServ, Inc. has completed a slope stability at Waddell Rock Quarry. The attached report contains the results of our site investigation and engineering geologic evaluation of the slope stability elements of the project site.

Based on GeoServ Inc's subsurface investigations and our geotechnical and engineering evaluation, the project is considered feasible from a geotechnical standpoint provided the recommendations contained in the attached report are incorporated into the project design and construction. If you have any questions regarding our findings or recommendations, please do not hesitate to contact this office. The opportunity to be of service is appreciated.

Respectfully submitted,

James Fitzgerald, CEG (2436)
GeoServ, Inc.

Waddell Rock Quarry Slope Stability Analysis Report

Prepared for: Jim Hayes

Prepared by: GeoServ, Inc. (GSI)

Revision A review draft date: 11/23/2022

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Introduction 2
Methods 2
Site Investigation Data Collection Methods 2
Slope Stability Model Methods 2
Site Investigation Results 3
Bedrock Mapping 3
Slope Stability 3
References 3

Attachment A: Slope Stability Figures

Introduction

This slope stability report documents the Waddell Rock Quarry slope stability analysis methods, data results, and slope stability analysis results. This analysis mapped and drafted lithotopo units using the site investigation data, anecdotal information, and historical photographs. The slope stability analysis results were used to evaluate the proposed slope geometry during and after mining operations. Professional judgement and model results were used to estimate and interpolate subsurface material types. To represent the different types of the rock slope, 2-D sections were cut and used to model slope stability for the proposed conditions conditions (Sheets 1 to 4 and Attachment A).

Methods

Site Investigation Data Collection Methods

A site investigation was completed to obtain information on the engineering properties of the rock, soil, groundwater, and to inform the designs and construction techniques for the rock quarry. The engineering properties of the project area rocks and soils were assessed using industry standard methods (e.g., CDC 2001, Williamson 1984, and BOR 2001). The rocks and soils were classified and assessed following the most recent ASTM methods.

The site investigation was completed in September 2022. The bedrock mapping sites were located along the proposed quarry expansion area in safe accessible locations to characterize the spatial distribution of the terrane, rock, soil, and water conditions. This investigation process was intended to assess the spatial and temporal distribution of soil or rock near the ground surface.

The bedrock mapping occurred along the bedrock outcrops that are within the proposed quarry expansion area and were completed by GSI geologists. The accessible outcrops were classified using ASTM. Rock samples were collected for Specific Gravity and Point Load Testing to help characterize the rock density and strength.

Slope Stability Model Methods

Slope stability model parameters were measured, calculated, or estimated using the available field data following standard methods. Slide 6.0 was used to model the temporary and permanent stability of the quarry face during mining. The 2-D slope stability analysis software is comprehensive for the level of design effort and performs finite element analysis. The quarry design was analyzed based on the proposed earthworks and the geometry of cut-slopes. The following methods were used to model slope stability:

Slide 2D limit equilibrium slope stability model to complete non-circular and circular failure analyses on existing and design rock cut and fill slopes to help define critical rock slope failure mechanisms and planes (Rocscience, Inc. 2002).

- Spencer (Blake et. al. 2002), Army Corp #1, and Army Corp#2 methods to predict non-circular and circular critical failure planes and fill slope FOS.
- Plane Failure method to analyze rock slope stability (Hoek and Bray 1981).

The following criteria were used for the temporary and permanent slope stability analyses.

- Static Factor of Safety (FOS) for temporary rock cut-slopes = 1.5.

The model assumes uniform rock and soil engineering properties for the dominant rock type to include:

- Paleozoic marine, undivided (Pz)

The model assumes that the modern cut-slopes and fill-slopes are pseudo-stable (i.e., FOS = 1.0) along the existing quarry face. It also assumes that the rock slopes are presently in a pseudo-stable condition (i.e., FOS = 1.0) other than shallow rock fall (i.e., <5' into slope face).

The rock slope models factored freeze-thaw failure mechanisms by assuming conservative fracture/joint discontinuity cohesion and angle of internal friction values (Table 1). It also assumed a value 33% for pore pressure for planar and rock topple failure models and that the groundwater level is lower than ground surface and fractures/joints in the rock are free draining.

Site Investigation Results

Bedrock Mapping

Accessible rock outcrops were mapped as part of the site investigation (Sheet 1). The results of the bedrock mapping are consistent with the Paleozoic marine, undivided (Pz) reported in the available geologic maps.

Slope Stability

Based upon GSI's review of the published geologic maps, aerial photographs, ground topography data, site reconnaissance, and slope stability modeling, the project area appears to be quasi stable under static conditions. The project area topography is steep due to shallow and hard Paleozoic marine rock. No evidence of active or dormant landslide slip plain surfaces were observed as part of the site investigation and no springs or seeps were observed.

Slope stability modeling results indicate that the existing slopes have a FOS of 1 for static conditions. The design slopes have a FS greater than 1.5 under static conditions Attachment A). The site investigation results were used to estimate and interpolate subsurface material types. To represent the different types of slopes within the project area, 2-D sections were cut and used to model slope stability for existing and design conditions (Sheets 1 to 4 and Attachment A).

Modeling results for static rock slope stability conditions indicate that the proposed quarry geometry are stable with FS greater than the design criteria (Attachment A). Rock slope failure sensitivity analysis indicates that percent fill pore pressure, slope angle, and slope height and the top three limiting factors.

References

Blake, T.F., Hollingsworth, R.A., and Stewart, J.P., eds (2002), Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Landslide Hazards in California, Organized through the American Society of Civil Engineers, Los Angeles Section (ASCE-LA) – SCEC), 110 pp.

California Department of Conservation (CDC), 1999. Factors Affecting Landslides in Forested Terrain. California Division of Mines and Geology, Note 50.

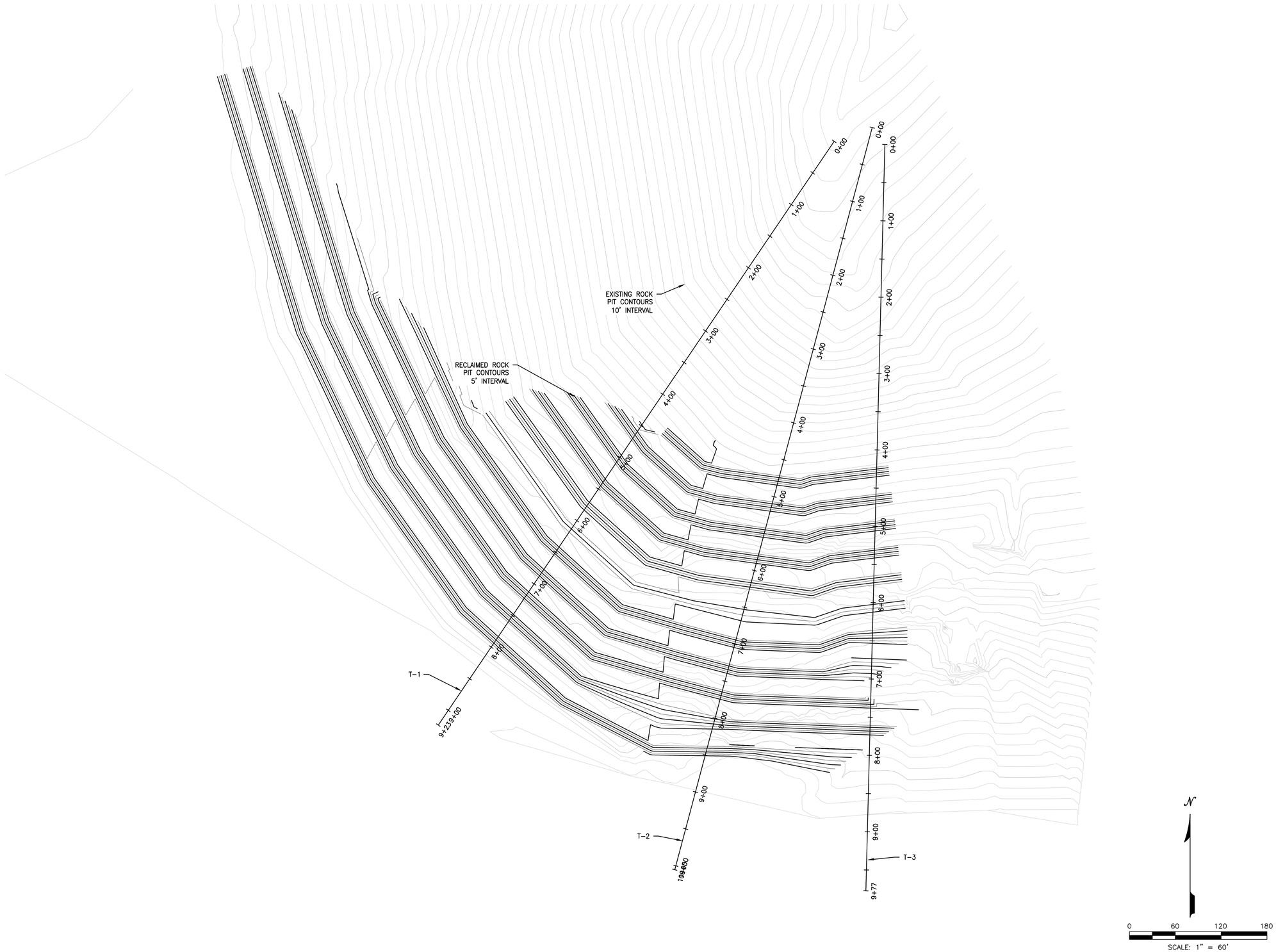
Cruden, D.M., and Varnes, D.J., 1996. Landslide types and processes. Pages 36-75 in A.K. Turner and R.L. Schuster, editors. Landslides Investigation and Mitigation. National Research Council Transportation Research Board Special Report 247, National Academy Press, Washington, DC.

Hoek and Bray, 1981. Rock Slope Engineering, 3rd edition, Chapman & Hall, London.

Rocscience, Inc., 2002. Slide 2D limit equilibrium slope stability for soil and rock slopes, User's Guide.

United States Army Corps of Engineers (ACOE), 2003. Engineering and Design: Slope Stability. Manual No. 1110-2-1902.

United States Bureau of Reclamation (BOR), 2001. Engineering Geology Field Manual, Second Edition, Volume I.



GEOSERV, INC.

2731 FRYERS WAY
MOUNT SHASTA, CA 96067
PH: (530) 227-8963
FAX: (530) 926-8921

WADDELL ROCK PIT SLOPE
STABILITY ANALYSIS

INDIAN CREEK RD,
SISKIYOU COUNTY, CA

FOR REVIEW

SHEET NAME:
GRADING
SLOPE STABILITY
PLAN

REVISIONS:

PROJECT NO:

ISSUE DATE:
11/23/2022

SCALE:
AS NOTED

DRAWN BY:
KJF

ENGINEERED:
JKF

CHECKED:
JKF

FIGURE:
1

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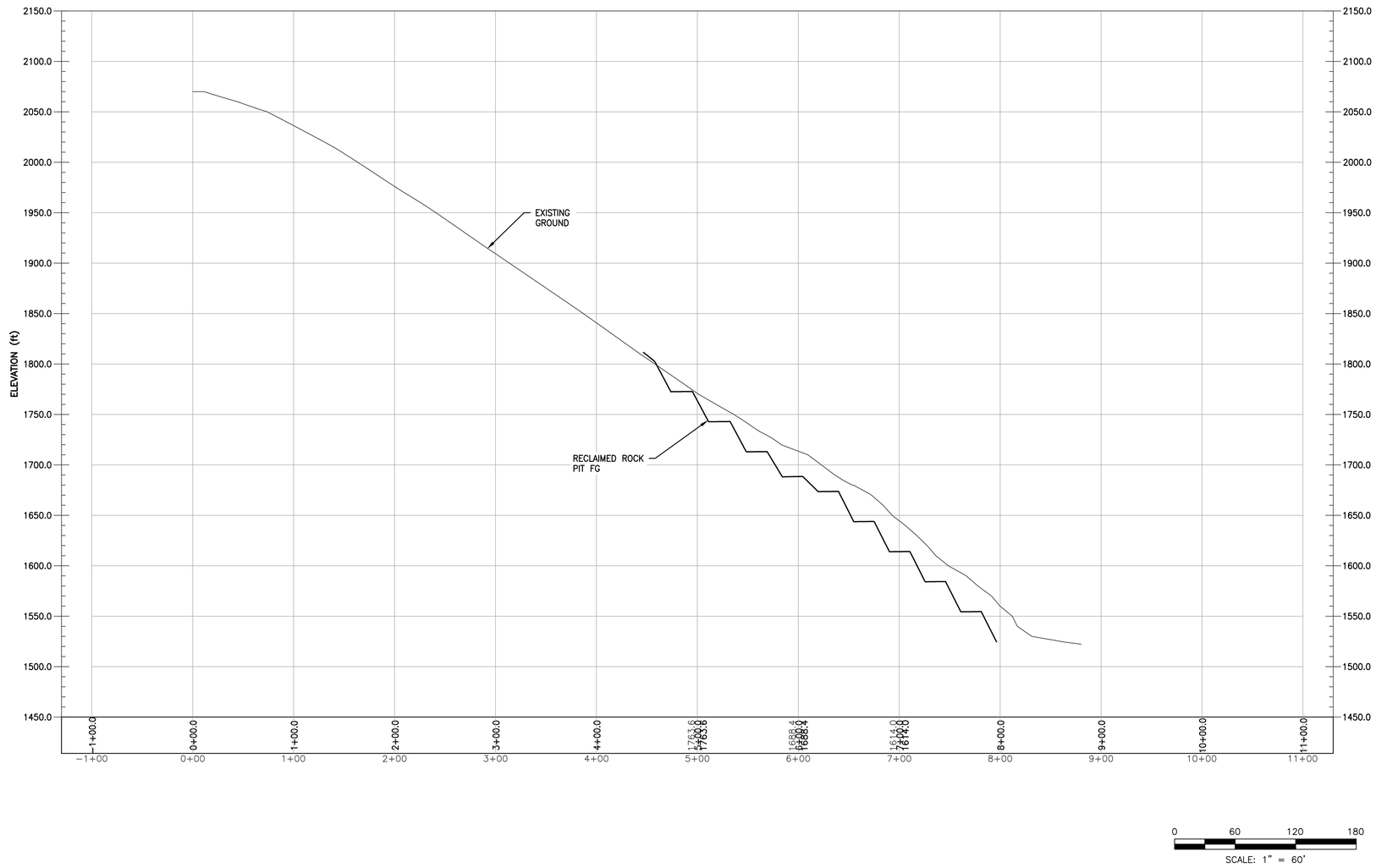

GEOSERV, INC.

2731 FRYERS WAY
MOUNT SHASTA, CA 96067
PH: (530) 227-8963
FAX: (530) 926-8921

WADDELL ROCK PIT SLOPE STABILITY ANALYSIS

INDIAN CREEK RD,
SISKIYOU COUNTY, CA

FOR REVIEW

SHEET NAME:
GRADING
SLOPE STABILITY
SECTION T-1

REVISIONS:

PROJECT NO:

ISSUE DATE:
11/23/2022

SCALE:
AS NOTED

DRAWN BY:
KJF

ENGINEERED:
JKF

CHECKED:
JKF

FIGURE:
2

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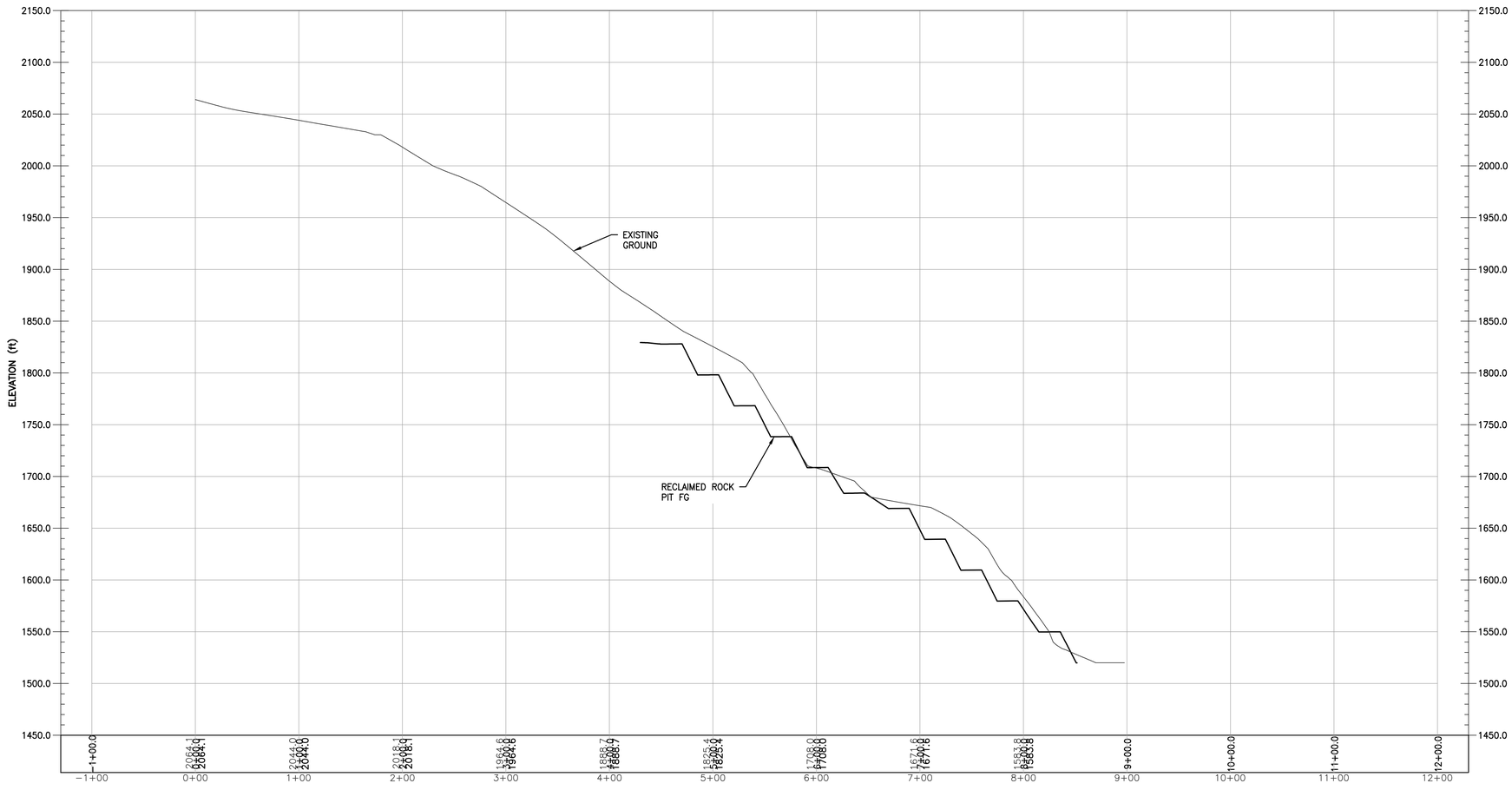

0 60 120 180

SCALE: 1" = 60'

GEOSERV, INC.

2731 FRYERS WAY
MOUNT SHASTA, CA 96067
PH: (530) 227-8963
FAX: (530) 926-8921

WADDELL ROCK PIT SLOPE STABILITY ANALYSIS

INDIAN CREEK RD, SISKIYOU COUNTY, CA

FOR REVIEW

SHEET NAME:
GRADING SLOPE STABILITY SECTION T-2

REVISIONS:

PROJECT NO:

ISSUE DATE: 11/23/2022

SCALE: AS NOTED

DRAWN BY: KJF

ENGINEERED: JKF

CHECKED: JKF

FIGURE: **3**

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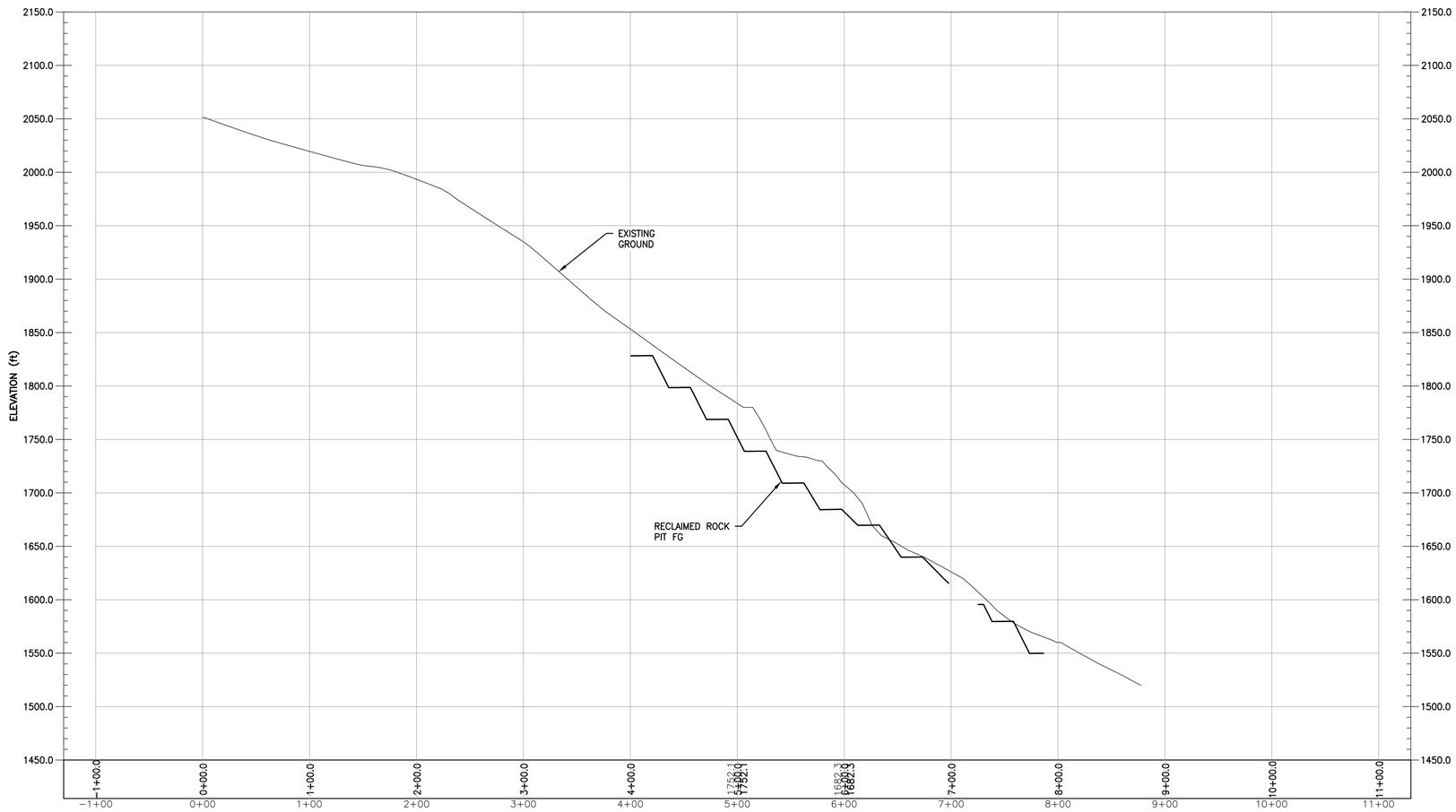

0 60 120 180

SCALE: 1" = 60'

GEOSERV, INC.

2731 FRYERS WAY
MOUNT SHASTA, CA 96067
PH: (530) 227-8963
FAX: (530) 926-8921

WADDELL ROCK PIT SLOPE STABILITY ANALYSIS

INDIAN CREEK RD, SISKIYOU COUNTY, CA

FOR REVIEW

SHEET NAME:

GRADING
SLOPE STABILITY
SECTION T-3

REVISIONS:

PROJECT NO:

ISSUE DATE: 11/23/2022

SCALE: AS NOTED

DRAWN BY: KJF

ENGINEERED: JKF

CHECKED: JKF

FIGURE: **4**

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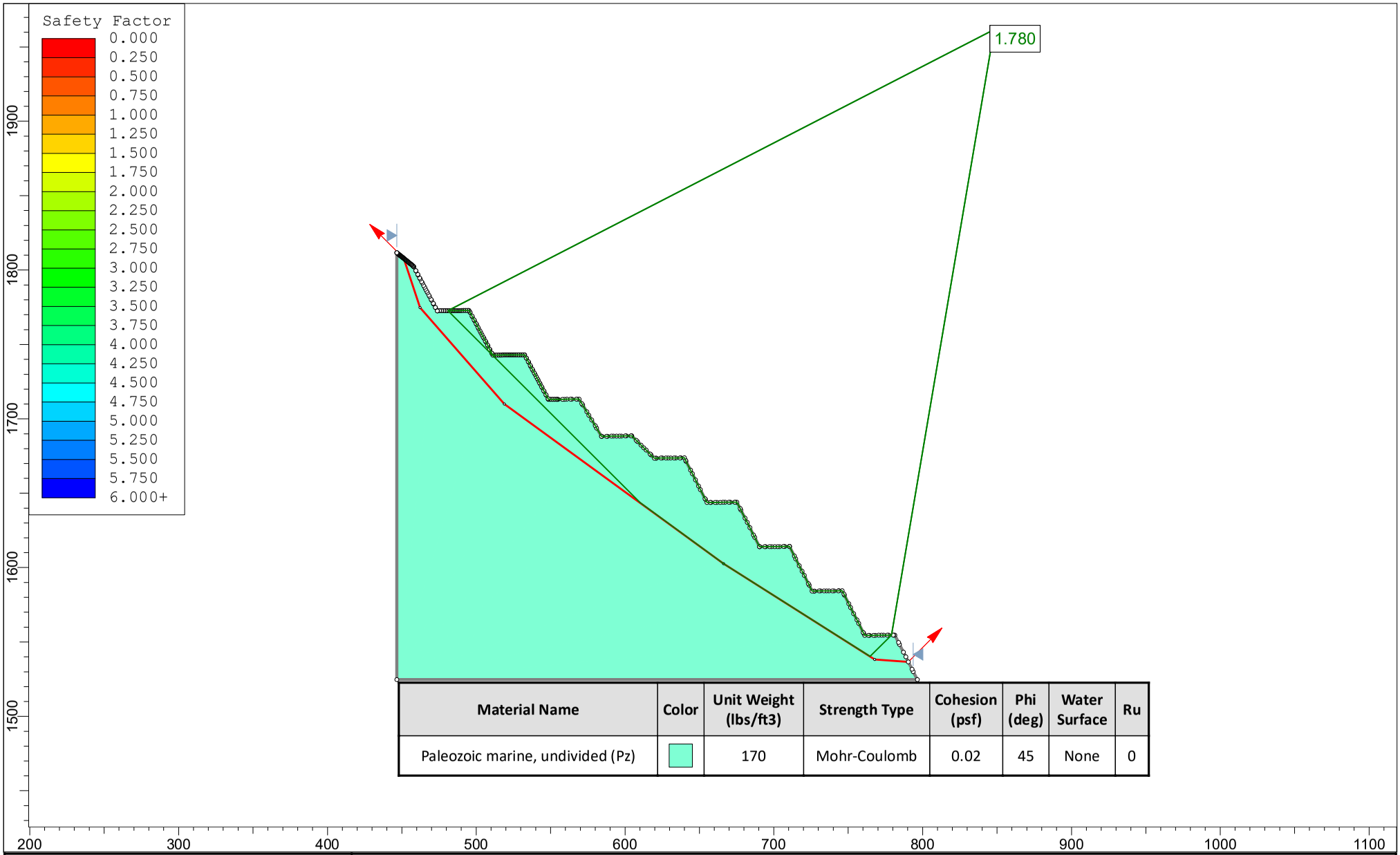
Attachment A



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
Paleozoic marine, undivided (Pz)		170	Mohr-Coulomb	0.02	45	None	0

GeoServ

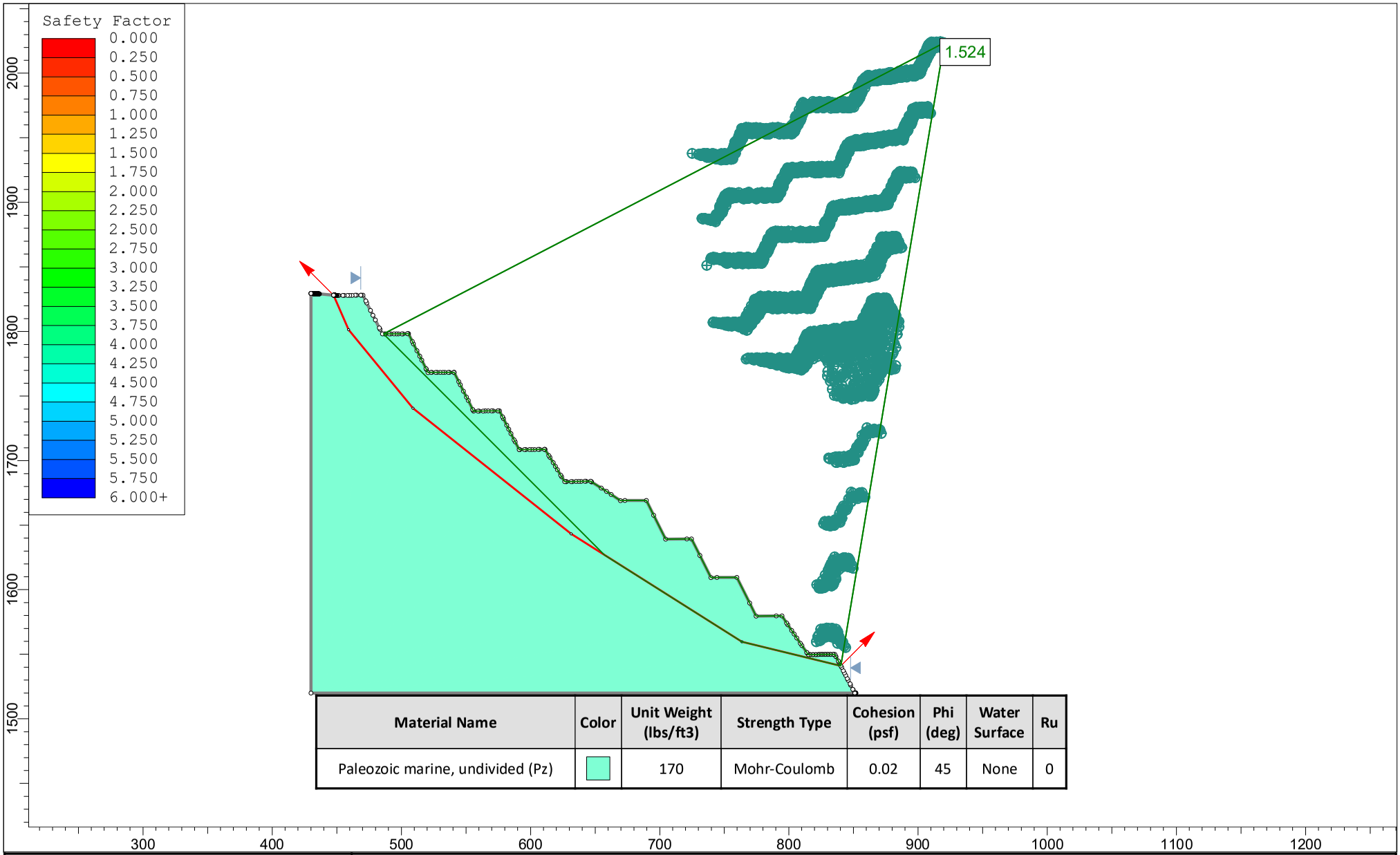
SLIDEINTERPRET 6.039

Project	Waddell Rock Quarry T-1
Analysis Description	Rock Block Analysis
Drawn By	James Fitzgerald
Company	GSI
Date	11/20/2022
File Name	Waddell_Rx_Pit_Rx_Slope_Stab_T1.slim

********** Summary **********

Slope Height = 287
Slope Face Angle = 38
Upper Slope Angle = 25
Cohesion = 0
Friction Angle = 40
Discontinuity Angle = 27
Unit Weight of Rock = 175
Unit Weight of Water = 64
Crest Location = 367.34
Discontinuity Length = 3004.75
Weight of Rock Block = 23385981.6

Stability Factor = 1.647



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
Paleozoic marine, undivided (Pz)		170	Mohr-Coulomb	0.02	45	None	0

GeoServ

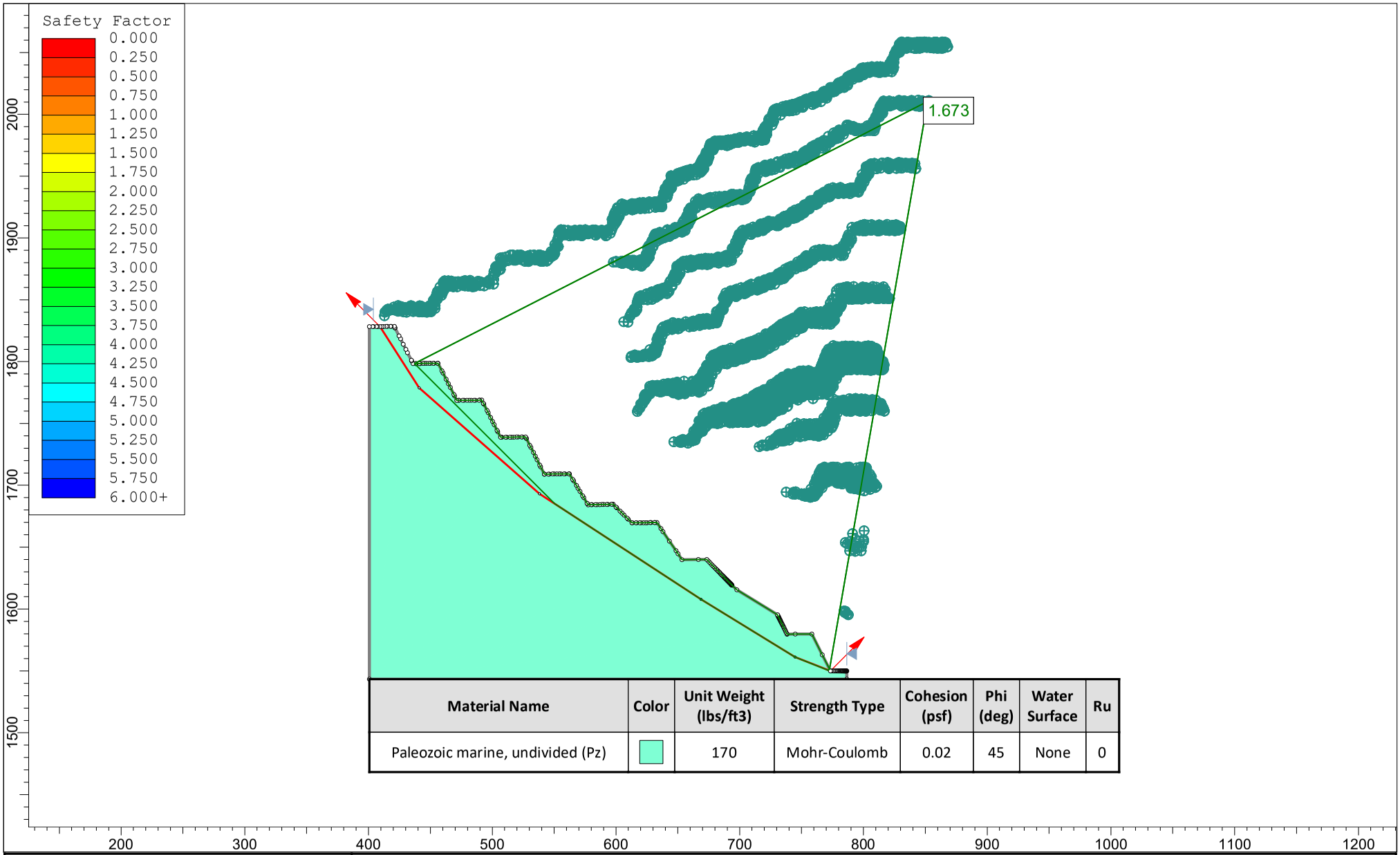
SLIDEINTERPRET 6.039

Project	Waddell Rock Quarry T-2
Analysis Description	Rock Block Analysis
Drawn By	James Fitzgerald
Company	GSI
Date	11/20/2022
File Name	Waddell_Rx_Pit_Rx_Slope_Stab_T2.slim

********** Summary **********

Slope Height = 310
Slope Face Angle = 36
Upper Slope Angle = 25
Cohesion = 0
Friction Angle = 40
Discontinuity Angle = 27
Unit Weight of Rock = 175
Unit Weight of Water = 64
Crest Location = 426.68
Discontinuity Length = 2883.52
Weight of Rock Block = 20816427.2

Stability Factor = 1.647



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
Paleozoic marine, undivided (Pz)		170	Mohr-Coulomb	0.02	45	None	0

GeoServ

SLIDEINTERPRET 6.039

Project	Waddell Rock Quarry T-3
Analysis Description	Rock Block Analysis
Drawn By	James Fitzgerald
Company	GSI
Date	11/20/2022
File Name	Waddell_Rx_Pit_Rx_Slope_Stab_T3.slim

********** Summary **********

Slope Height = 285
Slope Face Angle = 36
Upper Slope Angle = 25
Cohesion = 0
Friction Angle = 40
Discontinuity Angle = 27
Unit Weight of Rock = 175
Unit Weight of Water = 64
Crest Location = 392.27
Discontinuity Length = 2650.98
Weight of Rock Block = 17594321.6

Stability Factor = 1.647

Appendix C

Archaeological Survey and Findings Report

ARCHAEOLOGICAL SURVEY AND FINDINGS REPORT

Prepared for:

Hayes and Sons Inc. (Waddell Rock Pit / Reclamation Amendment and Name Change)

Author:

Vann Cultural Resource Management
David M. Vann

February 17, 2023

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Survey Methods and Findings Page 7

Final Project Recommendations Page 8

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Maps (list)

- Vicinity of Undertaking Map
- General Location Map
- Project Location Map
- Coverage Map

INTRODUCTION

Project Background:

The proposed project is a request to amend (RP-01-01-1m) the existing reclamation plan. The applicant proposes to change the Mine name from Waddell Pit to South Fork Rock Quarry, expand the mine site from 4-acres to 16.6 acres, extend termination of mining date to approximately October 1, 2052, remove any gravel skimming in or along streams and other required updates to the existing reclamation plan.

All areas that make up this project are within the boundaries of the original plan for this rock pit. No new areas outside of original boundaries will be impacted.

Vann Cultural Management was contacted by Jim Hayes of Hayes and Sons Inc. and asked to conduct archaeological investigations on the property.

Scope of Work: California law requires that completion of projects follow guidelines and principles outlined in the California Environmental Quality Act (CEQA). The following specific tasks were performed in order to comply with state regulations.

- Conduct a records search through the Northeast Information Center at CSU-Chico to determine if there have been any sites previously recorded within or in the vicinity of the project area. The goals of the record search are to determine (1) the extent of previous surveys in the area (2) the locations of known archaeological sites and the distribution of them within or near the Area of Potential Effect (APE). Completion of this step ensures that all potential areas of archaeological sensitivity are located and documented. **Note: This step was performed by the Siskiyou County Planning Department.**

- Conduct a pedestrian survey of the APE to determine if any undocumented archaeological resources exist and to properly record them if they do.

- When the pedestrian survey is completed, a final report will be written documenting the findings. The final report will identify effects the undertaking will have on cultural resources within the APE and will recommend appropriate mitigation measures to protect significant resources during implementation of the project.

The remainder of this report documents the findings and results of the records search and subsequent survey completed for this undertaking. It includes recommendations for treatment of any cultural properties located during field reconnaissance that could potentially be affected during the project. All of the fieldwork procedures followed guidelines set forth by the State Historic Preservation Office (SHPO) and are in conformity with accepted professional guidelines.

Location of the Undertaking:

The project is located in the western ½ of Siskiyou County, California. It is located approximately 8 miles northwest of Happy Camp, CA. More specifically it is located in T17N, R7E, portions of sections 5 and 8 H.M.

PRE-FIELD WORK RESEARCH

Northeast California Information Center Records Search: The records at the Northeast Information Center (CSU-Chico) were examined. The search resulted in no previously recorded American Indian or historic sites within the project or within the vicinity.

Additional Sources Consulted:

1. The National Register of Historic Places.
2. The California Register of Historic Resources.
3. The California Historical Landmarks.
4. Existing published and unpublished documents relating to the prehistory, ethnography, and historic developments in the vicinity.
5. The following were contacted by email on February 3, 2023 (no response as of 2/21/23)

Native American Heritage Commission (Contacted by County of Siskiyou)
Russell Attebery, Chairperson, Karuk Tribe*
Alex R. Watts-Tobin, Archaeologist and THPO, Karuk Tribe
Tahnaya.miller@klamath tribes.com
Harold Bennett, Quartz Valley Indian Community
Janice Crowe, Shasta Indian Nation
Sami Jo Difuntorum, THPO, Shasta Indian Nation
Wintu Tribe of Northern California
Mark Miyoshi, THPO, Winnemem Wintu Tribe
Caleen Sisk, Tribal Chief and Spiritual Leader, Winnemem Wintu Tribe
Agnes Gonzalez, Pit River Tribe of California
Garth Sunberg, Cer-Ae Heights Indian Community of the Trinidad Rancheria

These resources are consulted in order to more effectively determine what site types and distribution of them may be encountered during fieldwork within the project area.

The proposed project is subject to compliance regulations stipulated by CEQA. CEQA stipulates that both public and private projects with financing or approval from a public agency must assess the effects of the project on cultural resources (Public Resources Code Section 21082, 21083.2 and 21084.1 and California Code of Regulations 15064.5).

Cultural resources are defined as buildings, sites, humanly modified landscapes, TCPs, structures, or objects that may have historical, architectural, cultural, or scientific importance. CEQA states that if a project will have a significant effect on important cultural resources, then alternative plans or mitigation measures need to be developed. However, only significant cultural resources need to be considered in the mitigation plans. CEQA defines significant historical resources as "resources listed or eligible for listing in the California Register of Historical Resources (CRHR)" (Public Resources Code Section 5024.1). A property may be considered 'historically significant" if it meets the following criteria for listing on the CRHR:

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. It is associated with the lives of persons important to California's past;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. It has yielded or is likely to yield information important in prehistory or history [Public Resources Code (PRC) Section 5024.1].

RESULTS OF PRE-FIELD RESEARCH

Prehistory: Very little is known about the early prehistory of western Siskiyou County, and inferences are based on information from other parts of Northern California and Southern Oregon. Based on this it appears that western Siskiyou County could show some similarities with the North Coast Ranges tradition.

A tentative prehistoric cultural sequence has been established for the Sonoma, Lake, and Mendocino County portion of the North Coast Ranges and may also apply to the Klamath Mountains. The sequence is based primarily on materials recovered from the Borax Lake area (Harrington 1948; Treganza 1950; Meighhan 1955; Meighan and Haynes 1970; Fredrickson 1973 and 1974).

The earliest inhabitants of the North Coast Ranges may be represented by large, fluted projectile points which resemble Folsom points (Harrington 1948: 62, 64-66, 70). The Folsom point is widely distributed and dates to about 8500-600 B.C. These points were probably mounted on spears and darts and used to kill large game. Little else is known about the people who made these points (McDonald 1979:37).

"Apparently their dwellings were such as to leave few traces in the ground. Only open-air settlements have been recognized though they may occasionally have resorted to shelter beneath rock overhangs or in caves. The absence of deep deposits at the dwelling places points to temporary or brief recurrent occupancy. Sociopolitical inferences are hazardous, but the economics of a simple hunting life must have demanded groups of limited size. Perhaps a few families related by kinship hunted and traveled together. As yet, no skeletal remains of the hunter themselves have been identified therefore, nothing can be said regarding their physical type or mortuary practices (Wallace 1978:25)."

The second phase of the occupation is called the Borax Lake and is represented by wide-stemmed points, called Borax Lake points (Harrington 1948:82), mullers and milling stones. The Borax Lake Pattern dates to about 5000-2000 B.C. Based on the presence of mullers and milling stones from this period it is theorized that a new emphasis was placed on seed foods and that a decrease in the reliance of large game occurred. Sites dating to this phase have been found on or near ridge tops in or near meadows and close to springs. Since the sites are about 6000' elevation they do not appear to be suitable for winter occupation and sites in other location are also expected. Based on their findings in the Gasquet-Orleans Road area, Chartkoff, Davis and Donahue (1978:G-5) feel that in the Klamath Mountains a generalized hunting and gathering way of life may have brought individual families or hunters into high-elevation valleys and ridge tops, and that temporary summer occupations resulted.

The Mendocino Complex is next and dated to about 1000 B.C. to A.D.O. It is characterized by smaller projectile points, lacks the Borax Lake point type and includes mortars and pestles. From this period on, cultures seem to develop in an increasingly localized manner making inferences based on adjacent areas less reliable. Chartcoff, Davis, and Donahue (1979:G-5 to G-6) hypothesize that the period from 2000 B.C. to A.D. 500 was one of increasing adaptation to riverine resources. Local people began to become more seasonally transitional, occupying winter base camps along the river and smaller, functional sites during other seasons for hunting and collection purposes. From about A.D. 500-1500, use of the riverine resources became increasingly effective. Base camps became larger, sedentary, and more socially complex. From A.D. 1500-1850, the exploitation of the anadromous fishery had been perfected. River villages became permanent, the use of the highland areas declined to be replaced by spiritual use.

The overall pattern of the North Coast Ranges appears to be that of significant changes in subsistence practices: first from reliance on large game to a more balanced use of a variety of smaller game and plants, then to an increased reliance on acorns and andromous fish. It is thought that the characteristics of this period are the result in changes from the Antahermal to the Altithermal and then to the Medithermal. The drier climate of the Altithermal was not favorable to the pursuit of big game by the Folsom hunters and led to the exploitation of a larger range of foods as the big game species became extinct, while the cooler and moister climate of the Medithermal may once again have allowed greater specialization (McDonald 1979:39).

Ethnography: The Karuk are identified mostly by their language, which belongs to the Hokan family, but has no close relatives. Their culture is noted to resemble that of their down river neighbors the Yurok.

The Karuk inhabited the area between Bluff Creek and Seiad Valley. A Bilingual group occupied the area between Happy Camp and Seiad, speaking both Karuk and Shasta. They are thought to have been considered marginal to the Karuk. Villages were located on Indian Creek and up the Salmon River with the most populous areas near Orleans, at the mouth of the Salmon River, and at Clear Creek.

The Karuk were oriented to the resources along the rivers. They especially took advantage of the major salmon runs in the spring and fall (Kroeber and Barrett 1960). Rapids were the favored fishing locations since their channels limited the movement of the fish to predictable areas. Platforms were built at the edge of the river and were privately owned, but could be rented for a part of the catch. Fish were generally caught in a net lowered on an A-frame. Sometimes a smaller “plunge net” was used in the rapids (Bright 1978: figure 2). Harpoons were utilized, and eels were caught with dip nets and gaffs. Much of the fish caught during these runs were dried and stored to be consumed during when the catch was at a minimum.

Acorns and deer were also a major part of the Karuk diet. The acorns from the tan oak were favored. Families camped in the fall, living in houses of fir bark and gathering acorns from the ground. The tannic acid was removed by cracking and drying the acorns rubbing them to remove the skin, grinding them into flour with a stone on a flat slab, and then leaching the flour n a sand pit. This produced dough that was mixed with water and boiled in a basked with heated rocks to make a soup or mush. Sometimes the acorns were buried in wet ground for a year or more then boiled in the hull and cracked with the teeth for eating. Deer were hunted in the fir forests on the mountain slopes. Deer-head masks were often used as decoys. Dogs were used to drive the deer into snares set along their trials. Elk, bear, rodents, and other small mammals and birds were also hunted (McDonald 1979: 41).

The importance of river resources is evidenced in the patterns of Karuk village distribution. Ninety percent of the villages were located within a ¼ mile of the rivers. The Chartkoffs (1975:176) reported that villages tended to be located at the mouths of major tributaries because here the portions of the salmon run was diverted, decreasing the fishing potential upstream. The availability of flat land was a premium and this influenced village distribution as 95% of the villages were located on ground with 10% slope or less (Chartkoff and Chartkoff 1972). Villages contained one to ten living houses and one or more sweat houses. There was one family per living house. The women and children were the main occupants of the living houses, with the men visiting during meal time. The men spent most of the time in the sweat houses which were not open to women except for the initiation of a female shaman. Both house types were rectangular, of rough planks, semi-subterranean, with a stone-paved porch outside. Gathering firewood for the sweathouse

had religious implications. Limbs were supposed to be taken from the uphill and downhill side of Douglas fir trees, accompanied by ritual weeping and prayers for luck in hunting and gambling, which were the main means of acquiring wealth (McDonald 1979:41).

The Karuk depended on stone, wood, plant fiber, and bone to maintain their way of life. Wooden planks for housing were split from logs with horn wedges and stone mauls, and then worked with stone adzes. Boats were made from hollowed out redwood logs purchased from the Yurok. Obsidian was flaked with an antler

and hafted to wooden handles and used to butcher game. Large obsidian blades were considered wealth item and displayed at ceremonies. Bows were made from yew wood and arrows from syringia wood, with obsidian heads used in war. Other tools included elk horn spoons for men, mussel shell spoons for women, bone awls for hide sewing, wooden fire drills, and tobacco pipe consisting of a straight wooden tube and soapstone bowl.

Ceremonies were very important to the Karuk. The principal ceremonies are usually referred to as World Fixing or World Renewal rituals and are held at the villages of Inam, Katimin, Amaikiaram, and Panamnik. They are linked concept and timing into a sequence which must be completed in order to revitalize the world and prevent famine, disease, and disaster. They are also roughly correlated to the spring and fall runs of Chinook salmon. The ceremonies include a sacred element consisting of a journey following a prescribed route and recitation of a formula by a priest. Public dancing was an element of the ceremonies as well. The Jumping Dance, Deerskin Dance, War Dance, and Boat Dance were performed depending on the location. Localization of the dances was an important characteristic. Dances are performed in specific villages, and are associated with specific locations within the village. This implies that ceremonial locations will be of great cultural sensitivity, as the ceremony is viewed as essential to maintaining the world order.

In addition to renewing the physical condition of the world the ceremonies played an important roll in regulating the Karuk social relationships. The right to perform rituals and sponsor dances is distributed so as to link kin groups and villages into cooperating units. Also, to avoid spoiling a dance all conflicts had to be resolved beforehand by those attending.

Karuk culture was characterized by considerable local autonomy. Individual villages were the principal political unit (Curtis 1924:60). Rich men were the leaders within the village because of the prestige of their wealth. Linkages were created by kinship. If individuals from different villages began to feud, relatives would become involved and not the entire village.

It is evident tat the karuk were heavily involved in trade with their neighbors. They probably first encountered the Hudson Bay Trappers and then later the miners in much greater numbers. In 1882, after clashes between the miners and the Karuk's near Orleans, virtually all of the Karuk villages were burned as far north as the Salmon River.

In 1887, the General Allotment Act provided that certain Indians could settle on the public domain and obtain title. An amendment in 1910 extended the act to lands in the National Forests more valuable for agriculture or grazing than for timber.

pre-Gold Rush Karuk population has been estimated a 2700 (Cook 1956:98). By 1930 that number was said to be about 755, of which 16.4% were said to be full-blood. In 1972, the Bureau of Indian Affairs reported that 3,781 individuals were identified as having at least some Karuk ancestry (Bright 1978:189).

Based on the results of previous survey work done within the general area of the undertaking, the expected range of American Indian site types included the following:

- Surface scatters of lithic artifacts and debitage associated with dark "midden" deposits indicating possible village encampments, some of which may have been occupied year-round. Typically, such sites would be located close to water sources, particularly where streams merge with one another.
- Surface scatters consisting of lithic artifacts and debitage not associated with dark "midden" soil. These areas may have been utilized for shorter, seasonal subsistence practices.
- Bedrock milling stations, including both mortar holes and pestles associated with acorn gathering.
- Rock alignments and other surface features, which could be accompanied by accumulated midden and portable artifacts.
- Isolated finds of American Indian artifacts and flakes not significant enough to be formally recorded as a "site".

It is not likely that *all* of these types of sites would be encountered within the present project area, but rather theses are the types of sites that potentially could be encountered during fieldwork based on information from results of previous surveys.

Historic Development: There is historic evidence of early fur trapping in Siskiyou County *circa* 1820s and 1830s (Handbook of North American Indians, vol. 8: 212). Most of these instances were brief, however.

By late 1849 mining had begun along the Klamath and Salmon Rivers, but not until around 1850 that Siskiyou County started to see an influx of Whites to the area. In 1850 a number of prospectors crossed the mountains from the North Fork of the Trinity River and hit the South Fork of the Salmon River. They made their way down to the Forks and discovering rich gold deposits there began to work their way up the North Fork. A prospecting expedition, starting at the mouth, worked its way up the Klamath as far as Happy Camp, but was turned back by Indians there.

Soon after miners entered Indian Creek they established Indian Town, a small mining camp located north of Deadman Point. By 1856 the town had a hotel, butcher shop, saloon, and bakery. It was also called Indian Creek City. Chinese made up much of the population. Most of them were working at the Classic Hill mine located near by. Indian Town was abandoned by 1890 (Hill 1997).

In 1856 estimates say there were approximately 400-500 miners in the Indian Creek watershed. Hydraulic mines located here include the Classic Hill mine, Huey mine and County mine.

Happy Camp located at the mouth of Indian Creek was established in 1851. A post office was established in 1858 and by 1860 four stores, a hotel and butcher shop had been established. In 1880 Happy Camp had a population of 397.

Most areas around Siskiyou County were mined during the mid to late 19th century and into the early part of the 20th century. The area also saw those individuals seeking a more stable lifestyle and farming and ranching became popular in the area as well. The descendants of many of these early pioneers to the area are still here and living on the land that was purchased by there ancestors.

Based on the results of previous survey work done within the general and immediate area of the undertaking, the expected range of Historic site types included the following:

- Artifacts associated with homesteading/ranching/mining in the area.
- Structure locations with associated artifacts.

SURVEY METHODS AND FINDINGS

Survey Strategy: It is the goal of the surveyor to give complete coverage the entire project area. Sometimes however this is not possible. Reasons for this may include: steep terrain; thick brush; current land use (e.g., rock pit, processing). Much of the property is located on steep terrain (see TOPO map) as well as within flood plain with thick brush coverage. All areas that were able to be safely surveyed were. The pit and surrounding area have seen continuous occupation/use since at least the 1950s.

Survey transects were completed in a random zig-zag fashion on the flat areas of the property. This method ensures that historic and American Indian resources will not be missed.

Field Work:
Archaeologist David Vann completed fieldwork for this project.

Natural Setting:

Geology – The project area is located within the Galice Formation of Western Jurassic Belt. There are also areas of alluvium along the creeks as well as an area of landslide deposits.
Hydrology – The main fork of Indian creek is located adjacent to the property.
Flora –White Oak, black oak, live oak, Douglas Fir, incense ceder, madrone, poison oak, fern, Oregon grape, black berry, wild raspberry, seasonal grasses.
Fauna – Deer, rabbit, Western Grey Squirrel, Ground Squirrel, skunk, coyote, black bear, various birds, and frogs.
Natural Environment – Primarily covered in timber and oak stands with few open areas.
Current Land Use – vacant land, rock pit
Current Land Condition – Quarry site/mining

American Indian Resources Identified Within the Project Area:
No American Indian resources were noted or recorded as a result of reconnaissance for this project.

Historic Resources Identified Within the Project Area:
No new historic sites were noted or recorded as a result of reconnaissance.

FINAL PROJECT RECOMMENDATIONS

A comprehensive and thorough effort has been made to identify all Heritage Resources located within the APE for this undertaking and the results of this survey have been incorporated into the proposed project's design. The areas that will be impacted are located on extremely steep terrain. Based on this and the low probability of encountering cultural resources I believe that no impacts will occur to cultural resources. I recommend that the project proceed as planned.

This report is based on an inventory-level surface survey only. There is always the possibility that significant sub-surface cultural resources could be encountered below ground level. If this happens work should be suspended and archaeological consultation should be sought immediately.

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1987 Cultural Resource Overview, Klamath National Forest, California.
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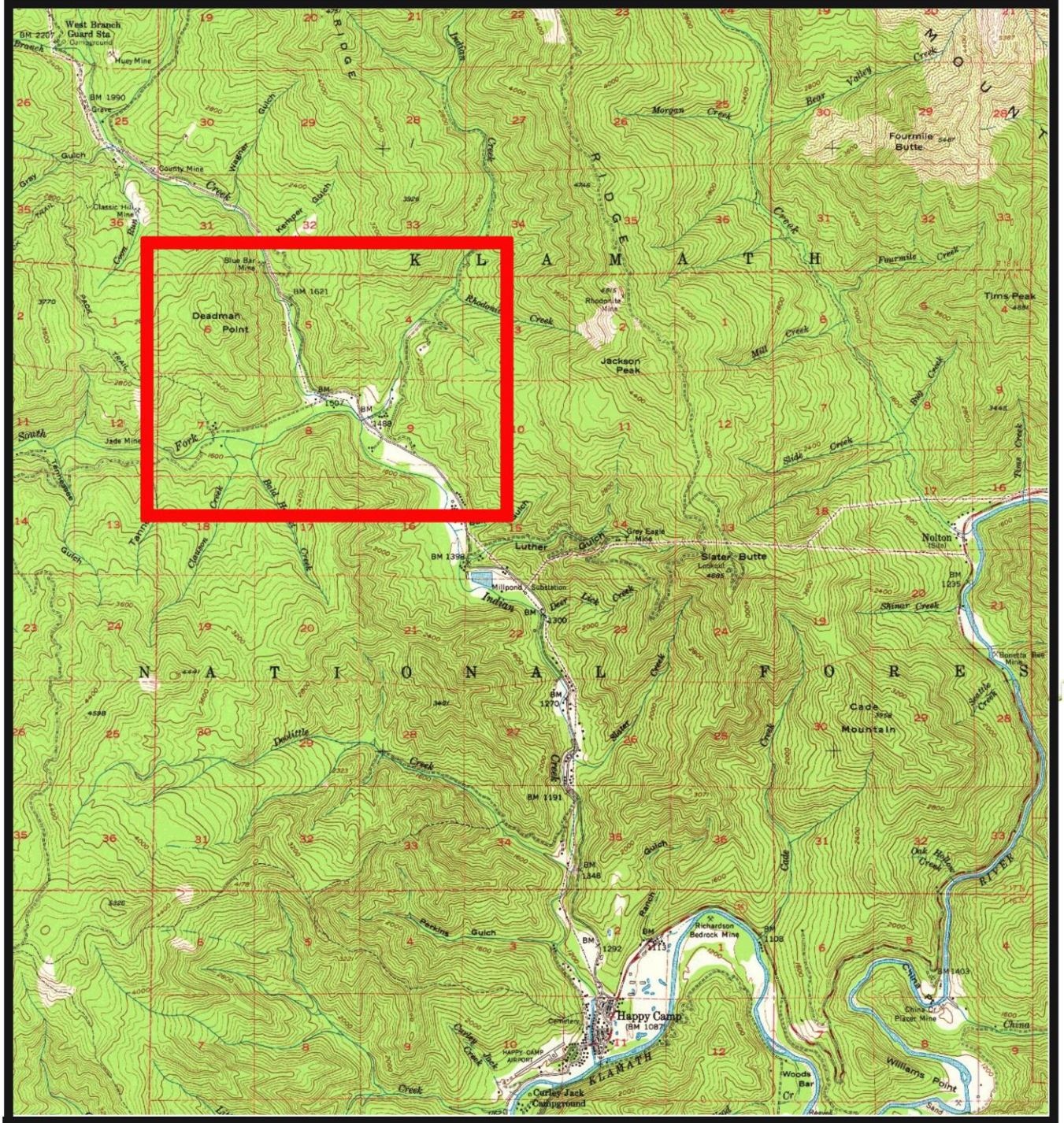
Waddell Rock Pit and Name Change

Waddell Rock Pit and Name Change

LOCATION OF UNDERTAKING

2023-1



T17N, R7E sections 5 and 8

General Location of the Undertaking

base maps are 15'
Happy Camp 1956
Humboldt Meridian

SCALE 1:62500

1 .5 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

1 .5 0 1 2 3 4 5 KILOMETERS

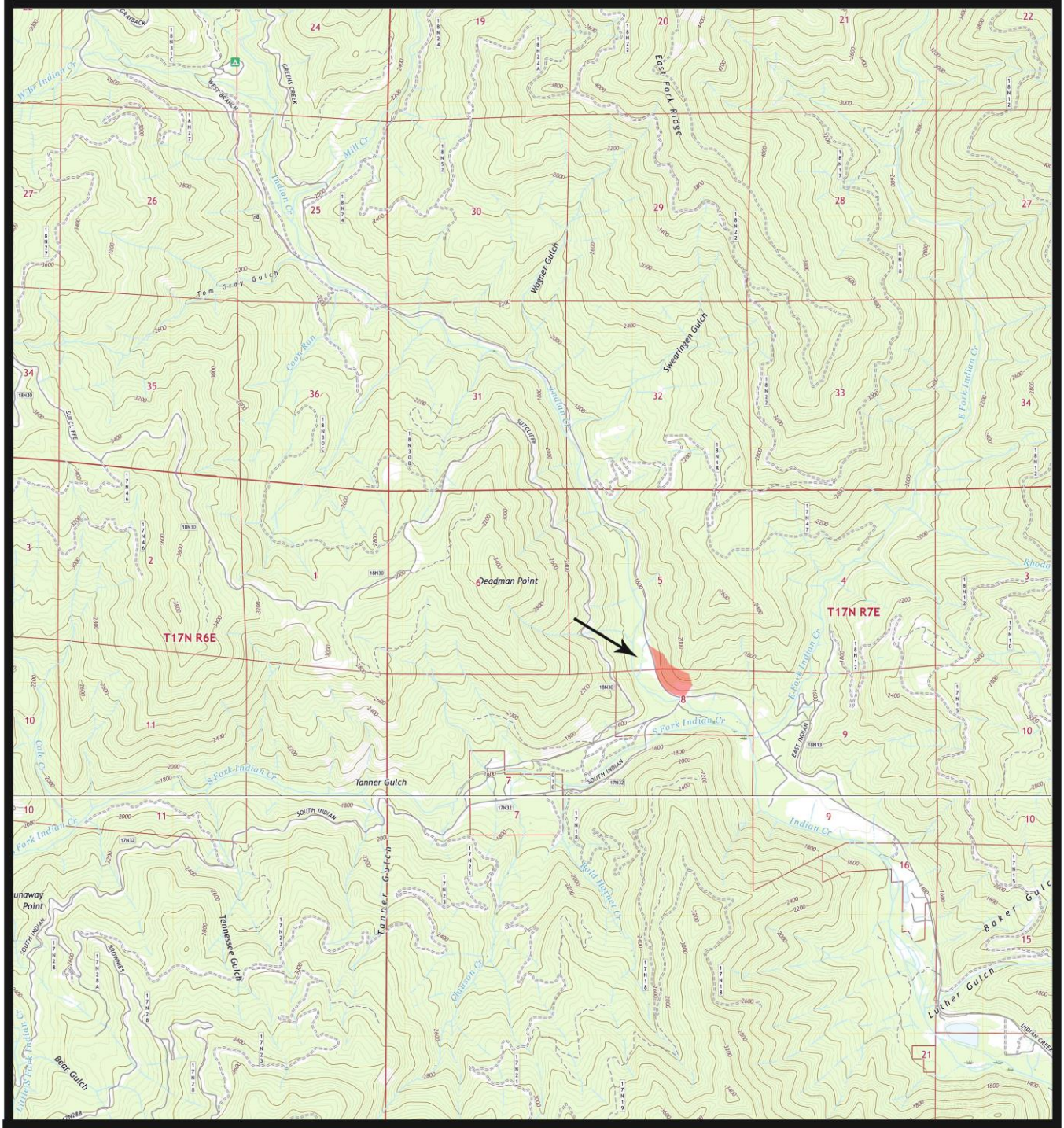
CONTOUR INTERVAL 80 FEET
DATUM IS MEAN SEA LEVEL

N

Waddell Rock Pit and Name Change

PROJECT MAP

2023-1



T17N, R7E sections 5 and 8

base maps are 7.5'
Happy Camp 2022
Deadman Point 2022
Humboldt Meridian

APPROXIMATE PROJECT BOUNDARY

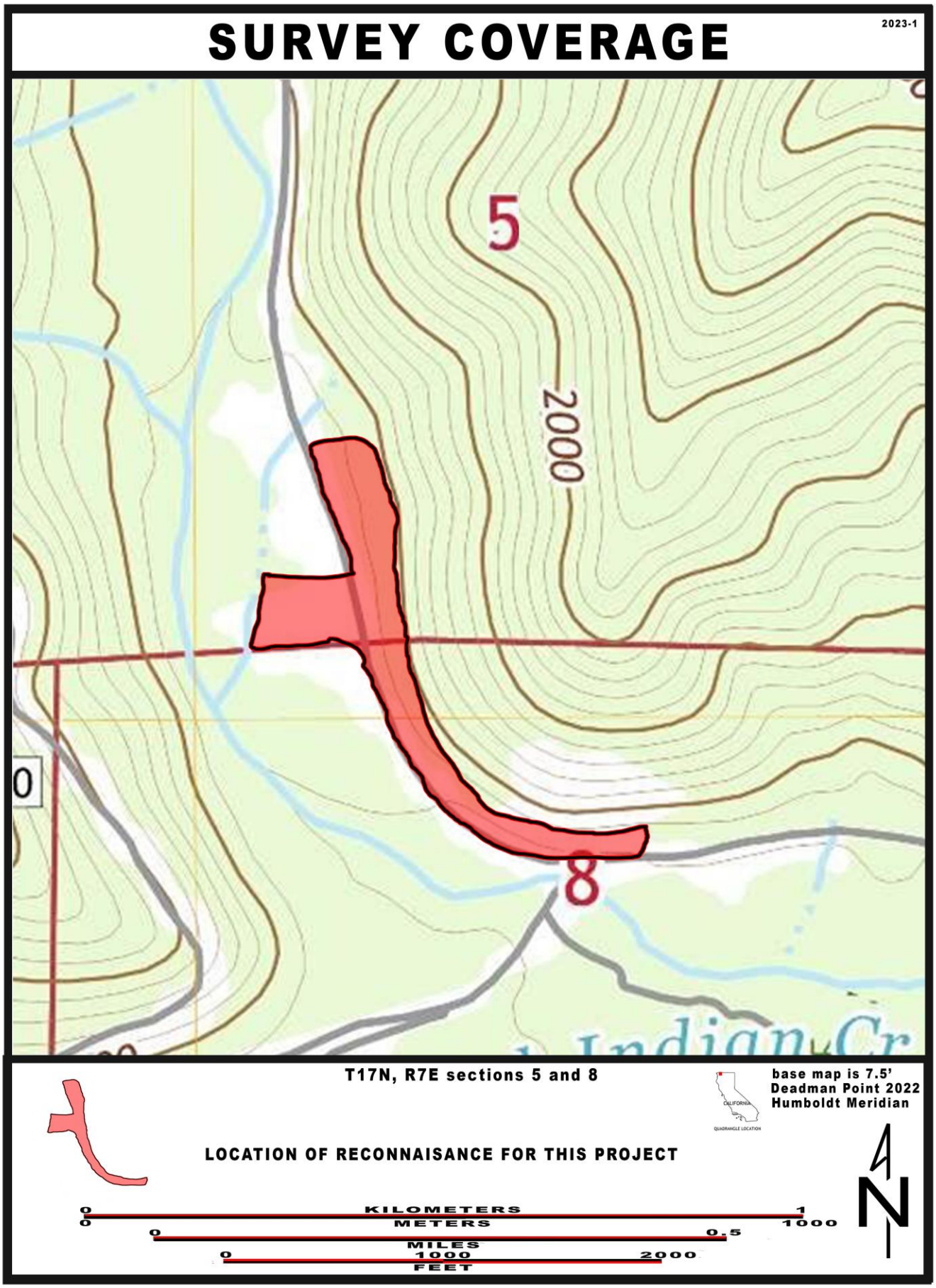
SCALE 1:24 000

KILOMETERS 1 0.5 0 1 2

METERS 1000 500 0 1000 2000

MILES 1 0.5 0 1

FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

N

Waddell Rock Pit and Name Change