

**– DRAFT –
Initial Study/Mitigated Negative Declaration**

**Malakoff Diggins State Historic Park
Pit Drainage Runoff
Sediment Control Best Management Practices Plan**



November 2022



State of California
Department of Parks and Recreation
Sierra District

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**Malakoff Diggins State Historic Park
Pit Drainage Runoff
Sediment Control Best Management Practices Plan**

November 2022

Prepared by



State of California
Department of Parks and Recreation
Sierra District
Tahoma, California

with assistance from



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MITIGATED NEGATIVE DECLARATION

Project: Malakoff Diggins State Historic Park Pit Drainage Runoff Sediment Control Best Management Practices Plan.

Availability of Documents: The Draft Initial Study/Mitigated Negative Declaration (IS/MND) is available for review at: California State Parks Internet Website:

https://www.parks.ca.gov/?page_id=981

Project Description: The Malakoff Diggins State Historic Park Pit Drainage Runoff Sediment Control Best Management Practices Plan (Project) is being proposed by the California Department of Parks and Recreation (DPR) who is also the lead agency under the California Environmental Quality Act (CEQA).

The proposed Project integrates three primary Best Management Practices (BMPs) that would function interdependently to reduce fine sediment discharge from the Pit:

1. Coarse sediment management in the eastern portion of the Pit,
2. An interceptor swale to divert flows from the eastern portion of the Pit from directly discharging to the Hiller Tunnel, and
3. Enhanced Pit Lake function through the use of a Hiller Tunnel inlet control.

Additionally, the Project includes the potential use of soil stabilizer in certain areas of the Pit to reduce sediment entrainment in stormwater flows, potential use of flocculant to enhance fine sediment settling within the Pit, and installation of brush barriers at various locations of the Pit walls and base to provide for increased sediment retention.

Project construction would involve the development and use of temporary construction staging areas and vehicle access routes within the Pit. The Project also includes rerouting of certain existing trail segments within the Pit and removal of an existing boardwalk.

Finding: DPR has reviewed the attached Initial Study and determined that the Initial Study identifies potentially significant project effects, but:

1. Revisions to the project plans and incorporated herein as mitigation would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
2. There is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment. Pursuant to California Environmental Quality Act (CEQA) Guidelines Sections 15064(f)(3) and 15070(b), a Mitigated Negative Declaration has been prepared for consideration as the appropriate CEQA document for the project.

Basis of Finding: Based on the environmental evaluation presented in the attached Initial Study, and with implementation of biological, cultural, and tribal cultural resources mitigation measures identified below, the Project would not have a significant or

potentially significant adverse impact to the environment. DPR Standard and Specific Project Requirements apply to the construction phases of the Project. With implementation of Project requirements, the Project would result in less than significant impacts associated with the following environmental resource subject areas: aesthetics, air quality, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, recreation, transportation, and wildfire. The Project would have no impact associated with the following environmental resource subject areas: agricultural and forest resources, land use and planning, mineral resources, population and housing, public services, and utilities and service systems.

The Project is expected to increase sediment capture within the Pit and decrease sediment discharge to downstream receiving waters resulting in beneficial effects for the environment and the public. These long-term benefits include improvements to the hydrology, aquatic/riparian habitats, and water quality of Humbug Creek and the South Yuba River.

Mitigation Measures

Biological Resources Mitigation Measures

Mitigation Measure BIO-MM-1: Monitoring and Avoidance for CDFW Fully Protected Species

If a CDFW fully protected species (e.g., ringtail, golden eagle, bald eagle) is observed denning or nesting within or adjacent to construction activities, a DPR Environmental Scientist or a DPR-approved biologist shall monitor the area during the first day of Project activities adjacent to the exclusion zone, and additional subsequent monitoring during the construction period will also be performed if deemed necessary. If the biologist observes potential disturbance behavior, the exclusion zone shall be increased based on the biologist's recommendation as necessary to avoid disturbance behavior. The Project shall avoid take of CDFW fully protected species.

Mitigation Measure BIO-MM-2: Ringtail Surveys and Avoidance

No more than 21 days before the start of ground disturbance activities, a DPR Environmental Scientist or a DPR-approved biologist shall conduct pre-construction surveys in suitable ringtail habitat within 50 feet of the disturbance area to determine if potential ringtail dens are present. If potential dens are determined to be present and the den cannot be avoided, the Environmental Scientist or biologist shall monitor them for activity with camera or track trapping, or a similar method to determine whether the den is active. If the den is determined to be occupied, ground disturbance and construction activity shall be avoided (size and configuration of an exclusionary buffer would be determined by a DPR Environmental Scientist or a DPR-approved biologist depending on the status, location, and proposed Project activities occurring in the vicinity) until the den is determined to no longer be active.

Mitigation Measure BIO-MM-3: Bat Roost Assessment and Avoidance

- a. Removal of active bat roosts shall be avoided.
- b. At least 30 days prior to the initiation of construction activities, a bat roost assessment shall be conducted by a DPR Environmental Scientist or a DPR-approved biologist to determine if potential roost habitat is present. If rocky outcroppings or vegetation within the project boundary and surrounding 100 feet has no potential to support roosting bats (e.g., no large basal cavities, exfoliating bark, interstitial spaces, or suitable foliage), project work may be initiated with no further measures required to protect roosting bats.
- c. If potential bat roost habitat is present, and work is occurring between September 1 and April 31 (outside of the maternity season), the DPR Environmental Scientist or DPR-approved biologist shall conduct an emergence survey no more than 7 days prior to tree removal to determine if the roost is occupied. If the emergence survey confirms the roost is inactive, the tree may be felled with no further measures required to protect roosting bats. If the roost is confirmed active, or is assumed to be active, the tree shall be given a 100-foot buffer within which construction activities shall be avoided until the roost is determined to be inactive.
- d. If potential bat roosting habitat is present and work is occurring during the maternity season, the DPR Environmental Scientist or DPR-approved biologist may either conduct an emergence survey to determine if the roost is occupied; or assume the roost is occupied and a buffer shall be implemented. If the emergence survey does not detect bats, the tree may be removed with no further measures required to protect roosting bats. If roosting bats are detected, or the tree is assumed to be an active roost, the tree shall be given a 100-foot buffer within which construction activities shall be avoided until the roost is determined no longer active or the maternity season is complete.

Mitigation Measure BIO-MM-4: Bald and Golden Eagle Surveys and Avoidance

Initiation of construction activities during the eagle nesting season (January 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, then a DPR Environmental Scientist or a DPR-approved biologist shall conduct at least two pre-construction eagle surveys spaced at least 30 days apart, with the last survey occurring within 30 days prior to initiation of ground disturbance or vegetation removal or other construction activities. Surveys shall encompass potentially suitable habitat within 1 mile of construction activities. If preconstruction surveys determine that eagles are nesting in the area, a 0.25-mile exclusion zone where no construction would be allowed shall be established around the active nest. The exclusion zone can be reduced as determined by a DPR Environmental Scientist or DPR-approved biologist based on the location of the nest, ambient noise, and site topography, with a minimum exclusion zone of 500 feet. The buffer shall remain in place until the environmental scientist/biologist determines the nest is no longer active.

Mitigation Measure BIO-MM-5: Special-Status and Nesting Bird Surveys and Avoidance

Initiation of construction activities during the avian nesting season (February 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, then a DPR Environmental Scientist or a DPR-approved biologist shall conduct preconstruction nesting bird surveys within 7 days prior to initial ground disturbance or vegetation removal to avoid disturbance to active nests, eggs, and/or young of nesting birds. Surveys shall be used to detect the nests of special-status as well as non-special-status birds. When construction activities are planned within willow habitat, surveys shall include protocol-level surveys for Little Willow Flycatcher. Surveys shall encompass the entire construction area and the surrounding 500 feet. If an active nest is located, an exclusion zone where no construction would be allowed shall be established around any active nests of any protected avian species. A DPR Environmental Scientist or a DPR-approved biologist shall determine an appropriate exclusion zone based on the species, location, and placement of the nest. A minimum exclusion zone of 50 feet from non-raptor species and 300 feet from raptors shall be employed to assure protection of any nesting birds on or near the Project BRSA. The exclusion zone shall remain until a DPR Environmental Scientist or DPR-approved biologist has determined that all young have fledged and are independent of the nest. These surveys would remain valid as long as construction activity continues in a given area and shall be conducted again if there is a lapse in construction activities of more than 7 consecutive days during the breeding bird season.

Mitigation Measure BIO-MM-6: Northwestern Pond Turtle and Foothill Yellow-legged Frog Surveys and Avoidance

To minimize potential injury or mortality of Northwestern Pond Turtle and Foothill Yellow-legged Frog:

- Ground disturbing activities in aquatic habitat shall occur during the summer dry season where flows are low or streams are dry. Work shall be restricted to the period of June 1 through October 31. If work is not completed by October 31, and significant precipitation is not forecast within 48 hours, work may extend beyond with approval from CDFW. Initial ground-disturbing activities shall be avoided between November 1 and March 31, the period when aquatic species are most likely to be moving through upland areas.
- Herps exclusion fencing shall be installed where deemed necessary by DPR Environmental Scientist or DPR-approved biologist and through consultation with regulatory agencies around the project area during access road development and excavation. The fencing will be monitored and repaired or replaced as necessary during construction.
- Within 48 hours prior to any construction activities, a DPR Environmental Scientist or a DPR-approved biologist shall conduct surveys for special-status species within and adjacent to the disturbance area.

Cultural Resources Mitigation Measures

Mitigation Measure CULT-MM-1: Site-Specific Cultural Resources Monitoring and Avoidance

Ground disturbance and other construction activities on the southern ends of the Project grade control structure and interceptor swale, soldier pile wall, west side of the access road, areas of soil stabilizer application, and all staging areas and access road development will be monitored by a cultural resources specialist to ensure avoidance of inadvertent adverse effects to cultural resources. Monitoring shall be emphasized in those areas described as particularly sensitive and as recommended in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-2: Cultural Resources Interpretive Project Plan

DPR shall develop and implement an interpretive project plan to preserve cultural elements that would be directly or indirectly affected by the Project. The plan shall be sufficient to compensate for the adverse change to the Malakoff Hydraulic Mine Complex site and the Malakoff Diggins-North Bloomfield Historic District resulting from the Project. The interpretive project plan shall be developed based on recommendations in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-3: Telephone Pole Interpretive Project Plan

DPR shall develop and implement an interpretive project plan to preserve and convey information about the telephone pole located in the existing Pit Lake associated with the Ridge Telephone Company’s Long-Distance Telephone Line (CA-NEV-581H). The interpretative project plan shall be sufficient to compensate for the adverse change to the telephone pole resulting from the Project as recommended in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-4: Bedrock Milling Feature Evaluation and Treatment Plan

Through consultation with local Native American tribal representatives, DPR shall evaluate and develop and implement appropriate protection or other treatment measures for the Native American bedrock milling feature located within the enhanced Pit Lake inundation area. DPR shall complete consultation with Native American tribal representatives and determine appropriate treatment of the feature prior to Project construction, possibly including, but not limited to, relocation.

Contact: A copy of the Draft Initial Study/Mitigated Negative Declaration is attached. Questions or comments regarding this Initial Study/Mitigated Negative Declaration may be addressed to:

Dan Canfield, District Superintendent
California Department of Parks and Recreation
P.O. Box 266
Tahoma, CA 96142-0266
Email: dan.canfield@parks.ca.gov
Phone: (530) 525-7232

To ensure consideration of comments prior to DPR's final approval of this IS/MND, comments must be submitted to the party above by no later than December 19, 2022.

Pursuant to Section 21082.1 of CEQA, DPR has independently reviewed and analyzed the IS/MND for the proposed Project and finds that the documents reflect the independent judgement of DPR. DPR as the CEQA lead agency, also confirms that the Project requirements and mitigation measures defined in these documents are feasible and will be implemented as stated in the IS/MND.

DocuSigned by:

Dan Canfield

2276707EFF80491
Dan Canfield, District Superintendent

11/16/2022

Date

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CHAPTER 1 INTRODUCTION

1.1 Introduction and Regulatory Guidance

The Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Malakoff Diggins State Historic Park (MDSHP) Pit Drainage Runoff Sediment Control Best Management Practices (BMPs) (Project). The Project would install and maintain various BMP components within the Malakoff Diggins Basin former hydraulic mine pit (Pit) to control the release of sediment from the Pit to downstream receiving waters.

The document was prepared under the direction of DPR as the California Environmental Quality Act (CEQA) lead agency and in accordance with CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations).

1.2 CEQA and Purpose and Intent of Initial Study

The purpose of the Initial Study is to determine whether Project implementation would result in potentially significant or significant effects on the environment. According to CEQA Guidelines Section 15070, a negative declaration or mitigated negative declaration shall be prepared for a project subject to CEQA when either:

- a) The initial study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or
- b) The initial study identified potentially significant effects, but:
 - 1) revisions in the project plans or proposals made by or agreed to by the applicant before the negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
 - 2) there is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.

CEQA Guidelines Section 15071 identifies the contents of a negative declaration or mitigated negative declaration circulated for public review as:

- a) A brief description of the project, including a commonly used name for the project, if any;
- b) The location of the project, preferably shown on a map, and the name of the project proponent;
- c) A proposed finding that the project will not have a significant effect on the environment;
- d) An attached copy of the Initial Study documenting reasons to support the finding;

and

- e) Mitigation measures, if any, included in the project to avoid potentially significant effects.

As summarized in Chapter 3, “Initial Study Environmental Checklist,” the Initial Study determines that the Project, inclusive of technical specifications in the design plans for the Project and DPR standard and specific project requirements, and with implementation of mitigation measures described herein, would not have a significant effect on the environment, and therefore a Mitigated Negative Declaration is proposed. Thus, this document is an Initial Study/Mitigated Negative Declaration (IS/MND).

1.2.1 DPR as CEQA Lead Agency

CEQA requires that all state and local government agencies consider the environmental consequences of projects they propose to implement, or over which they have discretionary authority, before implementing or approving those projects. As specified in CEQA Guidelines Section 15367, the public agency that has the principal responsibility for carrying out or approving a project is the lead agency for CEQA compliance. DPR has principal responsibility for approving the proposed Project and is therefore the CEQA lead agency for this IS/MND.

1.2.2 Basis of the Impact Analysis

The impact analysis in Chapter 3 of this IS/MND assesses the Project as described in Chapter 2, “Project Description.” The project description is based on design plans and construction specifications for the proposed BMP components, which are included as Appendix A, “BMP Design Drawings and Construction Specifications,” of this IS/MND.

The evaluation of environmental impacts included herein addresses reasonably foreseeable environment effects associated with all components of the Project. Therefore, this IS/MND is anticipated to serve as the adequate CEQA document for the whole Project.

1.2.3 Long-Term Remediation

This IS/MND is prepared to evaluate and disclose environmental effects associated with the Project. DPR recognizes that long-term remediation for sediment control and meeting water quality objectives in compliance with Central Valley Regional Water Quality Control Board (CVRWQCB) requirements (discussed further in Section 2.3, “Background and Need for the Project,” below) and environmental review of long-term remediation actions will ultimately be necessary. Presently, DPR has not formulated proposed long-term remediation actions and potential future remediation actions are not part of, nor required for, implementation of the Project. Once DPR develops proposed long-term remediation actions, DPR will evaluate the environmental effects of those actions in compliance with CEQA.

1.3 Comments Submittal

Questions or comments regarding this IS/MND should be submitted to:

Dan Canfield, District Superintendent
California Department of Parks & Recreation
Sierra District Resources Office
P.O. Box 266
Tahoma, CA 96142-0266
E-mail Address: dan.canfield@parks.ca.gov
Please include "Malakoff Diggins BMP Project" in the subject line.

Submissions must be in writing and postmarked or received by email no later than December 19, 2022. Email submissions must include full name and address. All comments will be included in the final environmental document for this project and become part of the public record.

1.4 Purpose and Document Organization

The purpose of this document is to describe the Project and evaluate the potential environmental effects of the Project.

This document is organized as follows:

Chapter 1—Introduction. This chapter provides an introduction to the Project and describes the purpose and organization of this document.

Chapter 2—Project Description. This chapter describes the reasons for the Project, scope of the Project, and Project objectives.

Chapter 3—Initial Study Environmental Checklist. This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist.

Chapter 4—Mandatory Findings of Significance. This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans.

Chapter 5—Mitigation Measures. This chapter lists the mitigation measures incorporated into the Project.

Chapter 6—Acronyms. This chapter provides a list and definitions of acronyms used in this IS/MND.

Chapter 7—List of Preparers. This chapter provides a list of the individuals and contracting firms involved in the preparation of this IS/MND.

Chapter 8—References. This chapter identifies the references and sources used in the preparation of this IS/MND.

1.5 Summary of Findings

Chapter 3 of this document contains the Initial Study Environmental Checklist that identifies the potential environmental impacts for each resource subject area and a brief discussion of each impact resulting from implementation of the Project.

Based on the Initial Study and supporting environmental analysis provided in this document, and with implementation of mitigation measures, the proposed MDSHP Sediment Control BMP Project would not result in any significant or potentially significant environmental impacts. The Project would result in potentially significant impacts to biological resources, cultural resources, and tribal cultural resources that would be reduced to less than significant with implementation of mitigation measures. The Project would result in less than significant impacts associated with the following environmental resource subject areas: aesthetics, air quality, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, recreation, transportation, and wildfire. The Project would have no impact associated with the following environmental resource subject areas: agricultural and forest resources, land use and planning, mineral resources, population and housing, public services, and utilities and service systems.

In accordance with §15064(f)(2) of the CEQA Guidelines, a Mitigated Negative Declaration shall be prepared if the proposed project may have a significant effect on the environment, but revisions in the project plans would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur. Based on the environmental analysis presented in this document, and with mitigation identified herein, there is no substantial evidence that the Project would have a significant effect on the environment, and a Mitigated Negative Declaration is the appropriate CEQA document for the Project.

CHAPTER 2 PROJECT DESCRIPTION

2.1 Introduction

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by DPR to evaluate the potential environmental effects of the proposed Project. The Project would install and maintain various BMP components within the Malakoff Diggins Pit to control the release of sediment from the Pit to downstream receiving waters.

2.2 Project Location

The Project is located at MDSHP approximately 9 miles northeast of Nevada City in Nevada County, California, as shown on Figure 2-1, "Project Location." MDSHP is a 3,200-acre area of state-owned lands with elevations ranging between approximately 2,500 to 4,000 feet above mean sea level (amsl). MDSHP was nominated to the National Register of Historic Places (NRHP) in 1972 and listed on the NRHP as the Malakoff Diggins-North Bloomfield Historic District in 1973. The site of the North Bloomfield Mining and Gravel Company is California Historical Landmark 852 listed in the California Register of Historical Resources (CRHR) (OHP, 1990).

MDSHP includes the historic town of North Bloomfield, a public campground, a pond (Blair Lake), wooded areas with hiking trails, and the former hydraulic mine in the Malakoff Diggins Basin. The Malakoff Diggins Basin, which includes the surrounding hillsides and basin floor, is referred to herein as the Malakoff Diggins Pit or "Pit." The Pit also contains Diggins Pond in the southwest portion of the Pit which is referred to herein as the Pit Lake as shown on Figure 2-2, "MDSHP and Malakoff Diggins Basin." Project BMP components would be located in the Pit as shown on Figure 2-3, "Project BMP Components."

2.3 Background and Need for the Project

Placer mining began in the vicinity of MDSHP in 1852 after gold deposits were discovered in Humbug Creek, which drains from the east and to the south of MDSHP and discharges to the South Yuba River approximately 2 miles south of the Malakoff Diggins Pit. During the 1850s, concerns emerged about the massive amount of mining debris being discharged from hydraulic mines into rivers. Toward the end of the 1860s, as large-scale hydraulic mining operations got underway, the debris problem became severe and adversely impacted communities downstream of mining operations. In 1884, litigation over damage caused by mining debris resulted in the permanent injunction against releasing tailings into the Yuba River. (Golder, 2019)

Hydraulic mining operations between 1866 and 1900 mined approximately 64.4 million cubic yards of auriferous (i.e., gold-bearing) gravels, most of which were discharged from the mine pit through the North Bloomfield Tunnel which discharged to Humbug Creek about 1.5 miles south of the Pit. Gold was recovered from the auriferous gravels by various methods including panning, rockers, and sluicing through flumes and undercurrents. Elemental mercury was used to recover the finer gold. Efforts were made to recover the mercury for reuse when processing the captured gold. However, a portion

of the mercury was not recovered and was washed with the tailings from the Pit and into Humbug Creek or remains (predominantly sediment-bound) within the Pit.

These hydraulic mining operations resulted in a pit approximately 4,600 feet long, 600 to 1,200 feet wide at the base, with walls that are 50 to 200 feet high above the current elevation of the Pit floor. The former inlet to the North Bloomfield Tunnel that historically served as an outlet drain for transporting surface water and entrained sediment from the Pit is thought to be blocked and no longer receives and transports water or sediment from the Pit. Erosion of the Pit walls has and continues to result in accumulation of sediment in the base of the Pit and has created a relatively level Pit floor with sediment depths of 75 feet or more in some areas. (Golder, 2019, pg. 2)

Under existing conditions, sediment continues to accumulate on the Pit floor, increasing the surface elevation of the Pit floor, and decreasing the size of the Pit Lake, over time. Surface water and entrained sediment discharges from the Pit as runoff that exits the Pit via the Hiller Tunnel which is located on the southern perimeter of the central portion of the Pit, as shown on Figure 2-2. The majority (approximately 75%) of sediment inflow to the Pit, including that resulting from erosion of the Pit walls, occurs in the eastern portion of the Pit. Storm water runoff from the southeast portion of the Pit becomes channelized along the southern Pit floor perimeter and discharges directly to the Hiller Tunnel drainage with little opportunity for fine particle settling. The central portion of the Pit is a relatively level flood plain with a braided drainage pattern where storm water from the east and northeast walls drains toward the west of the Pit where surface water ponds throughout the year. This western Pit ponded area is referred to as the Pit Lake. Fine sediment generally settles from surface water flows in the central portion of the Pit and in the Pit Lake during low-flow periods; however, during higher flow events, water moves more rapidly and much of the entrained fine sediment remains in storm water discharged via the Hiller Tunnel.

As sediment has accumulated within the Pit floor, the Pit Lake has reduced in size which has reduced the Pit Lake's sediment retention and settling capacity. The size of the Pit Lake varies depending on the season, but the lake generally retains some water throughout the year. A key hydrologic aspect of the Pit Lake is that up to a surface elevation of approximately 3,040 feet amsl, water within the Pit Lake does not have a path to the Hiller Tunnel and therefore remains ponded, only discharging through Hiller Tunnel once the surface elevation exceeds 3,040 feet amsl. If the Hiller Tunnel were to become blocked and/or inflow to the pit is in excess of the Hiller Tunnel conveyance capacity for a sufficient period of time, the water storage capacity of the Pit could be exceeded and discharges from the Pit would occur at an uncontrolled natural spillway in the southwest corner of the Pit at an elevation of 3,053 feet amsl. (Golder, 2020) As sediment continues to accumulate in the Pit over time, the water storage capacity in the Pit continues to decline.



CLIENT
CA DEPT. OF PARKS AND RECREATION
MALAKOFF DIGGINS STATE HISTORIC PARK
NEVADA COUNTY, CA

LEGEND

MALAKOFF DIGGINS STATE HISTORIC PARK

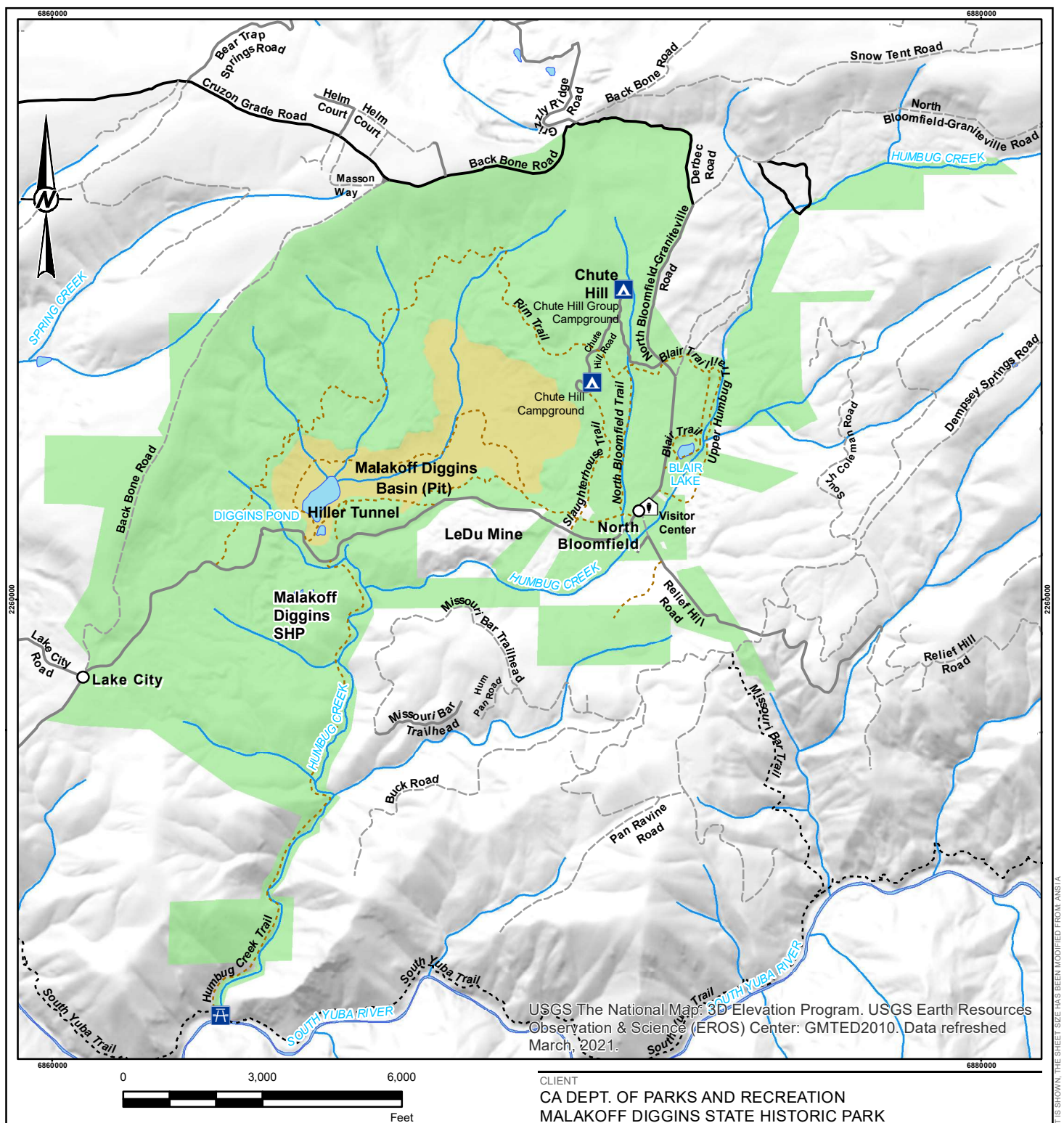
NOTE(S)

1. ROAD MAP OBTAINED FROM ESRI DATA AND MAPS: STREET MAP (EDITION 10) BY ESRI AND TELE ATLAS NORTH AMERICA, INC. DATE OF INFORMATION: JUNE 30, 2010.

2. TERRAIN BACKGROUND OBTAINED FROM ESRI BASEMAP WEB SERVICE TITLED TERRAIN. SOURCES: ESRI, USGS, AND NOAA.

3. KEY MAP BACKGROUND INFORMATION OBTAINED FROM ESRI BASEMAP WEB SERVICE TITLED WORLD STREET MAP. SOURCES, ESRI, USGS, DELORME, AND OTHERS.

FIGURE 2-1
PROJECT LOCATION



CLIENT

CA DEPT. OF PARKS AND RECREATION
MALAKOFF DIGGINS STATE HISTORIC PARK
NEVADA COUNTY, CA

LEGEND

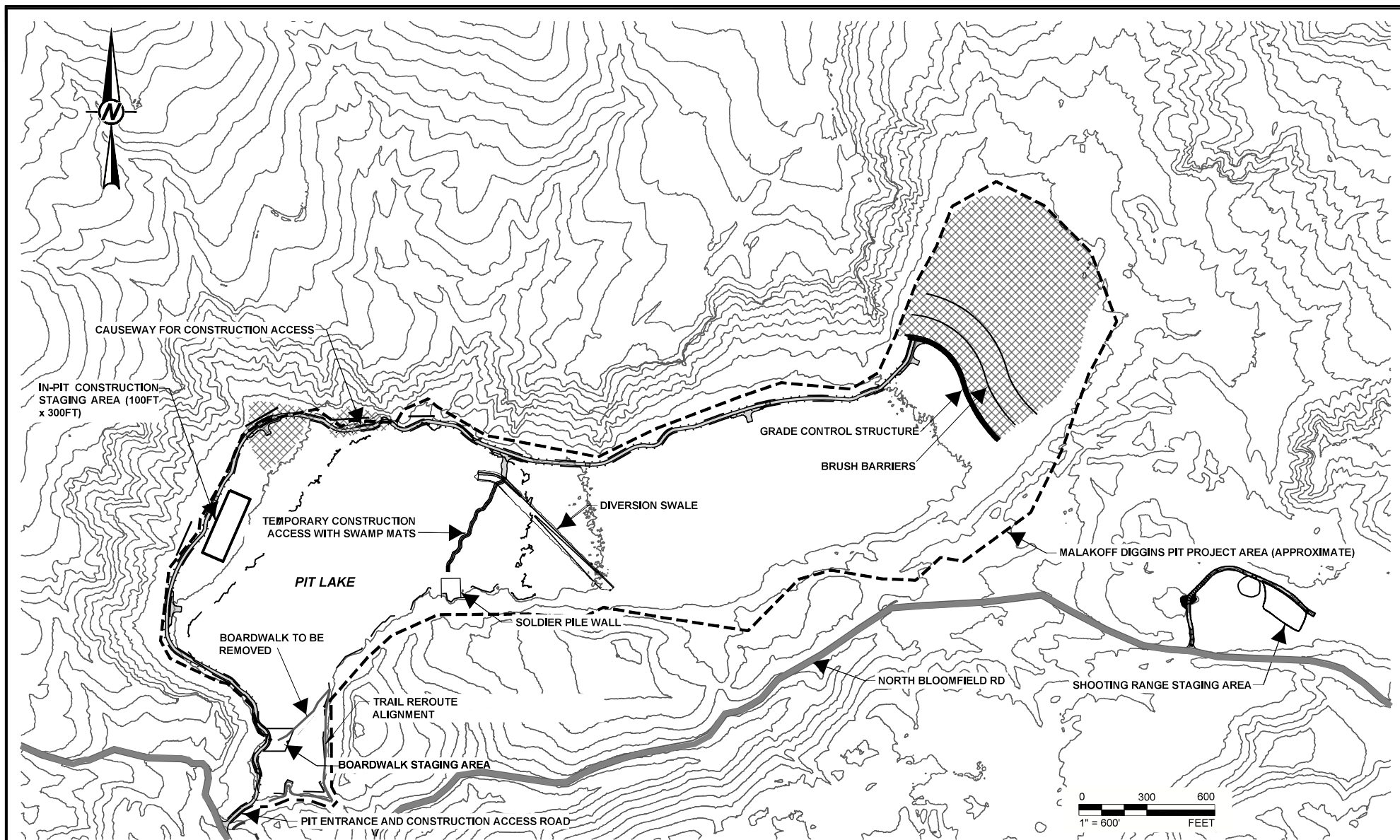
- | | |
|---|--|
| MALAKOFF DIGGINS STATE HISTORIC PARK | Paved |
| Approximate Extent of The Diggins Basin (Pit) | Dirt |
| Picnic Site (CA State Park) | Gravel |
| Camp Site (CA State Park) | Stream/River |
| Museum/Visitor Center | Community |
| Malakoff Diggins State Park Trails | |
| Other Trails | |

NOTE(S)

1. TERRAIN BACKGROUND OBTAINED FROM USGS NATIONAL MAP WEB SERVICE TITLED USGS SHADED RELIEF ONLY.
2. PICNIC, CAMP, AND OTHER PARK BUILDING LOCATIONS OBTAINED FROM CA STATE PARK AND RECREATION GIS WEBSITE.
3. TRAIL AND ROAD CENTERLINES OBTAINED FROM NEVADA COUNTY GIS WEBSITE.
4. WATER DATA OBTAINED FROM USGS NATIONAL MAP WEBSITE.

FIGURE 2-2
MDSHP AND MALAKOFF DIGGINS BASIN

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A



LEGEND


- EXISTING CONTOUR (25 FT)
- 100-YR FLOOD WATER LEVEL (EL. 3046 FT MSL)
-  POTENTIAL SOIL STABILIZER APPLICATION AREAS

FIGURE 2-3
PROJECT BMP COMPONENTS

Since the late 1970s, several geologic and environmental assessments have been conducted at MDSHP. The studies indicate that small quantities of mercury are discharging from the Pit through the Hiller Tunnel primarily during occasional high-flow rainfall events. Concentrations of mercury tend to be very low and the primary mode of mercury transport is adsorption onto fine grained sediment. (Golder, 2019; pg. 3)

Mine-related discharge from the Pit is currently regulated by Waste Discharge Requirements (WDR) Order R5-2017-0086 (NPDES Permit No. CA0085332) (the Order) adopted by the CVRWQCB in August 2017, which became effective on October 1, 2017, and Time Schedule Order R5-2017-0087-01 (TSO) adopted by the CVRWQCB in October 2022, through Order R5-2022-0063 which amended the previously effective TSO R5-2017-0087.

In the long-term, the Order establishes final numeric effluent limitations for copper, manganese, mercury, nickel, and pH for the effluent point of compliance (EFF-001) at the Hiller Tunnel outfall, which are to be met by September 2027. In the interim, the Order establishes numeric effluent limitations for manganese and pH, and the TSO establishes interim numeric effluent limitations for copper (Cu), mercury (Hg), and nickel (Ni). These interim effluent limits apply in lieu of corresponding final effluent limitations for the same parameters at point of compliance EFF-001. Discharge from the Pit at EFF-001 is in compliance with these interim effluent limits based on data collected monthly from 2017-2022.

In addition to the interim numeric effluent limits, the Order also specifies receiving water (Humbug Creek) narrative limitations for suspended sediment, settleable substances, suspended material, and turbidity. Section VI C (3) of the Order states that discharge from the Hiller Tunnel is in violation of the “Water Quality Control Plan, Fourth Edition (Revised July 2016), for the Sacramento and San Joaquin River Basins” (Basin Plan) water quality objectives for sediment, settleable material, suspended material, and turbidity and requires identification and implementation of BMPs to minimize, abate, or control the discharge of these constituents. The implementation of BMPs are required in lieu of numeric effluent limitations.

The Order required the preparation and submittal of a BMP Options Assessment/Engineering Evaluation and a subsequent BMP Plan to the CVRWQCB. In compliance with that requirement, DPR prepared and submitted a “Best Management Practices Options Assessment/Engineering Evaluation Report” (BMP Options Assessment) on April 1, 2020 (Golder, 2020). The BMP Options Assessment documented existing conditions and provided a preliminary and comprehensive evaluation of all required and additional BMPs having the potential to be implemented within the given regulatory timeframe to address the CVRWQCB’s intent to minimize, abate, or control sediment discharge from the Hiller Tunnel. The BMP Options Assessment concluded that an integrated BMP strategy that incorporates a combination of BMPs may be the most effective viable approach for near-term sediment management and reducing sediment discharge from the Pit and recommended an Integrated BMP strategy. The integrated BMP strategy consists of the following primary components:

- Coarse sediment management in the eastern portion of the Pit using a grade control structure and brush barriers to capture and retain gravel and sand.
- Interceptor swale in the south-central portion of the Pit to redirect flows from the eastern portion of the Pit away from the Hiller Tunnel and to the northwest into the Pit Lake to allow for additional fine sediment settling.
- Enhancement of the Pit Lake to increase its sediment settling capacity with construction of a soldier pile wall to manage surface water discharge to the Hiller Tunnel.

The integrated BMP strategy in the BMP Options Assessment also recommended further consideration of potential application of soil stabilizers in certain areas of the Pit and potential introduction of flocculants to enhance fine particle settling within the Pit. Although these potential elements are not required for effective implementation of the primary components of the Project, their potential advantageous use is considered as part of the Project for evaluation in this IS/MND and a pilot testing and adaptive management approach is included to inform DPR's decisions regarding the use of stabilizers and flocculants.

In compliance with the Order's requirement for a BMP Plan, DPR prepared and submitted to CVRWQCB on September 1, 2021, design drawings and specifications for "Malakoff Diggins State Historic Park Pit Drainage Runoff Best Management Plan Construction" (Golder 2021a). As discussed below in Section 2.5, "Project Description," the drawings and construction specifications submitted to CVRWQCB reflect the proposed Project evaluated in this Initial Study and are included as Appendix A of this IS/MND.

2.4 Project Objectives

The mission of DPR is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

The objectives of the Project are to:

- Implement sediment control BMPs to reduce sediment discharge from the Malakoff Diggins pit in compliance with CVRWQCB Order No. R5-2017-0086 Section VI C 3 (b) and TSO No. R5-2017-0087-01;
- Implement BMPs that are effective at managing sediment and feasible to implement – requiring, among other things, consideration of cost, CEQA review, cultural review, regulatory approvals timing, and constructability;
- Install and maintain BMPs that will be effective for a minimum of 3 to 5 years, with the ability to expand and modify to extend the functional life until such time as long-term measures to comply with numeric effluent limits are implemented;
- Provide BMP implementation flexibility to respond to observed function over time;
- Minimize adverse effects of BMPs on the visual, cultural, biological, and

recreational values of MDSHP; and

- Continue the collection of water quality and other data to aid in developing long-term sediment control strategies.

In developing the proposed design and construction detail of the Project, DPR considered site constraints and opportunities associated with existing resources, conditions, and uses at Malakoff Diggins SHP. The proposed BMP components, temporary construction areas and access routes, and proposed trail segment routing are designed to provide for sediment control in compliance with the CVRWQCB Order while minimizing potential effects to environmental, historical, and recreational resources in MDSHP.

2.5 Project Description

As stated above, the proposed Project integrates three primary BMPs that would function interdependently to reduce fine sediment discharge from the Pit. They are:

- 1) Coarse sediment management in the eastern portion of the Pit,
- 2) An interceptor swale to divert flows from the eastern portion of the Pit from directly discharging to the Hiller Tunnel, and
- 3) Enhanced Pit Lake function through the use of a Hiller Tunnel inlet control.

Additionally, the Project includes the potential use of soil stabilizer in certain areas of the Pit to reduce sediment entrainment in stormwater flows, potential use of flocculant to enhance fine sediment settling within the Pit, and installation of brush barriers at various locations of the Pit walls and base to provide for increased sediment retention.

Project construction would involve the development and use of temporary construction staging areas and would install construction vehicle access routes within the Pit. The Project also includes rerouting of certain existing trail segments within the Pit and removal of an existing boardwalk.

The various BMP components, staging areas, access road alignments, and the proposed trail realignment segment are illustrated on Figure 2-3, "Project BMP Components," and are described in Sections 2.5.1 through 2.5.3, below. Construction staging areas, in-Pit construction access routes, and the proposed trail realignment associated with the BMP Project are discussed further in Sections 2.5.5, 2.5.6, and 2.5.7, respectively.

2.5.1 Coarse Sediment Management

The coarse sediment management component of the Project consists of a grade control structure and brush barriers for coarse sediment management in the eastern portion of the Pit, as shown on Figure 2-3 and in more detail on Sheets C-3 and C-7 of Appendix A-1. The grade control structures would be the primary coarse sediment management structure and would consist of an approximately 3-foot tall, 650-foot-long rock berm extending across the Pit floor. The grade control structure would have a base width of approximately 17 feet and a crest width of approximately 8 feet. The upper two feet of the structure would be constructed of rock ranging in size of about 1 to 3.5 feet in diameter,

placed on an approximately 1-foot-thick bedding filter layer. The upgradient and downgradient faces of the structure would be sloped at approximately 1.5 horizontal to 1 vertical (1.5H:1V). The permanent footprint of the grade control structure would be approximately 0.25 acres.

Construction of the grade control structure would involve clearing existing vegetation along the 17-foot-wide grade control structure alignment. (See Sections 2.5.5 and 2.5.6 for discussion of staging areas and access roads and Section 2.6 for additional information related to BMP construction.) Cleared vegetation would be stockpiled on the northwest side to be used for construction of the brush barriers. The rock berm would then be constructed by placing and pushing the bedding filter layer rock along the grade control structure alignment allowing construction vehicles to then drive on the bedding filter layer to backdump the larger rock onto the bedding filter layer. This construction method would limit disturbance to the grade control structure footprint and avoid direct impacts to adjacent areas.

Approximately 1,515 tons (900 in-place cubic yards) of rock would be required for construction of the grade control structure. The rock for the bedding filter layer and large rock for the structure (as well as rock needed for other BMP components and access roads) would be obtained from a permitted offsite source. A specific source for rock needed for BMP construction has not been identified, however, it is anticipated that local sources are available and proximity to MDSHP would be a factor in determining appropriate source(s). Imported rock or other material would be certified as weed-free to minimize the potential for introduction of invasive plant species.

Brush barriers would be installed upgradient of the grade control structure to dissipate concentrated flow and reduce storm water velocity. The brush barriers would be approximately 2.5 feet tall and supported by 2-inch wood posts (detailed on Sheet C-7 in Appendix A-1). Stakes would be installed then infilled with vegetation cleared from the rock berm alignment. Vegetation would be manually tamped in place until the brush fills the space between the stakes to the height of the stake and tied in place.

The function of the grade control structure would be to manage and contain the coarse sediment fraction of the high sediment loads (approximately 75% of the total sediment inflow to the Pit) from the eastern Pit. Water, silts, and clays would percolate through the grade control structure while much of the coarse gravel/sand would be contained. During large events, storm water would spill over the grade control structure, yet much of the coarse fraction would still be contained.

The grade control structure and brush barriers would require little maintenance and would not require periodic sediment removal. Instead, the structures would be “sacrificial” and would provide storm water treatment in the near-term and base-level grade control afterwards. Over time, the containment areas upgradient of the grade control structure and brush barriers would fill with coarse sediment and lose their retention capacity. The 3-foot-tall grade control structure would have an estimated effective sediment capture duration of approximately 5 years. Additional brush barriers could be added over time as

the initial barriers lose retention capacity or if DPR otherwise determines additional brush barriers are warranted. Installation of additional brush barriers would use the same techniques as described above and would be manually installed, not requiring use of heavy equipment.

In addition to the grade control structure and brush barriers, the coarse sediment management component of the Project includes the potential use of a non-toxic powder or liquid soil stabilizer such as anionic polyacrylamide (PAM) or vinyl-based products that could be applied upgradient of the grade control structures. If used, stabilizer application would help form a “crust” over unconsolidated material and would provide immediate erosion control and reduce the total sediment load reaching the grade control structures during high-flow events. For coarse sediment management in the eastern portion of the Pit, a maximum area of approximately 20 acres east of the grade control structure (detailed on Sheet SP-2 of Appendix A-1), would be considered for application of chemical stabilizers in the eastern portion of the Pit. If used, stabilizers would be applied using low-ground pressure, all-terrain vehicles (ATV) rubber-tired equipment with PAM tanks and spray bars or backpack sprayer and would be reapplied periodically. Stabilizer application would avoid vegetation.

The coarse sediment management component (grade control structures and brush barriers with or without the use of stabilizers) would limit the sediment reaching the downstream BMPs (discussed in following sections) which would improve the performance and reduce the maintenance requirements for downstream BMPs.

2.5.2 *Interceptor Swale for Diversion of Eastern Flows*

The interceptor swale component of the proposed Project would divert surface water flows from the eastern portion of the Pit to limit direct flow to the Hiller Tunnel. Instead, this surface water would be directed to the northwest and into the Pit Lake in the western portion of the Pit allowing fine particle settlement in the Pit Lake. The location of the proposed interceptor swale is shown on Figure 2-3 and is detailed on Sheets SP-2, C-2, and C-6 of Appendix A-1. The interceptor swale would be approximately 800 feet in length and consist of a channel approximately 2 feet deep and 8 feet wide at its base and an adjacent earthen cutoff berm that would be approximately 2 feet tall and 30 feet wide.

Construction of the swale and cutoff berm would require clearing vegetation and earth work with an approximately 50-foot-wide corridor along the alignment. The interceptor swale channel would be mechanically excavated, and the excavated material would be used to construct the adjacent cutoff berm. (See Sections 2.5.5 and 2.5.6 for discussion of staging areas and access roads and Section 2.6 for additional information related to BMP construction.) The channel and berm would be revegetated with willow cuttings obtained during construction and other seeding and planting. Equipment used for construction could include a tracked “skid-steer” excavator with trench construction attachments. Protective temporary matting would be placed to minimize ground and vegetation disturbance and to maintain at-grade equipment positioning.

Concentrated and accelerated flow conditions in the interceptor swale channel would

provide a suitable location for passive introduction of flocculant to enhance fine particle settling once these flows enter the Pit Lake. The Project includes the potential addition of anionic polyacrylamide flocculant to flows within the diversion channel. If used, flocculant would be added passively with the placement of flocculant blocks in the drainage channel where flowing water would dissolve flocculant and allow for its mixing and attachment to fine sediment particles. Flocculant blocks or logs approximately 12 inches long, 6 inches wide, and 4 inches tall would be installed within the swale and secured in place with rebar and mesh covering. Once the flowing water enters the Pit Lake and slows, fine particles with affixed flocculant would more rapidly settle out in the Pit Lake. (See Section 2.5.4 for additional discussion of potential flocculant use, pilot testing, and adaptive management.)

2.5.3 *Enhanced Pit Lake with Discharge Control*

The enhanced Pit Lake with discharge control component of the proposed Project would be created with installation of a soldier pile wall with wooden lagging and related features to control surface water discharges to the Hiller Tunnel. This component would enhance the sediment capture function of the Pit Lake by increasing the lake's volume and surface area and increasing the retention time to increase sediment settling. The soldier pile wall would slow the discharge of Pit Lake flows to the Hiller Tunnel resulting in an increase in the surface water elevation of the Pit Lake during and following storm events as compared to existing conditions. In addition to creating the enhanced Pit Lake sediment capture as a BMP component, the soldier pile wall would also reduce the potential for the Hiller Tunnel to become blocked or plugged thereby reducing the potential for a nonengineered discharge from the Pit that could occur if the Hiller Tunnel were to become blocked or plugged (Golder 2019).

The general location of the soldier pile wall and Pit Lake surface perimeter during high flow conditions is shown on Figure 2-3. Detail of the soldier pile wall BMP component, including the proposed soldier pile wall, peers, and scour protection, and a profile illustration of the wall and pilings elevations, is illustrated on Sheets SP-8, C-1, and C-5 of Appendix A-1. The wall would be configured in a box shape approximately 210 feet in length encompassing an approximately 0.4-acre area surrounding the Hiller Tunnel inlet. The wall would be supported with I-beams spaced at a maximum of 9.5 feet apart with burial depths of 14 feet into the underlying soils or socketed into the bedrock where the depth of soils is less than 14 feet below existing grade. The ends of the wall would terminate where steeply sloping bedrock is encountered at the surface. Water would be retained by horizontally placed wood lagging that would form the wall between I-beams. The top elevation of the soldier pile wall would be approximately 3,046 feet amsl, with an approximately 45-foot-wide weir discharge elevation of approximately 3043.5 feet. The wall would be designed to maintain low flows by providing gaps in the lagging and/or holes drilled at lower elevations of the wall. Rock riprap would be placed downstream of the wall to provide scour protection.

The wall would be designed to slow, but not eliminate, surface water discharge to the Hiller Tunnel from the Pit and would increase water surface elevation during storm events to expand the surface area of the Pit Lake as compared to baseline conditions. Table 2-1, "Existing and Proposed Pit Lake Surface Elevations and Area," shows Pit Lake surface

elevations and surface areas for the 2-year, 10-year, and 100-year storm events under existing conditions and under conditions with the proposed soldier pile wall.

Table 2-1
Existing and Proposed Pit Lake Surface Elevations and Area

| Storm Event | Existing Conditions | | With Project Soldier Pile Wall | |
|-------------|-------------------------|-----------------------|--------------------------------|-----------------------|
| | Surface Area (acres) | Elevation (NAVD88) | Surface Area (acres) | Elevation (NAVD88) |
| 2-Year | 7.9 | 3,041.28 | 21.6 | 3,044.19 |
| 10-Year | 9.0 | 3,041.51 | 23.5 | 3,044.73 |
| 100-Year | 19.2 | 3,043.59 | 26.8 | 3,045.95 |

Source: Golder, 2022a

The increased surface elevation and area of the Pit Lake resulting from the proposed soldier pile wall would result in increased Pit Lake storage capacity, as shown in Table 2-2, “Existing and Proposed Pit Lake Surface Elevations and Storage.”

Table 2-2
Existing and Proposed Pit Lake Surface Elevations and Storage

| Storm Event | Existing Conditions | | With Project Soldier Pile Wall | | Change Resulting from Proposed Soldier Pile Wall | |
|-------------|--------------------------|-------------------------|--------------------------------|-------------------------|--|-------------------------|
| | Peak Water Level (ft) | Peak Storage (ac-ft) | Peak Water Level (ft) | Peak Storage (ac-ft) | Peak Water Level (ft) | Peak Storage (ac-ft) |
| 2-Year | 3,041.28 | 5.2 | 3,044.19 | 49.1 | +2.91 | +44.0 |
| 10-Year | 3,041.51 | 7.2 | 3,044.73 | 61.2 | +3.22 | +54.0 |
| 100-Year | 3,043.59 | 36.9 | 3,045.95 | 91.9 | +2.36 | +55.0 |

Source: Golder, 2022a, Table 5.

Notes: Peak storage includes both live and dead storage

Both the larger Pit Lake surface area and the longer detention time resulting from the soldier pile wall would contribute to increased fine particle settling in the Pit Lake as compared to existing conditions. Additional discussion regarding Pit Lake hydrology and surface elevations fluctuations under existing conditions and under conditions with the proposed soldier pile wall is provided in, “Malakoff Diggins State Historic Park BMP Design—Hydrologic and Hydraulic Analysis.” (Golder, 2022a)

2.5.4 Flocculant and Stabilizer Use and Pilot Program Testing

Much of the sediment discharge from the Pit is associated with fine clay particles that do not readily settle when entrained in surface water. As discussed previously, although the use of flocculant is not considered an essential element of the Project, DPR may choose to introduce flocculant to surface runoff into the Pit Lake to promote fine particle settling

within the Pit Lake. The introduction of flocculant to surface runoff into the Pit Lake would promote fine particle settling within the Pit Lake. The proposed Project considers the potential use of flocculant blocks or logs that would be lashed together (e.g., using chicken wire, coir mat, etc.) and staked at select locations within Pit wall drainage channels, gullies above the Pit Lake, and the diversion swale on the Pit floor. These locations are expected to provide the hydraulic energy and mixing time necessary to properly dissolve the flocculant prior to entering the Pit Lake. Additionally, soil stabilizers could be applied to select areas of the Pit to reduce erosion. The decision to use flocculant and/ or soil stabilizer will be based on an assessment of the ability of the other BMPs to meet the final NPDES effluent limits.

Before using flocculant and/or stabilizers, DPR would perform pilot program testing within the Pit. The pilot program for flocculant use would be used to assess its efficacy for increased fine sediment deposition in the Pit Lake and to observe potential accumulation of flocculant material to assess the potential for adverse effects from its use.

The pilot program testing would also inform DPR about the use and maintenance of the flocculant logs. If DPR decides to deploy flocculant logs, maintenance and monitoring of the flocculant logs would be necessary on a monthly or more frequent basis and after storms that cause discharge in the deployment locations. If sediments cover the flocculant logs, the flocculant logs would need to be raised out of the sediment or the sediment would need to be cleared. If observations through the pilot program or subsequent monitoring indicate that the sediment deposition within the interceptor swale would frequently cover the flocculant logs, DPR may determine that the use of flocculant logs in the interceptor swale is impractical. DPR would also consider the potential for vandalism and wildlife interactions.

The pilot program for soil stabilizer use would be used to assess its efficacy for stabilizing and decreasing erosion of certain areas in the Pit and to evaluate its effect on wildlife to observe whether adverse biological, water quality, or visual effects would result from its use.

The pilot program testing would also inform DPR about the application and maintenance of soil stabilizer in the Pit. Because of the large areas considered for the application of soil stabilizer, it would be mixed in tank trucks and sprayed through hoses and nozzles. There are likely many access constraints that will impact the implementation of soil stabilizer within the Pit. Due to these potential difficulties in applying the soil stabilizer, DPR may determine that the use of soil stabilizer is impractical.

Full-scale use of flocculant logs and/or soil stabilizer will not be implemented until pilot program testing demonstrates the acceptability of these options to DPR and RWQCB. DPR would develop an adaptive management plan for any full-scale use of flocculants or soil stabilizers. The adaptive management plan would define quantities and locations for use and application, frequency of inspections, actions to be take in response to observed conditions, and other management actions as may be needed to avoid deleterious effects.

2.5.5 Construction Staging Areas

Construction of the BMP components would require the establishment of construction staging areas for equipment and materials storage and vehicle parking. The proposed Project includes three staging areas, as listed in Table 2-3, “BMP Construction Staging Areas,” and as shown on Figure 2-3.

Table 2-3
BMP Construction Staging Areas Disturbance Areas

| Staging Area | Location | Area (acres) |
|----------------------------------|--|---------------------|
| In-Pit Construction Staging Area | In northwest portion of Pit, northwest of Pit Lake on east side of construction access route. | 0.69 |
| Boardwalk Staging Area | In southwest portion of Pit. South of Pit Lake on east side of construction access road. | 0.20 |
| Shooting Range Staging Area | Southeast and outside of Pit at existing DPR shooting range area, access from North Bloomfield Road. | 0.65 |

Staging areas within the Pit would include the Boardwalk Staging Area in the southwest portion of the Pit south of the Pit Lake, and the In-Pit Construction Staging Area in the northwest portion of the Pit northwest of the Pit Lake. Staging areas would require vegetation removal and grading to prepare surfaces for temporary use during the construction period.

The two in-Pit staging areas would be accessed via the in-Pit access route to be developed for BMP component installation as discussed further in Section 2.5.5. These two staging areas would be used for temporary parking, equipment storage, construction materials storage, and similar purposes.

The Shooting Range Staging Area would be located southeast of the Pit about 500 feet west of a shooting range used by DPR for firearms training and practice. The Shooting Range Staging Area would be accessed via an approximately 700-foot segment of existing unpaved access road from North Bloomfield Road. The existing access road would require limited grading and improvements for use by construction vehicles. It is anticipated that the Shooting Range Staging Area would be used for construction contractor portable offices as well as worker vehicle parking and other related activities.

Each of the staging areas would be enclosed with temporary fencing and lockable gates during the construction period. Construction contractors would be required to maintain construction staging areas in a neat and orderly conditions. Any debris or other accumulations of waste or materials no longer needed for construction would be removed and disposed at approved offsite locations on a regular basis. Following the completion of BMP construction, all temporary construction-related facilities, material, and equipment would be removed, and areas would be restored to a condition similar to those existing prior to their use.

2.5.6 In-Pit Construction Access Routes

Vehicle access into the Pit is restricted to authorized vehicles (no public vehicle access is allowed). There are no developed roads in the Pit, and existing vehicle access opportunities are limited to one location in the southwest portion of the Pit from a turnout along North Bloomfield Road where an unpaved road extends approximately 200 feet to the southwest Pit floor. During development of the conceptual BMP plan, other access options were considered but were determined infeasible due to anticipated engineering constraints and impacts to biological and cultural resources, aesthetics, and other important resources. Therefore, access for construction of the BMP components would utilize the southwest access location.

For construction of the BMP components, an access route would be developed extending to the north and then east along the north perimeter of the Pit floor generally along the alignment of the existing Diggins Loop trail, as shown on Figure 2-3. Truck turnouts (short spur segments) would be developed along the access road to allow for passage and turnaround of construction vehicles. Access to areas of construction for the coarse sediment grade control structures and brush barriers would require establishing an access road approximately 12 to 15 feet wide, requiring a disturbance width of up to approximately 25 to 30 feet, for a distance of about 1 mile along the northern perimeter of the Pit floor. Access for construction of the diversion swale and soldier pile wall would be along this same route and would then require a spur to the south to access these BMP areas, as shown on Figure 2-3.

Improvements to the existing access from North Bloomfield Road into the Pit would involve grading and fill placement to widen the route for approximately 90 feet. Rock riprap may be installed on this access road near its intersection with North Bloomfield Road as a construction stormwater BMP. Development of the access route along the Pit floor perimeter to BMP construction areas and to allow for drainage in saturated areas along the access road alignment would require vegetation clearing, grading, and construction of access roads. Two general types of access routes within the Pit would be used, as detailed on Sheet C-4 of Appendix A-1. Around the western and northwestern perimeter, a “causeway” cut and fill access road would be installed that would provide for vehicle access for installation of the three BMP components. Following construction, the access road would not be removed but would be allowed to self-narrow as deposition of sediment from adjacent slopes would accumulate over time. The alignment would be available and marked with signage to reestablish a public trail (i.e., Diggins Loop Trail). If necessary for future BMP maintenance, the corridor could be reestablished for temporary vehicle access. Additionally, a temporary access route consisting of protective matting would be placed to provide access for construction of the soldier pile wall. The temporary protective matting would be removed following construction of the soldier pile wall.

The access road causeway section design would provide for stormwater runoff passage through a gravel base. The gravel base would be placed on a geotextile fabric as necessary in saturated or other areas along the alignment to retain the gravel base. The gravel base would then be surfaced with compacted gravel and soil. Causeway access route segments adjacent to lower gradient areas would have single-sided or double-sided

reinforced edges depending on topography and surface drainage patterns along individual segments of the access routes. Drainage ditches would be installed as needed for managing stormwater flows along the upgradient side of access road causeway sections. Rock-armored water crossings would be installed where the causeway sections cross the mouths of established drainages. Cross-section illustrations of the three primary causeway design cross-section types and temporary road construction mats are illustrated on Sheet C-4 of Appendix A-1.

2.5.7 Boardwalk Removal and Trail Realignment

Visitor hiking opportunities are available along various trail segments within the Pit, including a trail in the southwest corner of the Pit. This trail segment includes a wooden boardwalk that crosses the shallow southern portion of the Pit Lake as shown on Figure 2-3. Under existing conditions, the boardwalk is normally above the Pit Lake surface elevation and allows visitors to traverse this section of the Pit. The BMP soldier pile wall component would result in increased Pit Lake levels as compared to existing conditions and would result in Pit Lake inundation more frequently and for longer periods than under existing conditions. To provide for continued visitor access through the southwest area of the Pit, DPR proposes to develop an approximately 1,200-foot segment of new pedestrian trail around the southernmost perimeter of the southwest portion of the Pit. The trail would be constructed by hand crews and would be approximately 4 feet wide and surfaced with native gravels and soils present within the trail alignment. Final trail routing would be selected in consideration of topography and to minimize vegetation disturbance. The existing boardwalk would be removed by manual or mechanical disassembly with the removed boarding transported offsite for disposal at an appropriate facility.

2.6 Project Implementation

2.6.1 BMP Construction Sequence

Construction of the Project BMP components would be undertaken once DPR receives all necessary regulatory agency approvals and permits. It is anticipated that installation of the BMP components would take place in one season during mid to late summer to allow the Pit floor to dry out as much as possible and to avoid bird nesting season. Construction activities would generally consist of:

1. Conduct pre-construction surveying and staking
2. Install public safety signage and demarcate exclusion areas
3. Install temporary stormwater and sediment control for construction
4. Remove vegetation and grade in-Pit access routes
5. Remove vegetation from BMP component work areas
6. Install temporary water diversions and/or other temporary surface water management to avoid surface water in work areas
7. Receive and stage construction materials
8. Perform excavation and other earth moving for BMP component installation
9. Install structural features of BMP components (e.g., rock berms, rip-rap scour

protection, soldier pile wall lagging, etc.)

10. Clean-up construction site and staging areas

11. Regrade and revegetate construction and staging areas

Construction is expected to require approximately three months and would be scheduled to occur generally during August, September, and October when conditions in the Pit are expected to be driest. Work would primarily be scheduled to occur on weekdays between 7:00 am and 6:00 pm. However, weekend work could be necessary under certain circumstances to accelerate schedule, address weather conditions, and other factors.

2.6.2 BMP Component Disturbance Areas and Quantities

Table 2-4, “BMP Component Disturbance Areas,” lists the anticipated temporary and permanent disturbance areas associated with the BMP component construction.

**Table 2-4
BMP Component Disturbance Areas**

| Primary Component | Temporary Construction Disturbance in Addition to Permanent Area ^a (acres) | Permanent Area (acres) | Notes |
|---|--|---------------------------|--|
| Coarse Sediment Management Component | | | |
| Grade Control Structure | 0 | 0.25 | Temporary construction if mats are needed to cross Pit; otherwise, cross Pit on infiltration bed lay placed on structure footprint disturbance area. |
| Brush Barriers (does not include Western pit brush barriers listed below) | 0 | 0.20 | Various areas upgradient of grade control structure; minimal disturbance without vegetation clearing. |
| Coarse Sediment Settlement Area | 15.63 | 0 | Pit floor area east of grade control structure would naturally fill with sediment to top of grade control structure over an approximately five-year period based on projected sediment accumulation rates. Vegetation will grow through and naturally recruit and establish in the settlement area annually. |
| Construction/Maintenance Access Causeway (in Pit) | 3.10 ^b | 2.74 | Causeway construction along the west and north sides of Pit bottom with turn-outs. Additional temporary access across the Pit using protective matting is accounted for in Soldier Pile Wall Component, below. Following construction, the access road would be allowed to self-narrow |

| Primary Component | Temporary Construction Disturbance in Addition to Permanent Area^a (acres) | Permanent Area (acres) | Notes |
|--|---|-----------------------------------|--|
| | | | with accumulation of sediment; however, the road alignment is considered permanent for purposes of impact analysis. |
| Total Coarse Sediment Management Component | 18.73 | 3.19 | |
| Interceptor Swale Component | | | |
| Drainage Channel/Earthen Berm | 0 | 0.86 | Channel excavated and material used to create adjacent berm. |
| Total Interceptor Swale Component | 0 | 0.86 | |
| Soldier Pile Wall Component | | | |
| I-Beams and Wall | 0.18 | 0.02 | Temporary disturbance area would include approximately 25 feet cleared on each side of wall alignment. |
| Rip Rap Scour Protection | 0.08 | 0.04 | To be placed on downgradient side of soldier pile wall. |
| Construction/Maintenance Access using Construction Mats (in Pit) | 0.21 ^c | 0 | Access from Construction/Maintenance Access Causeway south to soldier pile wall. |
| Total Soldier Pile Wall Component | 0.47 | 0.06 | |
| Total Primary Bmp Components | | | |
| Total Primary BMP Components | 19.20 | 4.11 | |
| Staging Areas | | | |
| In-Pit Construction Staging Area | 0.69 | 0 | |
| Boardwalk Staging Area | 0.20 | 0 | |
| Shooting Range Staging Area | 0.65 | 0 | |
| Shooting Range Staging Area Access Road | 0.17 | 0.36 | |
| Total Staging Areas | 1.71 | 0.36 | |
| Supplementary Components | | | |
| Soil Stabilizer Application, Eastern Pit | 15.63 ^d | 0 | Permanent disturbance involves application areas with limited or no ground disturbance and/or vegetation clearing. Supplementary |
| Soil Stabilizer Application, Western Pit | 1.5 | 0 | |

| Primary Component | Temporary Construction Disturbance in Addition to Permanent Area ^a (acres) | Permanent Area (acres) | Notes |
|---|--|---------------------------|---|
| Interceptor Swale Flocculant Introduction | 0 | 0 | components would be installed manually or with ATVs, with no additional temporary construction disturbance. |
| Western Pit Flocculant Introduction | 0 | 0 | |
| Western Pit Brush Barriers | 0 | 0.06 | |
| Total Supplementary Components | 17.13^e | 0.06 | |

Notes:

- Unless noted otherwise, temporary disturbance quantities are separate from and in addition to permanent disturbance quantities, so impacts within a given location are not accounted for twice.
- Of this 3.10 ac., only 0.89 ac. are in addition to permanent impacts. The remaining acreage overlaps with permanent disturbance.
- Includes 0.02 ac. of overlap with Interceptor Swale Component permanent impacts of 0.86 ac. (thus accounted for twice in this table).
- Soil Stabilizer Application Area, Eastern Pit, temporary impact area shown at left overlaps with Coarse Sediment Settlement Area listed above.
- 17.13 represents sum of supplementary components. Per noted, above, 15.63 acres of the total are also accounted for within the construction disturbance acreage for Eastern Pit Soil Stabilizer Application.

Table 2-5, “BMP Component Quantities,” lists the anticipated quantities of rock and soils movement required for BMP component construction.

**Table 2-5
BMP Component Quantities**

| BMP Components | Quantity | Units | Notes |
|--|----------|-------|---|
| Grade Control Structure Large-Diameter Rock | 700 | CY | |
| Grade Control Structure Bedding Filter Layer Rock | 200 | CY | |
| Interceptor Swale Drainage Channel Cut | 100 | CY | To be used for earthen berm. |
| Interceptor Swale Earthen Berm Fill | 2,450 | CY | To be obtained from drainage channel excavation (100 CY), access and other construction-related excavation, and if needed, imported fill from an off-site source. |
| Soldier Pile Wall Scour Pad Rip Rap | 160 | CY | |
| In-Pit Access Road Causeway: base and surface gravel | 2,400 | ton | |

2.6.3 Construction Vehicle Trips and Access

Vehicle access to the Project site for construction workers and delivery of equipment and materials would use SR 49 to travel to the intersection of Tyler Foote Road, which is

located approximately 10 miles north of Nevada City. From there, vehicles would travel east approximately 9.5 miles on Tyler Foote Road to Cruzon Grade Road. Vehicles would then travel approximately 8 miles southeast then south on Cruzon Grade Road, Backbone Road, Derbec Road, and North Bloomfield Road, into MDSHP through the historic town of North Bloomfield and to the shooting Range Construction Staging area or to the Pit access road located near the southwest portion of the Pit as discussed in Section 2.5.5, above.

2.6.4 Construction Best Management Practices

Many areas of the Pit floor are susceptible to saturated soil conditions, especially during and immediately following the rainy season. The use of heavy equipment has the potential to create short-term sediment disturbance. Sediment disturbance during construction would be managed to minimize the potential for sediment discharge to surface water using standard storm water and construction best management practices where necessary to minimize construction-related disturbance and potential sedimentation and water quality impacts. Construction best management practices to be implemented for the Project include:

- Use of temporary protective matting for wetland protection and temporary road;
- Installation of temporary silt fences, straw waddles, and/or other temporary construction area sediment filtration measures;
- Installation of construction access rock riprap at in-Pit access road intersection with North Bloomfield Road.
- Stabilization of disturbed soils through compaction, vegetation, and/or application of stabilizers; and
- Performing construction activities during the dry season to the extent feasible.

2.6.5 Park Visitor Management During Construction

Construction activities would temporarily preclude visitor access to certain areas of MDSHP. Certain public use trail segments within the Pit may require temporary closure or rerouting to avoid construction areas and to ensure public safety. A Superintendent Order is required for temporary closure of trails. DPR would develop signage with construction and interpretive information and would also consider potential temporary trail routing and other options to minimize effects to visitors during construction.

2.6.6 BMP Components Inspection and Maintenance

The Project BMP components would require periodic inspections and maintenance to ensure their effective performance. DPR or its contractors would inspect BMPs approximately weekly and perform general maintenance as needed. Inspections would be conducted primarily by pedestrian access; however, vehicle access may be needed periodically for inspections and maintenance. Maintenance would include inspection and replacement of flocculant blocks (if used) within the interceptor swale and other areas of flocculant use as needed to ensure they are sufficiently maintained and replaced to maintain function. Vehicle access for inspections and repairs would use the same access

routes as discussed above for BMP implementation.

2.7 Project Requirements

Under CEQA, DPR has the distinction of being considered a lead agency, a public agency that has a primary responsibility for carrying out or approving a project and for implementing CEQA; a responsible agency, a public agency other than the lead agency that has responsibility for carrying out or approving a project and for complying with CEQA; and a trustee agency, a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people for the State of California. DPR has the responsibility to ensure that actions that protect both cultural and natural resources are implemented for DPR projects. Therefore, DPR has created a list of Project Requirements that are included in the Project design to avoid or minimize impacts to resources.

DPR has two types of Project Requirements, Standard and Specific. Standard Project Requirements are generally assigned to all projects state-wide, while Specific Project Requirements are assigned based on the specific actions deemed necessary for the circumstances of an individual project. Table 2-6, "Standard and Specific Project Requirements," lists both Standard Project Requirements Specific Project Requirements that would be implemented with the Project. For convenient reference, Project requirements for each resource topic are numbered sequentially with Standard Project Requirements listed first, followed by Specific Project Requirements.

Table 2-6
Standard and Specific Project Requirements

| Name/Topic | Requirement |
|---|---|
| Aesthetics | |
| Standard Project Requirement AES-1: Scenic Views | <ul style="list-style-type: none"> Minimize alteration of viewsheds of scenic viewing locations. Maximize the use of salvaged mature vegetation to reduce the time of regrowth. Rehabilitate and remove all construction related impacts to pre-project or better than pre-project conditions. |
| Specific Project Requirement AES-2: Flocculant Block Placement and Color | <ul style="list-style-type: none"> Flocculant blocks, if used, will be placed in areas of low visibility and the blocks or their wrappings and staking shall be of a natural color to minimize visibility. |
| Specific Project Requirement AES-3: Grade Control Structure Surface Treatment | <ul style="list-style-type: none"> The grade control structure will be overlain with gravels and vegetation to reduce contrast with adjacent areas. |
| Air Quality | |
| Standard Project Requirement AIR-1: Emissions of Fugitive Dust and Ozone Precursors | <ul style="list-style-type: none"> Construction areas and access roads (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily as necessary during dry, dusty conditions to minimize fugitive dust emissions during use of heavy equipment. |

| Name/Topic | Requirement |
|--|---|
| | <ul style="list-style-type: none"> • All trucks hauling soil or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard. • All construction-related equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all state and federal requirements. • Potential dust producing actions will be suspended if sustained winds exceed twenty-five (25) miles mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads. • Earth or other material that has been transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed. |
| Specific Project Requirement AIR-2: Minimize Park Visitor Exposure to Project Emissions | <ul style="list-style-type: none"> • Establish construction buffer areas and consider construction scheduling/phasing to avoid or minimize potential exposure of MDSHP visitors to project construction emissions, including fugitive dust and vehicle exhaust. |
| Biological Resources | |
| Standard Project Requirement BIO-1: Sensitive Biological Resources Identification Training | <ul style="list-style-type: none"> • A DPR Environmental Scientist or a DPR-approved biologist shall hold a training session for staff responsible for performing ground disturbing construction activities (e.g., operation of heavy equipment, vegetation removal, grading) in suitable habitat or other Environmentally Sensitive Areas (ESAs). Staff shall be trained to recognize special-status species and their habitat. Staff shall also be trained to use protective measures to ensure that special-status species are not adversely impacted by ground disturbing construction activities. |
| Standard Project Requirement BIO-2: Special Status Plant Species | <ul style="list-style-type: none"> • Surveys for special status plant species with a potential to occur in the project area will be conducted by a DPR-approved botanist during the appropriate blooming periods or when identity can be confirmed. All occurrences of special status plant species within the project areas will be recorded on project maps, flagged or otherwise identified on the ground. Where possible, occurrences of all special status plants will be avoided and protected from construction activities. Those locations where special status plants cannot be avoided will be subject to the following conditions: <ul style="list-style-type: none"> – Perennial Species: Prior to construction, plants will be carefully excavated and transplanted nearby in suitable habitat. All transplant work will be conducted under the direction of a DPR Environmental Scientist or a DPR-approved biologist. Transplanting will occur during the dormant growing season (i.e., late fall) when the plants are least disturbed and when they can be watered by winter precipitation. – Annual Species: Seeds from annual special status plant species will be collected during the appropriate season and properly stored prior to ground disturbing activities. Seeds will be sown during the appropriate season in suitable locations identified by a DPR Environmental Scientist or a DPR-approved biologist. |

| Name/Topic | Requirement |
|--|--|
| Standard Project Requirement BIO-3: Invasive Plants | <ul style="list-style-type: none"> • All equipment and tools used for project activities will be cleaned free of plant parts and soil in order to prevent the introduction and spread of invasive plants to uncontaminated areas. • A DPR Environmental Scientist or a DPR-approved biologist will survey project locations prior to construction activities to ensure the area does not support invasive species that could be spread by project activities. • Project areas will be surveyed by a DPR Environmental Scientist or a DPR-approved biologist in the first growing season, after project activities are completed, to ensure that no weeds were introduced during project activities. • Any inadvertent weed introductions or expansions will be treated for removal. • Any imported new fill, such as gravel or soil, shall be from a certified weed free source where feasible. |
| Cultural Resources | |
| Standard Project Requirement CULT-1: Archeological Monitoring | <ul style="list-style-type: none"> • At the discretion of the project archaeologist a DPR-qualified Archaeologist will monitor ground-disturbing activities for this project. Particularly the work along the access route and other disturbance areas will be monitored. The archaeologist will have the authority to stop construction work in the area of find and evaluate it and implemented appropriate treatment measures to avoid having a significant impact to historical resources per PRC 15064.5. |
| Standard Project Requirement CULT-2: Undocumented Cultural Resources | <ul style="list-style-type: none"> • In the event that previously undocumented cultural resources are encountered during project construction, work within the immediate vicinity of the find will stop until DPR-qualified cultural resource specialist has evaluated the find and implemented appropriate treatment measures to avoid having a significant impact to historical resources per PRC 15064.5. |
| Standard Project Requirement CULT-3: Human Remains or Burial Artifacts | <ul style="list-style-type: none"> • In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) or Tribal Cultural Representative. • If the coroner determines the remains represent Native American interment, the NAHC in Sacramento is to identify the most likely descendants and appropriate disposition of the remains. Work will not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the site prior to determination. • If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office and review by the NAHC or Tribal Cultural Representatives will also occur as necessary to define additional site mitigation or future restrictions. |

| Name/Topic | Requirement |
|---|---|
| Specific Project Requirement CULT-4: Vehicles, Heavy Equipment, Staging and Storage Areas | <ul style="list-style-type: none"> • Vehicles or heavy equipment are not allowed within cultural resources exclusion zones. • Prior to construction, a DPR-qualified cultural resource specialist will review and approve all locations used for staging/storage of vehicles, equipment, and/or materials used during the project. • No staging or storage will be allowed within cultural resources exclusion zones. |
| Specific Project Requirement CULT-5: Hand Clearing | <ul style="list-style-type: none"> • Manual removal will take place first in areas of identified resources and work outward to fully identify and protect any newly documented and/or extended resources. A DPR-qualified cultural resource specialist will determine the extent of the hand clearing only zone. |
| Geology and Soils | |
| Standard Project Requirement GEO-1: Remediation of Disturbed Areas | <ul style="list-style-type: none"> • Excavated areas for floodplain creation, temporary access routes, and landing/staging areas will be decompacted and revegetated or treated to recover to pre-construction conditions or better as outlined in the project plans or SWPPP. • Excavated slopes will be graded to a stable angle and protected against erosion by track walking and seeding/mulching bare areas. • Where feasible, access routes will be limited to previously disturbed areas. • Recontour and/or outslope main routes of travel if necessary to allow sheet flow of water across the landscape and reduce channelization. • All base erosion control measures must be in place, functional, and approved in an initial inspection prior to commencement of construction activities. • Disturbed areas will be decompacted, seeded, planted, and mulched per the revegetation plan. • All protective devices will be installed at the end of each work day when the five-day rain probability exceeds forty (40) percent or as otherwise outlined in the SWPPP. |
| Specific Project Requirement GEO-2: Provide Secondary Containment for Portable Restrooms | <ul style="list-style-type: none"> • Portable chemical toilets used during construction will be placed as far as practicable from waterways. • Secondary containment trays and/or other containment shall be provided for portable chemical toilets as necessary to ensure containment and cleanup of chemical toilet spillage or leakage. |
| Specific Project Requirement GEO-3: | <ul style="list-style-type: none"> • If subsurface deposits having the potential to be a paleontological resource are discovered during construction, ground disturbance activities within a 100-foot radius of the find will stop until a DPR-qualified specialist has evaluated the find. If the DPR-qualified specialist determines that the find does not represent a unique paleontological resource, work may resume. If the DPR-qualified specialist determines that the find may represent a unique paleontological resource, DPR will further assess the eligibility of the find and implement appropriate treatment measures for the find. Work may not resume within the no-work radius until DPR determines that appropriate treatment measures have been completed sufficient to avoid the loss of a unique paleontological resource. |

| Name/Topic | Requirement |
|---|--|
| Hazards and Hazardous Materials | |
| Standard Project Requirement HAZ-1: Spill Prevention and Response | <ul style="list-style-type: none"> • Prior to the start of construction, all equipment will be cleaned before entering the project site. During the project, equipment will be cleaned and repaired (other than emergency repairs) outside the project site boundaries. All contaminated spill residue, or other hazardous compounds will be contained and disposed of outside the boundaries of the site at a lawfully permitted or authorized destination. • Prior to the start of construction, all equipment will be inspected for leaks and regularly inspected thereafter until removed from the project site. • Prior to the start of construction, a Spill Prevention and Response Plan (SPRP) will be prepared to provide protection to on-site workers, the public, and the environment from accidental leaks or spills of vehicle fluids or other potential contaminants. This plan will include but not be limited to the following: <ul style="list-style-type: none"> • A map that delineates construction staging areas, and where refueling, lubrication, and maintenance of equipment will occur. • A list of items required in an on-site spill kit that will be maintained throughout the life of the project. • Procedures for the proper storage, use, and disposal of any solvents or other chemicals used during the project. • Identification of lawfully permitted or authorized disposal destinations. |
| Standard Project Requirement HAZ-2: Wildfire Avoidance and Response | <ul style="list-style-type: none"> • A Fire Safety Plan will be developed by a DPR-approved forester, prior to the start of construction and followed throughout the project. • Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment. • Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked on roads or staging areas to reduce the chance of fire. |
| Hydrology and Water Quality | |
| Standard Project Requirement HYDRO-1: Erosion and Sediment Control and Pollution Prevention | <ul style="list-style-type: none"> • Best Management Practices (BMPs) to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during any ground disturbing activities. • The DPR Contractor will install long-term erosion control measures for any areas where ground disturbing activities result in bare soil areas. The soil will be properly de-compacted and mulched or revegetated with appropriate native grass seed, sterile grass seed, and/or native duff with the final selection made by a DPR-qualified representative. |
| Specific Project Requirement HYDRO-2: Permit and Site Plan Adherence and Implementation | <ul style="list-style-type: none"> • Limit disturbance area to the necessary extent as outlined in the engineered project plans. • Design, install, and maintain temporary BMPs for the protection of disturbed areas that may be subjected to erosion or surface run-off with the potential to release sediment, nutrients, or hazardous materials to surface or ground water sources. • Implement a dewatering plan for construction activities that are |

| Name/Topic | Requirement |
|---|---|
| | <p>within saturated areas.</p> <ul style="list-style-type: none"> • Use designated and established staging, refueling, and maintenance areas for equipment that has the required BMPs to prevent the potential for contamination of surface or ground water sources. • Any stockpiled material shall have appropriate BMPs according to the permitting requirements to ensure that wind and water erosion potential is eliminated. • Contractor shall be familiar with the conditions of all required project permits and shall implement all required BMPs prior to commencing grading operations. |
| Noise | |
| Standard Project Requirement NOISE-1: Noise Exposure | <ul style="list-style-type: none"> • Project related activities will generally be limited to the daylight hours, Monday through Friday. However, weekend work may be implemented to accelerate construction or address emergency or unforeseen circumstances. If weekend work is necessary, no work will occur before 8:00 am. or after 6:00 pm. • Internal combustion engines used for any purpose in the project areas will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for project related activities will utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary. • Stationary noise sources and staging areas will be located as far from visitors as possible. If they must be located near visitors, stationary noise sources will be muffled to the extent feasible, and/or where practicable, enclosed within temporary sheds. |
| Specific Project Requirement NOISE-2: Limit Days/Hours for Pile Driving and Large Rock Dumping | <ul style="list-style-type: none"> • Pile driving shall be restricted to non-holiday weekdays between the hours of 8:00 a.m. and 6:00 p.m. • Large rock deliveries and dumping shall be restricted to non-holiday weekdays between the hours of 8:00 a.m. and 6:00 p.m. |
| Recreation | |
| Specific Project Requirements REC-1: Minimize Trail Closures and Project Recreation Information to Visitors | <ul style="list-style-type: none"> • Reduce the locations and durations of trail closures/detours and other access restrictions during construction to the extent feasible while providing restrictions as necessary for public safety. • Prior to and during construction, provide information to visitors regarding access restrictions and alternative recreational opportunities remaining available in MDSHP during construction. |
| Traffic | |
| Standard Project Requirement TRAFFIC-1: Traffic Control Plan | <ul style="list-style-type: none"> • Prior to commencing construction, the Contractor shall prepare a traffic control plan that includes the following components: <ul style="list-style-type: none"> – Exclusionary fencing will be placed along the project limits, as necessary, to exclude non-construction personnel from the construction area. – Speed limits shall be set for heavy equipment traveling to and from the project site by the State's Representative. – Pedestrian access adjacent trails will be clearly delineated and signed. |

| Name/Topic | Requirement |
|--|---|
| Specific Project Requirement TRAFFIC-2: Traffic Control Plan Additional Provisions | <ul style="list-style-type: none"> • The project traffic control plan required by Standard Project Requirement TRAFFIC-1, will include as deemed necessary by DPR: <ul style="list-style-type: none"> – worker and delivery scheduling and route specifications to minimize effects of Project-related vehicle trips on roads used both within and outside of MDSHP; – signage and/or notifications to communities along Tyler Foote Crossing, Cruzon Grade, and Derbec Roads; – signage and/or other intersection controls as may be deemed necessary, and through coordination with Caltrans, to facilitate safe and efficient ingress and egress at the SR 49 / Tyler Foote Crossing intersection; – signage and/or other vehicle controls to facilitate safe operation of construction-related vehicles within MDSHP ensure protection of park visitors in vehicles and bicyclists and pedestrians; – signage within MDSHP along North Bloomfield Road and at staging area and Pit access roads to inform construction works and members of the public of appropriate routing and Project-related and public vehicle exclusion areas; and – educational materials and requirements for construction and materials delivery personnel advising of requirements for vehicle operation within MDSHP. |

2.8 Consistency with Local Plans and Policies

The Project is consistent with the “Malakoff Diggins State Historic Park Interpretation Master Plan and Action Plan” (DPR, 2015), DPR’s mission, and DPR’s management directives aimed at preserving the state’s extraordinary biological diversity and protecting valued natural and cultural resources. The Project is also determined to be consistent with local plans and policies currently in effect. See Chapter 3, Section 3.11, “Land Use and Planning,” for further details.

2.9 Discretionary Approvals

The Project may require permits or other discretionary approvals from the state and federal government agencies, including:

- Central Valley Regional Water Quality Control Board (CVRWQCB);
- California Department of Fish and Wildlife (CDFW);
- U.S. Fish and Wildlife Service (USFWS); and
- U.S. Army Corps of Engineers (USACE).

Additional internal document reviews include compliance with Public Resources Code § 5024. DPR will acquire all necessary reviews and permits prior to implementing any Project components requiring regulatory review.

2.10 Related Projects

DPR conducts a maintenance program for routine maintenance activities that are minor in scope and not cumulatively considerable. These activities include minor restoration to existing facilities, and installation of interpretive projects planned for MDSHP.

As discussed above, the Project is designed to comply with Order R5-2017-0086 (NPDES Permit No. CA0085332) and reduce sediment discharge from the Pit during an interim period. Also pursuant to the Order, DPR is considering long-term sediment control and remediation measures for implementation at MDSHP. Long-term sediment control and remediation measures have not been determined and the environmental effects of their implementation have not and cannot be assessed at this time. Once defined, DPR will evaluate the environmental effects of potential long-term sediment control and remediation measures.

Although related to addressing requirements of the Order and control of sediment discharge from the Pit, the sediment control BMPs evaluated in this IS/MND are a separate and whole Project for the purposes of this CEQA review.

CHAPTER 3 INITIAL STUDY ENVIRONMENTAL CHECKLIST

This IS/MND is a public document being used by DPR, the CEQA lead agency, to determine whether the Project may have a significant effect on the environment. This Chapter 3, “Initial Study Environmental Checklist,” presents the evaluation of potential environmental impacts and their significance that would result from the Project. Checklists are provided for 20 environmental resource subjects and related environmental impact questions based on the environmental checklist in Appendix G of the CEQA Guidelines. DPR’s findings pertaining to CEQA Mandatory Findings of Significance are provided in Chapter 4, “Mandatory Findings of Significance.” The degree of change from existing conditions caused by the Project is compared to the impact evaluation criteria to determine if the change is significant.

CEQA Baseline

While existing conditions generally serve as the “baseline” for evaluating the impacts of the Project in this analysis, DPR also recognizes that conditions of the Malakoff Diggins Pit change over time as ongoing Pit wall erosion and sediment accumulation within the Pit floor continues. As these ongoing processes occur, the Pit walls and Pit floor conditions (e.g., sediment accumulation, vegetation burial and regrowth, Pit Lake elevation and size fluctuations, etc.) will continue to change over time with or without the Project. Nevertheless, for the purposes of a conservative analysis (i.e., tending to overstate and not understate potential impacts), the anticipated Project effects are generally compared to conditions at the site at the time of preparation of this IS/MND.

Impact Terminology

The following terminology is used to describe the various levels of environmental impacts associated with the project:

- A finding of *no impact* is identified if the analysis concludes that the Project would not adversely affect a particular environmental topical area.
- An impact is considered *less than significant* if the analysis concludes that the Project would not cause a substantial adverse change in the environment.
- An impact is considered *less than significant with mitigation* if the analysis concludes that the Project has the potential to cause a substantial adverse change in the environment, but feasible mitigation that would be implemented by DPR is available to reduce the potential impact to a less than significant level.
- An impact is considered *significant* or *potentially significant* if the analysis concludes that the Project could cause a significant adverse change in the environment and that no feasible mitigation is available to avoid or reduce the impact to less than significant.

The focus of this IS/MD is to assess whether the Project would result in *adverse* environmental impacts. Although the Project would also result in beneficial effects, both in terms of specific environmental resource issues as well as the directly intended benefit

of reduced sediment discharge from the Pit, a comprehensive assessment to identify and describe all Project benefits is not provided here and not required for this CEQA review.

| PROJECT INFORMATION | |
|---|--|
| 1. Project Title: | Malakoff Diggins State Historic Park Sediment Control Best Management Practices |
| 2. Lead Agency Name and Address: | California Department of Parks and Recreation |
| 3. Contact Person & Phone Number: | Dan Canfield, District Superintendent (530) 525-7232; dan.canfield@parks.ca.gov |
| 4. Project Location: | Malakoff Diggins State Historic Park 23579 North Bloomfield Road Nevada City, CA 95959 |
| 5. Project Sponsor Name & Address: | California Department of Parks and Recreation Sierra District Resources Office California State Parks P.O. Box 266 Tahoma, CA 96142 |
| 6. General Plan Designation: | Open Space (OS) (Nevada County General Plan) |
| 7. Zoning: | Open Space (OS) (Nevada County Zoning) |
| 8. Description of Project: | Installation and maintenance of various best management practice (BMP) components in the Malakoff Diggins Basin former hydraulic mine pit (Pit) to control the release of sediment from the Pit to downstream receiving waters in compliance with Central Valley Regional Water Quality Control Board (RWQCB) Orders R5-2017-0086 and R5-2017-0087-01. |
| 9. Surrounding Land Uses & Setting: | Malakoff Diggins State Historic Park (Additional information provided in Section 3.11, "Land Use Planning.") |
| 10. Approvals Required from Other Public Agencies: | Central Valley Regional Water Quality Control Board (CVRWQCB) California Department of Fish and Wildlife (CDFW) U.S. Fish and Wildlife Service (USFWS) U.S. Army Corps of Engineers (USACE) |
| 11. California Native American tribe consultation pursuant to PRC 21080.3.1: | DPR provided notifications and engaged in consultation with Native American Tribal representatives regarding the Project. Specific Project Requirements and mitigation measures will be implemented with the Project to address tribal cultural resources. For additional discussion, see Section 3.18, "Tribal Cultural Resources." |

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.

☒ None

☐ Aesthetics

☐ Agricultural and Forestry Resources

☐ Air Quality

☐ Biological Resources

☐ Cultural Resources

☐ Energy

☐ Geology / Soils

☐ Greenhouse Gas Emissions

☐ Hazards & Hazardous Materials

☐ Hydrology / Water Quality

☐ Land Use / Planning

☐ Mineral Resources

☐ Noise

☐ Population / Housing

☐ Public Services

☐ Recreation

☐ Transportation

☐ Tribal Cultural Resources

☐ Utilities / Service Systems

☐ Wildfire

☐ Mandatory Findings of Significance

Determination

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 original scope of the proposed project COULD have had a significant effect on the environment, there WILL NOT be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. 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 or its functional equivalent will be prepared.

☐

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.

☐

DocuSigned by:

Dan Canfield

2276737EEF82491

11/16/2022

Dan Canfield, District Superintendent

Date

3.1 Aesthetics

Aesthetics Environmental Setting

MDSHP is located in the western foothills of the Sierra Nevada with elevations ranging between approximately 2,500 to 4,000 feet amsl. MDSHP includes approximately 3,200 acres of forested hills, lakes, dramatic cliffs, and historic buildings associated with the nation's largest former hydraulic gold mining operation. Views within MDSHP include those of multi-colored cliffs of the remains of former hydraulic mining operations that created a massive, man-made pit carved into the landscape by giant water cannons. The nearly 600-foot deep, mile-wide Pit is the lasting legacy of the immense mining effort from the 1860s into the 1880s. The historic town of North Bloomfield, about 1 mile east of the Pit, was a once vibrant community and provides a sense of conditions and daily life in the 1880s-era gold mining community.

The Pit walls are generally considered to be the most significant resource at MDSHP. The remnant mining landscape of the Pit is a primary draw for most visitors, and interpretation at MDSHP highlights its importance as the largest hydraulic mine in the country and the role it played in the development of the nation's first environmental judgement.

MDSHP also contains the waste rock field and ruins of the Derbec Drift Mine, providing an example of a different type of historic gold mining, and MDSHP provides interpretive resources in the historic town of North Bloomfield. The historic and reconstructed buildings of the town provide opportunities for interpreting a variety of topics associated with life in a gold mining community that include politics, commerce, education, religion, ethnic identity, and much more.

The prominence and importance of the visual character of MDSHP in demonstrating gold mining history and exposing other cultural and natural elements of interpretative importance increases the importance and sensitivity of the visual character of MDSHP and the Pit. Since hydraulic mining ceased in the late 1800s, the Pit walls have continued to weather and erode and have deposited substantial sediment in the floor of the Pit. Under existing conditions, sediment continues to accumulate on the Pit floor, increasing the surface elevation of the Pit floor over time. Vegetation establishment on the sediments creates vegetated forested and wetland areas within the Pit floor.

Several trails and other vantage points are located within and surrounding the Pit that provide a visual perspective of the existing Pit conditions and evidence of the substantial topographic alteration that resulted from historic hydraulic mining activities. Three specifically identified scenic viewpoint overlooks are located along the Pit perimeter at locations from which certain Project elements would be visible. These scenic overlooks are: 1) West Point Overlook at the southwest end of the Pit from which views to the east include the Pit Lake and other areas of Pit floor vegetation and much of the surrounding Pit walls, 2) Diggins Overlook on the southern edge of the Pit from which views to the north, east, and west include the Pit floor vegetation and surrounding Pit walls, and 3) Diggins Overlook west of the Chute Hill Campground above the northeast edge of the Pit from which panoramic views include much of the Pit floor and surrounding Pit walls.

Although these three overlooks are important viewing locations, this evaluation recognizes that various other locations along trails within and surrounding the Pit have views of areas where BMP components would be located. Thus, the impacts discussed here are considered generally representative of the type and degree of visual change that would be experienced by the typical visitor who may view the Pit from various overlook and trail locations while at MDSHP.

Aesthetics Checklist

| Except as provided in Public Resources Code Section 21099, would the project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Aesthetics Impact Discussion

a) *Would the Project have a substantial adverse effect on a scenic vista? Less than Significant Impact.*

c) *Would the Project substantially degrade the existing visual character or quality of the site and its surroundings? Less than Significant Impact.*

Regarding items “a” and “c”, construction activities, ground disturbance, and vegetation removal associated with installation of the proposed BMP components would be visible from publicly accessible locations within the Pit and locations along the perimeter of the Pit. Following construction, BMP components and areas of disturbance would remain visible but would soften and blend with the surrounding areas over time as new vegetation establishes and sediment accumulation occurs. The enhanced Pit Lake BMP component would result in increased Pit Lake surface area as compared to conditions that would otherwise occur without implementation of the Project.

In developing the proposed sediment control BMPs, DPR and its Project development team used an iterative design process that considered, among other factors, design features and construction methods that would minimize adverse

effects associated with changes in the visual and historic character of the site. Further, the Project would be developed with implementation of standard and specific project requirements as listed in Table 2-6, above, that would serve to minimize potential visual impacts.

The discussion here addresses the Project's potential to have a substantial adverse effect on a scenic vista or to substantially degrade the existing visual character or quality of the Project site and its surroundings. In summary, the analysis concludes that the Project would not result in a substantial adverse effect on a scenic vista and would not substantially degrade the quality of scenic resources.

The following sections discuss the change in visual character and potential visual impacts associated with 1) construction of the proposed BMP components and 2) the presence and maintenance of BMP components. As detailed below, with implementation of Standard and Specific Project Requirements, the Project would have a less than significant impact associated with effects on a scenic vista or degradation of the existing visual character or quality of the Project site and its surroundings.

Construction-Period Changes in Visual Character

Construction of the BMP components would require the establishment of construction staging areas for equipment and materials storage and vehicle parking. The Project would involve development and use of three staging areas. Two staging areas would be located within the western portion of the Pit (the In-Pit Construction Staging Area and the Boardwalk Staging Area) and one would be located to the southeast and outside of the Pit (the Shooting Range Staging Area), as shown on Figure 2-3 and discussed further in Section 2.5.5, above.

For construction access to the BMP components, an access route would be developed extending to the north and then east along the western and northern perimeter of the Pit floor, as shown on Figure 2-3. Access to areas of construction for the coarse sediment grade control structures and brush barriers would require establishing an access road approximately 12 to 15 feet wide, requiring a disturbance width of up to approximately 25 to 30 feet for a distance of about 1 mile along the northern perimeter of the Pit floor. Access for construction of the diversion swale and soldier wall would be from along this same route and would then require a spur to the south to access these BMP areas, as shown above on Figure 2-3.

Improvements to the existing access from North Bloomfield Road into the Pit would consist of grading and fill placement to widen the route for approximately 90 feet. Development of the access route along the Pit floor perimeter, to BMP construction areas, and in saturated areas along the access road alignment to allow for drainage, would require vegetation clearing, grading, and construction of access roads. Two general types of access routes within the Pit would be used. Around

the western and northwestern perimeter, a “causeway” cut and fill access road design would be used to provide for vehicle access for installation of the three BMP components. Additionally, a temporary access route consisting of temporary protective matting would be placed to provide access for construction of the soldier pile wall and rock apron. The temporary matting would be removed following construction of the soldier pile wall.

Construction activities, vehicles, and equipment would be periodically visible within the staging areas, traveling between staging and work areas, and within the Pit at the locations of the BMP components. Grading for staging areas, access road development, and BMP component installation would alter the local topography, and areas of construction-related vegetation removal would be evident from some view locations.

Construction activities involving access road development along the perimeter of the Pit floor, vegetation clearing, and rock delivery and placement for installation of the coarse sediment grade-control structure (rock berm and brush barriers) within the eastern portion of the Pit. Construction of the interceptor swale would require vegetation clearing and grading to create the swale and adjacent berm along an approximately 20-foot-wide strip near the center of the Pit floor. An existing cleared path would be modified to create an access road from the north side of the basin. Construction of the soldier pile would require vegetation clearing, pile installation, trenching along the wall alignment, installation of wood lagging, and laying a scour protection pad of rocks below (south of) the soldier pile wall weir outflow just north of the Hiller Tunnel inlet.

Also, during construction, the existing boardwalk segment of the Diggins Loop Trail that currently crosses the Pit Lake would be removed and a new trail segment would be developed around the south side of the enhanced Pit Lake above the anticipated high-water elevation. Construction staging areas would also be established and used by construction personnel and for equipment and materials staging. Each of the staging areas would be enclosed with temporary fencing and lockable gates during the construction period. Construction contractors would be required to maintain construction staging areas in a neat and orderly conditions. Any debris or other accumulations of waste or materials no longer needed for construction would be removed and disposed at approved offsite locations on a weekly basis. Following the completion of BMP construction, all temporary construction-related facilities, material, and equipment would be removed, and areas would be restored to a condition similar to those existing prior to their use.

The development and use of temporary construction staging areas and construction activities, ground disturbance, and vegetation removal within the Pit would alter the existing visual character of the Project site during the duration of Project construction activities. These construction disturbances and activities would be visible from trails and overlooks during the duration of construction, and would represent an adverse change in the character of the Pit during the

construction phase.

Construction management practices to minimize waste accumulation and maintain neat and orderly work areas combined with implementation of Standard Project Requirement AES-1 would minimize the adverse visual effects of Project construction. With implementation of these measures and in consideration of the temporary (e.g., single construction season) period of construction disturbance, the visual impact associated with Project construction activities is considered less-than-significant. (Note that longer-term visual impacts associated with the BMP components are addressed below.)

Longer-Term Changes in Visual Character

Following construction of the BMP components, temporary construction staging and disturbance areas would be restored and revegetated. Residual evidence of construction disturbance in these areas would not be immediately eliminated; however, as vegetation re-establishes following construction, disturbed areas would soften and blend with the surrounding areas and would not have a long-term substantial change in the visual character of the Project site. The BMP components, access roads and realigned trail segment, and periodic maintenance activities would have the potential for longer-term changes in the visual character of the visual character of the Pit, as discussed further below.

Coarse Sediment Management

Following construction, re-established vegetation would reduce the visibility of the grade-control structure. Once installed, coarse sediment accumulation behind the brush barriers and grade-control structure would be expected to further soften and blend these features with surrounding areas, although some evidence of these features could remain discernable within the viewshed. Project design and project requirements (e.g., topping the berm with like materials and scattered revegetation) would help ensure the rock berm blends with its immediate surroundings. The coarse sediment BMP component would alter the visual character of the eastern portion of the Pit floor visual character but is not considered to represent a substantial adverse effect. The brush barriers are not expected to be visually dominant or distracting.

In addition to the added presence of the grade-control structure and brush barriers, the coarse sediment BMP component would result in an increased rate of sediment accumulation in the eastern portion of the Pit as compared to existing sediment accumulation rates. Sediment moving into the Pit floor from the east and accumulating behind (upgradient of) the grade control structure and brush barriers would result in a gradually increasing footprint of accumulated sediment that would be larger and up to 5 feet higher than would occur under existing conditions. The increased accumulation rate as compared to accumulation rate under existing conditions would not introduce anything obviously new to the viewshed and would occur incrementally. The scale of the changes to topography over time when compared to the scale of the much larger hydraulic basin is not considered

substantial. Further, the sediment accumulation would increasingly screen and blend the coarse sediment BMP component with the surrounding landscape.

Interceptor Swale

Following construction and revegetation, the swale and adjacent berm are expected to return quickly to a thickly vegetated condition. The visible change to the visual character of the Pit resulting from the interceptor swale would be lessened as vegetation regrowth occurs. The linear configuration of the swale and adjacent berm could provide a visual queue of a constructed feature dissimilar to adjacent areas of the Pit, however, the swale and berm would not be expected to be visually dominant or adverse.

Enhanced Pit Lake and Soldier Pile Wall

Once constructed, the soldier pile wall would result in an enhanced Pit Lake intended to increase the rate of sediment accumulation and eventually fill with sediment to the level of the weir outlet. It is anticipated that the enhanced Pit Lake resulting from the soldier pile wall would be completely or nearly full of sediment after a period of approximately 5 to 25 years. Regardless of precisely how long it would take to fill the enhanced lake with sediment, the BMP design is specifically intended to increase the surface area and sediment capture rate in the Pit Lake.

The soldier pile wall and rip rap armoring in the vicinity of the Hiller Tunnel inlet would be visible in local views. In recognition that placement of the soldier pile wall around the Hiller Tunnel inlet would have the potential to adversely affect contributing elements of the Malakoff Diggins Historic District, DPR and its design team considered options for the location and materials used for the soldier pile wall to minimize the visual effect. As proposed, the wall alignment constructed of piling and wood lagging consists of materials that would be less visually dominant than other construction alternatives, such as metal sheeting. The wall would also be set back from the Hiller Tunnel inlet and much of the wall would quickly be shielded by regrowth of the riparian vegetation. Based on these considerations, the placement of the soldier pile wall would not result in a significant change in the visual character of the Pit.

In addition to the presence of the soldier pile wall and rock armoring, this BMP component would modify the surface elevation and area of the Pit Lake and horizontal expansion of the Pit Lake shoreline. As intended by this BMP component, the enhanced Pit Lake would capture more fine sediment than under existing conditions. Over time the increased sediment accumulation would slowly fill the body up to the elevation of the spillway. Vegetation patterns would change over time as a result of altered flow and sediment movement, likely expanding the ring of vegetation around the lake. The larger Pit Lake, increased sediment accumulation, and changes in perimeter vegetation would be highly visible due to the dominance of the Pit Lake in the western portion of the Pit. However, the Pit Lake and surrounding vegetation would have a similar visual quality and character as existing conditions and the anticipated changes are not considered to represent

a substantial adverse effect on the visual character of the Pit Lake.

Boardwalk Removal and Trail Realignment

Removal of the existing boardwalk from the Pit Lake would eliminate a location (the boardwalk) from which views of the Pit are available. However, the boardwalk is not considered to represent an important element to the visual character of the Pit and its removal is not considered adverse. The new trail route that would be installed along the southern edge of the Pit Lake would provide a new view location comparable to that currently provided by the boardwalk. The new trail segment would follow along mine cuts and would be similar in character to existing trails within the Pit. Therefore, the new trail segment would not be visually incompatible with the existing character of the Pit. For these reasons, the boardwalk removal and new trail segment would not result in substantial or adverse changes in the visual quality of the Project site.

Access Road

The access road into the Pit and along the western and northern perimeter of the Pit would be left in place following construction for use as a service road and as a segment of the Diggins Loop Trail. The access road would be visible from the southwest corner of the Pit where it enters from North Bloomfield Road and from some segments of trails and overlooks. Because of the dynamic conditions in the Pit—sediment accumulation and movement, vegetation growth, etc.—it is anticipated that segments of the access road would be obscured by vegetation growth and/or sediment accumulation over time. Periodic removal of vegetation and sediment to allow for vehicle access may be necessary, but would be limited to that required for vehicle access for maintenance of BMP components. Although visible, the access road surface would be of native material consistent with adjacent areas and is not expected to be a dominant feature in the overall context of the Pit and is not considered a substantial adverse change in the visual character of the Pit.

Flocculant and Stabilizer Use

Sediment control BMPs include the potential use of flocculants and soil stabilizers. If used, soil stabilizers would be applied manually and would have a negligible visual effect. Flocculant blocks and staking would have the potential to be visible if used within areas near trails or other view locations. The coloring of flocculant blocks, stakes, and any associated containment would have the potential to be visually inconsistent with their surroundings depending on their coloring, placement location, size, and density. Specific Project Requirement AES-2 requires that, flocculant blocks, if used, shall be placed in areas of low visibility or the blocks and staking shall be of a natural color to minimize visibility. Implementation of Specific Project Requirement AES-2 would reduce the potential visual impact associated with flocculant block placement to less-than-significant.

BMP Maintenance

The sediment control BMP components are generally passive systems that would not require regular maintenance. However, periodic maintenance of the access road and BMP components may be necessary to ensure functionality. Such activities could include replacement of broken or deteriorated soldier pile wall timbers, spot-clearing vegetation and/or spot-grading of the perimeter access road, re-application of soil stabilizers (if used), and replacement or installation of flocculant blocks (if used). None of these activities would be expected to result in a substantial change or effect on the visual character of the Pit.

Impact Conclusion Summary

As detailed above, with implementation of Standard and Specific Project Requirements, the Project would have a less than significant impact associated with effects on a scenic vista or degradation of the existing visual character or quality of the Project site and its surroundings.

b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? No Impact.

The segment of State Route 49 between Nevada City and State Route 89 is identified as Eligible for a State Scenic Highway designation, and at its nearest point passes approximately 9.5 miles west of the Project site. The segment of State Route 20 between State Route 49 in Grass Valley to Interstate 80 is also identified as Eligible for a State Scenic Highway designation, and at its nearest point is approximately 3.5 miles south of the Project site. An approximately 6.5-mile portion of this segment of State Route 20 between Skillman Flat Campground and approximately 0.5 mile east of Lowell Hill Road is officially designated as a State Scenic Highway, the nearest point of which is approximately 7.5 miles southeast of the Project site. The Project site is not visible from any of these segments and, therefore, the Project would not impact scenic resources associated with an Eligible or Officially Designated State Scenic Highway.

d) Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? No Impact.

Construction activities would be performed during daylight hours and would not require lighting on equipment, work areas, or staging areas. Surfaces of proposed BMP components would be non- or low-reflectivity and would not create the potential for substantial glare or reflection.

Aesthetics Mitigation Measure(s)

None required.

3.2 Agriculture and Forestry Resources

Agriculture and Forestry Resources Environmental Setting

As discussed further in Section 3.4, “Biological Resources,” the Project site contains a mix of vegetation cover types, including Ponderosa Pine forest, dominated by Ponderosa Pine, with interstitial, subdominant conifers and hardwoods, including Douglas Fir, Incense-Cedar, and California Black Oak. The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) identifies portions of MDSHP as “Grazing Land” and “Other Lands”, with the southeast portion of MDSHP “Area Not Mapped”. No land within MDSHP is identified as Prime Farmland, Unique Farmland, or farmland of Statewide Importance (Farmland) pursuant to the FMMP. MDSHP has a Nevada County General Plan land use and zoning designation of Open Space, and no lands within MDSHP are subject to a Williamson Act contract. No lands within MDSHP are zoned or otherwise designated for agricultural or timber production.

Agriculture and Forestry Resources Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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 nonagricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined in PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forestland or conversion of forestland to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment, which, due to their location or nature could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Agriculture and Forestry Resources Impact Discussion

- a) *Would the Project 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 nonagricultural use? No Impact.***

MDSHP does not support any agricultural operations. The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) identifies portions of MDSHP as “Grazing Land” and “Other Lands”, with the southeast portion of MDSHP “Area Not Mapped”. No land within MDSHP is identified as Prime Farmland, Unique Farmland, or farmland of Statewide Importance (Farmland) pursuant to the FMMP. Thus, the Project would not have the potential to convert important farmland to nonagricultural use.

- b) *Would the Project conflict with existing zoning for agricultural use or a Williamson Act contract? No Impact.***

MDSHP has a Nevada County General Plan land use and zoning designation of Open Space, and no lands within MDSHP are subject to a Williamson Act contract. Thus, the Project would not have the potential to conflict with zoning for agricultural use and would not conflict with a Williamson Act contract.

- c) *Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined in PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? No Impact.***

MDSHP is within an area with a Nevada County zoning designation of Open Space, and no lands within MDSHP are zoned or otherwise designated for timberland production. Thus, the Project would not have the potential to conflict with timberland related zoning or production.

- d) *Would the Project result in the loss of forestland or conversion of forestland to non-forest use? No Impact.***

The Project site contains a mix of vegetation cover types, including Ponderosa Pine forest, dominated by Ponderosa Pine, with interstitial, subdominant conifers and hardwoods, including Douglas Fir, Incense-Cedar, and California Black Oak. The Project would not result in substantial loss of forestland or conversion of forest land to other uses. (See Section 3.4, “Biological Resources,” for additional discussion of vegetation types within the study area and Project effects associated with loss and conversion of habitat.)

- e) *Would the Project involve other changes in the existing environment, which, due to their location or nature could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use? No Impact.***

The Project would not have the potential to result in the direct or indirect conversion of farmland or forestland to non-agricultural or non-forest use.

Agriculture and Forestry Resources Mitigation Measure(s)

None required.

3.3 Air Quality

Air Quality Environmental Setting

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality. Federal, state, and local governments manage air quality through the implementation of laws, ordinances, regulations, and standards. The federal National Ambient Air Quality Standards (NAAQS) have been established for carbon monoxide, lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), fine particulate matter (particles 2.5 microns in diameter and smaller, or PM_{2.5}), inhalable coarse particulate matter (particles 10 microns in diameter and smaller, or PM₁₀), and sulfur dioxide (SO₂). California Ambient Air Quality Standards (CAAQS) are more stringent than the national standards for the pollutants listed above and include the following additional pollutants: hydrogen sulfide (H₂S), sulfates (SO_x), and vinyl chloride.

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The AAQS for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which AAQS have been established are called “criteria” pollutants. Table 3.3-1, “Summary of Criteria Pollutants,” identifies the major pollutants, characteristics, health effects and typical sources. The federal and California AAQS (NAAQS and CAAQS, respectively) are summarized in Table 3.3-2, “Ambient Air Quality Standards.”

**Table 3.3-1
Summary of Criteria Pollutants**

| Pollutant | Characteristics | Health Effects | Major Sources |
|------------------------|--|--|---|
| Ozone | A highly reactive gas produced by the photochemical process involving a chemical reaction between the sun’s energy and other pollutant emissions. Often called photochemical smog. | <ul style="list-style-type: none"> • Eye irritation • Wheezing, chest pain, dry throat, headache, or nausea • Aggravated respiratory disease such as emphysema, bronchitis, and asthma | Combustion sources such as factories, automobiles, and evaporation of solvents and fuels. |
| Carbon Monoxide | An odorless, colorless, highly toxic gas that is formed by the incomplete combustion of fuels. | <ul style="list-style-type: none"> • Impairment of oxygen transport in the bloodstream • Impaired vision, reduced alertness, chest pain, and headaches • Can be fatal in the case of very high concentrations | Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces. |

| Pollutant | Characteristics | Health Effects | Major Sources |
|--|--|--|---|
| Nitrogen Dioxide | A reddish-brown gas that discolors the air and is formed during combustion of fossil fuels under high temperature and pressure. | <ul style="list-style-type: none"> Lung irritation and damage Increased risk of acute and chronic respiratory disease | Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants. |
| Sulfur Dioxide | A colorless, irritating gas with a rotten egg odor formed by combustion of sulfur-containing fossil fuels. | <ul style="list-style-type: none"> Aggravation of chronic obstruction lung disease Increased risk of acute and chronic respiratory disease | Diesel vehicle exhaust, oil-powered power plants, and industrial processes. |
| Particulate Matter (PM₁₀ and PM_{2.5}) | A complex mixture of extremely small particles and liquid droplets that can easily pass through the throat and nose and enter the lungs. | <ul style="list-style-type: none"> Aggravation of chronic respiratory disease Heart and lung disease Coughing Bronchitis Chronic respiratory disease in children Irregular heartbeat Nonfatal heart attacks | Combustion sources such as automobiles, power generation, industrial processes, and wood burning. Also from unpaved roads, farming activities, and fugitive windblown dust. |
| Lead | A metal found naturally in the environment as well as in manufactured products. | <ul style="list-style-type: none"> Loss of appetite, weakness, apathy, and miscarriage Lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract | Industrial sources and combustion of leaded aviation gasoline. |

Sources:

1. California Air Resources Board. California Ambient Air Quality Standards (CAAQS). Available at: <http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>. Accessed November 2020.
2. Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts, Spare the Air website. Air Quality Information for the Sacramento Region. Available at: <http://www.sparetheair.com/health.cfm?page=healthoverall>. Accessed November 2020.
3. California Air Resources Board. Glossary of Air Pollution Terms. Available at: <http://www.arb.ca.gov/html/gloss.htm>. Accessed May 2019.

**Table 3.3-2
Ambient Air Quality Standards**

| Pollutant | Averaging Time | CAAQS | NAAQS | |
|-------------------------|----------------|-----------|-----------|-----------------|
| | | | Primary | Secondary |
| Ozone | 1 Hour | 0.09 ppm | - | Same as primary |
| | 8 Hour | 0.070 ppm | 0.070 ppm | |
| Carbon Monoxide | 8 Hour | 9 ppm | 9 ppm | None |
| | 1 Hour | 20 ppm | 35 ppm | |
| Nitrogen Dioxide | Annual Mean | 0.030 ppm | 53 ppb | Same as primary |
| | 1 Hour | 0.18 ppm | 100 ppb | |
| Sulfur Dioxide | 24 Hour | 0.04 ppm | - | - |
| | 3 Hour | - | - | 0.5 ppm |
| | 1 Hour | 0.25 ppm | 75 ppb | - |

| Pollutant | Averaging Time | CAAQS | NAAQS | |
|--|-------------------------|-----------------------|------------------------|----------------------|
| | | | Primary | Secondary |
| Respirable Particulate Matter (PM₁₀) | Annual Mean | 20 ug/m ³ | - | Same as primary |
| | 24 Hour | 50 ug/m ³ | 150 ug/m ³ | |
| Fine Particulate Matter (PM_{2.5}) | Annual Mean | 12 ug/m ³ | 12 ug/m ³ | 15 ug/m ³ |
| | 24 Hour | - | 35 ug/m ³ | Same as primary |
| Lead | 30 Day Average | 1.5 ug/m ³ | - | - |
| | Calendar Quarter | - | 1.5 ug/m ³ | Same as primary |
| | Rolling 3-month Average | - | 0.15 ug/m ³ | |
| Sulfates | 24 Hour | 25 ug/m ³ | - | - |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm | - | - |
| Vinyl Chloride | 24 Hour | 0.010 ppm | - | - |
| Visibility Reducing Particles | 8 Hour | see note below | - | - |

Source: California Air Resources Board. Ambient Air Quality Standards. May 4, 2016.

Available at: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>. Accessed November 2020.

Ppm = parts per million

ppb = parts per billion

ug/m³ = micrograms per cubic meter

Note: Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. MDSHP is located in the western portion of Nevada County, which is within the Mountain Counties Air Basin (MCAB). The MCAB lies along the northern Sierra Nevada Mountains close to or contiguous with the Nevada border and covers roughly 11,000 square miles. Elevations range from a few hundred feet at the Sacramento County boundary to more than 10,000 feet amsl at the Sierra Crest. CARB officially recognizes the MCAB as an area impacted by ozone transport from upwind air basins (17 CCR §70500). The MCAB includes portions of Amador, Calaveras, El Dorado, Mariposa, Nevada, Placer, Plumas, Sierra, and Tuolumne Counties and is composed of seven air districts. Nevada, Plumas, and Sierra counties are within the jurisdictional boundaries of the Northern Sierra Air Quality Management District (NSAQMD).

Air quality in the MCAB is influenced by both local and distant emission sources. Air pollutant sources in the project area include emissions from vehicle traffic on nearby paved and unpaved roadways, emissions from planes operating at the Nevada County Airport, stationary sources such as generators or industrial processes, and fireplaces/wood stoves. In addition, local air quality is also influenced by the transportation of emissions from the Sacramento metropolitan area to the mountainous areas north and east of the Sacramento area.

The Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA) require all areas of California to be classified as attainment, nonattainment, or unclassified as to their status under the NAAQS and/or CAAQS. The FCAA and CCAA require that the CARB, based on air quality monitoring data, designate portions of the State where the federal or State AAQS are not met as “nonattainment areas.” As presented in Table 3.3–3, “MCAB Attainment Status Designations,” under the CCAA, the MCAB has been designated nonattainment for the State one-hour and eight-hour and State PM₁₀ standards. Although the majority of the MCAB is designated as in attainment of the State and federal PM_{2.5} standard the Portola Valley area, which is within Plumas County, is designated as nonattainment for PM_{2.5}. The MCAB is designated as serious nonattainment for the federal 8-hour ozone standard. The County is designated attainment or unclassified for all other AAQS.

**Table 3.3-3
MCAB Attainment Status Designations**

| Pollutant | Averaging Time | California Standards | Federal Standards |
|--|----------------------------|---|---|
| Ozone | 1 Hour | Nonattainment | Revoked in 2005 |
| | 8 Hour | Nonattainment | Serious Nonattainment |
| Carbon Monoxide | 8 Hour | Unclassified | Unclassified/Attainment |
| | 1 Hour | Unclassified | Unclassified/Attainment |
| Nitrogen Dioxide | Annual Mean | Attainment | Unclassified/Attainment |
| | 1 Hour | Attainment | Unclassified/Attainment |
| Sulfur Dioxide | Annual Mean | Attainment | Unclassified/Attainment |
| | 24 Hour | Attainment | Unclassified/Attainment |
| | 3 Hour | Attainment | Unclassified/Attainment |
| | 1 Hour | Attainment | Unclassified/Attainment |
| Respirable Particulate Matter (PM₁₀) | Annual Mean | Nonattainment | - |
| | 24 Hour | Nonattainment | Unclassified |
| Fine Particulate Matter (PM_{2.5}) | Annual Mean | Attainment (with the exception of the Portola Valley) | Attainment (with the exception of the Portola Valley) |
| | 24 Hour | - | Nonattainment |
| Lead | 30 Day Average | Attainment | Unclassified/Attainment |
| | Calendar Quarter | Attainment | Unclassified/Attainment |
| | Rolling 3-Month Average | Attainment | Unclassified/Attainment |
| Sulfates | 24 Hour | Attainment | - |
| Hydrogen Sulfide | 1 Hour | Unclassified | - |
| Visibility Reducing Particles | 8 Hour | Unclassified | - |

Source: California Air Resources Board. Maps of State and Federal Area Designations.

Available at: <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>

Accessed November 2020.

Due to the nonattainment designations, the NSAQMD, is required to develop plans to attain the federal and State standards for ozone and particulate matter. The air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control measures have worked, and show how air pollution would be reduced. In addition, the plans include the estimated future levels of pollution to ensure that the area would meet air quality goals.

In consideration of air quality and ambient air quality attainment status, the NSAQMD has developed a tiered approach for determining the significance of a project's emissions under CEQA. Table 3.3-4, "NSAQMD Thresholds of Significance," presents the NSAQMD tiered thresholds for Levels A, B, and C for a project's estimated emissions of criteria pollutants in pounds per day. A project with emissions qualifying it for Level A thresholds (i.e., all projects with emissions greater than zero) requires the most basic pollutant reduction measures. Projects that qualify for Level B require more extensive mitigation, and projects that qualify for Level C require the most extensive application of mitigation. The emissions-based thresholds for O₃ precursors (i.e., reactive organic gases [ROG] and oxides of nitrogen [NO_x]) serve as a surrogate for an O₃ significance threshold because O₃ is not emitted directly and forms in the atmosphere as through chemical interactions and sunlight. The NSAQMD established thresholds of significance for CEQA purposes to achieve and maintain the NAAQS and CAAQS. Because an AAQS is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the AAQS, a project that complies with the thresholds established by a local air district, such as the NSAQMD, would not result in adverse effects to human health related to criteria pollutant emissions.

Table 3.3-4
NSAQMD Thresholds of Significance (lbs/day)

| Threshold Level | ROG | NO _x | PM ₁₀ |
|-------------------|--------|-----------------|------------------|
| Level A Threshold | <24 | <24 | <79 |
| Level B Threshold | 24-136 | 24-136 | 79-136 |
| Level C Threshold | >136 | >136 | >136 |

Source: NSAQMD. Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects.
Draft Revised August 2019.

Air Quality Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Air Quality Impact Discussion

a) *Would the Project conflict with or obstruct implementation of the applicable air quality plan? No Impact.*

Western Nevada County in which the MDSHP is located is designated as nonattainment for the federal and state O₃ standards. As a nonattainment area, the NSAQMD prepared the *2018 Western Nevada County Planning Area Ozone Attainment Plan* and the *2018 Reasonably Available Control Technology SIP for Western Nevada County*. The Ozone Attainment Plan, once adopted by the USEPA, serves as an air quality attainment plan for western Nevada County designed to reduce emissions of O₃ precursors (ROG and NO_x) to attain the federal eight-hour O₃ standard. The criteria used in this analysis for determining if the Project would have the potential to conflict with or obstruct implementation of an applicable air quality attainment plan considers whether the Project would exceed the NSAQMD CEQA thresholds of significance for O₃ precursors (ROG and NO_x). As discussed at item “b”, below, Project emissions were quantified using emissions modeling computer software and concluded that the Project’s emissions of ROG and NO_x would be below the NSAQMD thresholds of significance. Thus, the Project would not have the potential to conflict with or obstruct implementation of an applicable air quality plan.

- b) Would the Project 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? Less than Significant Impact.**
- c) Would the Project expose sensitive receptors to substantial pollutant concentrations? Less than Significant Impact.**

Regarding items “b” and “c”, air pollutant emissions associated with the Project would be primarily limited to the period of construction. Once construction, the Project BMP components would function passively, requiring only limited and periodic maintenance activities. During construction, emissions would be generated from construction vehicles and equipment, vegetation clearing and earth movement activities, construction worker commutes, and construction material hauling during the construction period.

To assess the Project’s potential to result in a cumulative considerable increase in a criteria pollutant and potential exposure of sensitive receptors to substantial pollutant concentrations, Project-related construction emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2020.4.0. CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. Factors that contribute to an analysis of air quality emissions associated with a construction activity include the anticipated construction schedule, equipment to be used and the number and distance of estimated truck trips. The model applies inherent default values for various land uses, including trip generation rates, vehicle mix, trip length, average speed, and other factors. Where Project-specific information or assumptions were available to refine the model defaults, such information was applied to the model. For this analysis, CalEEMod was run under a scenario that assumed Project construction would be done during one construction season over of a period of 90 days. CalEEMod output data and model refinement notes are included in Appendix B, “Malakoff Diggins SHP Sediment Control BMP Plan CalEEMod Model Output,” of this IS/MND.

Table 3.3-5, “Total and Average Daily Project Emissions,” presents the estimated total emissions and daily emissions associated with Project construction and compares the daily emissions with the NSAQMD significance thresholds. As shown in the table, emissions of each criteria pollutant would be below the Level A thresholds for each applicable pollutant and are considered less than significant.

**Table 3.3-5
Total and Average Daily Project Emissions**

| Period | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
|---|-------|-----------------|-------|-----------------|------------------|-------------------|
| Total Construction (tons) | 0.089 | 0.894 | 0.677 | 0.001 | 2.925 | 0.464 |
| Average Daily Construction Emissions (lbs/day) | 1.98 | 19.89 | 15.04 | 0.03 | 65.00 | 10.31 |
| Daily Threshold (Level A) (lbs/day) | 24 | 24 | N/A | N/A | 79 | N/A |
| Significant | No | No | No | No | No | No |

Source: CalEEMod, 2021. Appendix B.

Although emissions are anticipated to be less than significant and not exceed NSAQMD thresholds, DPR would implement Standard Project Requirement AIR-1 which would serve to minimize fugitive dust and vehicle and equipment emissions. DPR would also implement Specific Project Requirement AIR-2 to implement buffering and scheduling to minimize potential exposure of MDSHP visitors to construction-related emissions.

d) Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? Less than Significant Impact.

Project construction activities would have the potential to generate localized odors associated with use of diesel fuel, motor oil and exhaust. Any such odors would be temporary and intermittent with limited potential for exposure beyond construction areas. This impact is considered less than significant and would be further reduced through implementation of Specific Project Requirement AIR-2 which provides for buffering and scheduling to minimize potential exposure of MDSHP visitors to construction-related emissions.

Air Quality Mitigation Measure(s)

None required.

3.4 Biological Resources

Biological Resources Environmental Setting

Supporting analysis for this section is provided in the following three reports prepared to evaluate potential biological resources impacts associated with the Project:

Biological Resources Assessment, Malakoff Diggins State Historic Park Site, Characterization and Remediation Project. WRA, Inc. (WRA, 2021a), included as Appendix C-1 of this IS/MND.

Rare Plant Survey Report, Malakoff Diggins Characterization and Remediation Project. WRA, Inc. (WRA, 2021b)

Aquatic Resources Delineation Report, Malakoff Diggins State Historic Park Site, Characterization and Remediation Project. WRA, Inc. November 2021. (WRA, 2021c)

Tech Memo – Refined Habitat Disturbance Area Calculations for the Malakoff Diggins State Historic Park (MDSHP) Sediment Control BMPs Project. WRA, Inc. October 18, 2022. (WRA, 2022), included as Appendix C-2 of this IS/MND.

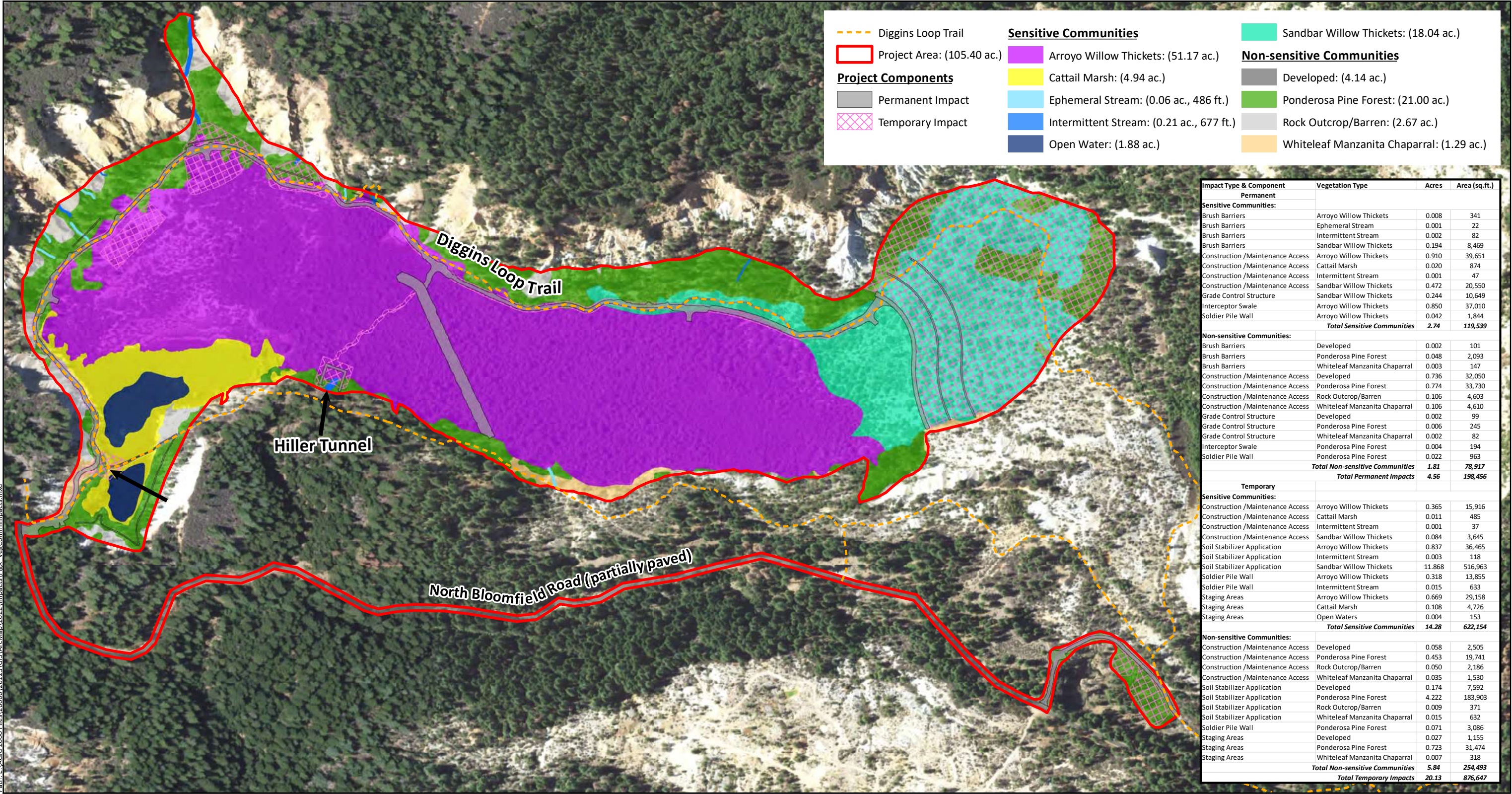
Potential impacts on biological resources were evaluated by comparing the quantity and quality of habitats and potential occurrence of special-status plants and animals in the Project biological resources study area (BRSA) under existing conditions to the anticipated conditions with implementation of Project. Direct and indirect impacts on special-status species and sensitive natural communities were assessed based on the potential for the species, their habitat, or the natural community in question to be disturbed or enhanced by construction or maintenance of the proposed Project.

The biological resources study area (BRSA) for this Initial Study consists of approximately 105.40 acres entirely located within the 3,200-acre MDSHP encompassing areas of construction access and staging areas, construction activities and disturbance, BMP components, the enhanced Pit Lake footprint, and Diggins Loop trail realignment segment as shown on Figure 3.4-1, “Vegetation Communities and BMP Components.”

Topography and Soils

The BRSA is located within the northern Sierra Nevada Mountain Range. Topography in the BRSA is mountainous, concave, and generally sloping in a southerly direction with elevations ranging from approximately 3,400 feet amsl at the northern edge along the cliffs of the Pit to approximately 3,050 feet above mean sea level at the Pit floor. The Project Area contains five soil mapping units that include: (1) Horseshoe gravelly loam, 15 to 30 percent slopes; (2) Josephine- Mariposa complex, 15 to 50 percent slopes, eroded; (3) Mariposa-Rock outcrop complex, 2 to 50 percent slopes; (4) Tailings; and (5) Water. Additional discussion of site geology and soils is provided in Section 3.7, “Geology and Soils,” of this IS/MND.

Path: E:\Acad 2000 Files\260000\26123\GIS\ArcMap\2022\Impacts\Fix_VegCommImpacts.mxd



Source: WRA, 2022.

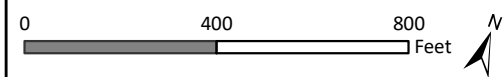


FIGURE 3.4-1
VEGETATION COMMUNITIES
AND BMP COMPONENTS

Climate and Hydrology

MDSHP is situated on the western slope of the Sierra Nevada Mountain Range in the climate transition zone between the Sierra Nevada foothills and mountains. The climate is characterized by dry, hot summers and relatively mild winters with 40 to 60 inches of annual rainfall. Snow is common at higher elevations and frost is common from November through March. Spring, summer, and fall temperatures range from the high 50s to the mid-80s.

Surface water enters the Pit as precipitation, with occasional, non-persistent snowfall. Surface inflow largely occurs as intermittent streams flowing down the steep Pit walls during and following storm events. After reaching the Pit floor, surface runoff flows westerly, with water in the north areas of the Pit flowing to the Pit Lake in the southwest end of the Pit, and runoff in the south areas of the Pit flowing directly to the Hiller Tunnel. The Pit Lake surface area increases in the wet season and the 541-foot-long Hiller Tunnel drains surface runoff from the Pit at the southwest Pit perimeter. Originally constructed as a mining era drainage tunnel, the Hiller Tunnel conveys surface flow out of the Pit and into Diggins Creek. Diggins Creek flows into Humbug Creek approximately 1,690 feet downstream. Approximately 2 miles downstream from there, Humbug Creek flows into the South Yuba River. The entire Malakoff Diggins basin lies within the Humbug Creek-South Yuba Watershed Hydrologic Unit.

Biological Communities

Non-sensitive biological communities and/or land cover types within the BRSA include developed, Ponderosa pine forest, rock outcrop/barren land, and Whiteleaf Manzanita chaparral. Potentially sensitive biological communities include Arroyo Willow thickets, Cattail Marsh, Open Water, Sandbar Willow thickets, and ephemeral and intermittent streams (no perennial streams are located within the BRSA). Community types are illustrated above on Figure 3.4-1, and the acreages of each within the BRSA area listed below in Table 3.4-1, "Biological Communities in BRSA."

Table 3.4-1
Biological Communities in BRSA

| Biological Community Type | Area in BRSA (acres [linear feet]) |
|---|---------------------------------------|
| Non-Sensitive Communities | |
| Ponderosa pine forest | 21.00 |
| Developed | 4.14 |
| Rock outcrop/barren | 2.67 |
| Whiteleaf manzanita chaparral | 1.29 |
| Non-Sensitive Communities Subtotal | 29.10 |

| Biological Community Type | Area in BRSA (acres [linear feet]) |
|--|---|
| Sensitive Communities | |
| Arroyo willow thickets | 51.17 |
| Sandbar willow thickets | 18.04 |
| Cattail marsh | 4.94 |
| Open water | 1.88 |
| Intermittent stream | 0.21 (677) |
| Ephemeral stream | 0.06 (486) |
| <i>Sensitive Communities Subtotal</i> | <i>76.30 (1,163)</i> |
| Total Non-Sensitive And Sensitive Communities | 105.40 (1,163) |

Special-Status Plant Species

The Project site is situated along the northern boundary of the North Bloomfield 7.5-minute U.S. Geological Survey (USGS) quadrangle less than 0.5 mile from the Pike 7.5-minute USGS quadrangle. Therefore, the database searches for known occurrences of special-status species focused on the North Bloomfield, Pike, and 10 surrounding quadrangles (Strawberry Valley, Goodyears Bar, Downieville, Alleghany, Washington, Dutch Flat, Chicago Park, Grass Valley, Nevada City, and Camptonville), expanded from the typical nine quadrangle search due to the size of the site. The review determined that 45 special-status plant species have been documented within the vicinity, and of the 45 special-status species known from the region, 23 species were determined to have a moderate or high potential to occur within the BRSA, as listed in Table 3.4-2, "Special-Status Plant Species with Potential to Occur in BRSA." To determine whether any of these species are present in the BRSA, protocol-level surveys were conducted on July 7, 8, and 9, 2020, and May 11 and 12, 2021 during the blooming period for the 23 rare plant species with potential to occur. No rare plant species were observed in the BRSA during the surveys (WRA, 2021b).

**Table 3.4-2
Special-Status Plant Species with Potential to Occur in BRSA**

| Special-Status Plant | California Rare Plant Ranking | Potential to Occur in Project BRSA |
|--|-------------------------------|------------------------------------|
| Congdon's onion (<i>Allium sanbornii</i> var. <i>congdonii</i>) | 4.3 | Moderate |
| True's manzanita (<i>Arctostaphylos mewukka</i> ssp. <i>truei</i>) | 4.2 | Moderate |
| Sierra foothills brodiaea (<i>Brodiaea sierra</i>) | 4.3 | Moderate |
| Sheldon's sedge (<i>Carex sheldonii</i>) | 2B.2 | Moderate |
| Fresno ceanothus (<i>Ceanothus fresnensis</i>) | 4.3 | Moderate |
| Brandegee's clarkia (<i>Clarkia biloba</i> ssp. <i>Brandegeeae</i>) | 4.2 | High |
| Golden-anthered clarkia (<i>Clarkia mildrediae</i> ssp. <i>lutescens</i>) | 4.2 | Moderate |
| Sierra clarkia (<i>Clarkia virgata</i>) | 4.3 | Moderate |
| Butte County fritillary (<i>Fritillaria eastwoodiae</i>) | 3.2 | Moderate |
| Finger rush (<i>Juncus digitatus</i>) | 1B.1 | Moderate |
| Dubious pea (<i>Lathyrus sulphureus</i> var. <i>argillaceus</i>) | 3 | Moderate |
| Cantelow's lewisia (<i>Lewisia cantelovii</i>) | 1B.2 | Moderate |
| Humboldt lily (<i>Lilium humboldtii</i> ssp. <i>humboldtii</i>) | 4.2 | Moderate |
| Inundated bog club-moss (<i>Lycopodiella inundata</i>) | 2B.2 | High |
| Western waterfan lichen (<i>Peltigera gowardii</i>) | 4.2 | Moderate |
| Sierra blue grass (<i>Poa sierrae</i>) | 1B.3 | Moderate |
| Flexuose threadmoss (<i>Pohlia flexuosa</i>) | 2B.1 | Moderate |
| Brownish beaked-rush (<i>Rhynchospora capitellata</i>) | 2B.2 | High |
| Giant checkerbloom (<i>Sidalcea gigantea</i>) | 4.3 | Moderate |
| Scadden Flat checkerbloom (<i>Sidalcea stipularis</i>) | 1B.1 and State Endangered | Moderate |
| Long-fruit jewelflower (<i>Streptanthus longisiliquus</i>) | 4.3 | Moderate |
| True's mountain jewelflower (<i>Streptanthus tortuosus</i> ssp. <i>truei</i>) | 1B.1 | Moderate |
| Felt-leaved violet (<i>Viola tomentosa</i>) | 4.2 | Moderate |

Source: WRA, 2021b

Notes: Ranking Definition:

1B.1 = Rare, threatened, or endangered in California and elsewhere, seriously threatened in California

1B.2 = Rare, threatened, or endangered in California and elsewhere, moderately threatened in California

1B.3 = Rare, threatened, or endangered in California and elsewhere, not very threatened in California

2B.1 = Rare, threatened, or endangered in California, but more common elsewhere, seriously threatened in California

2B.2 = Rare, threatened, or endangered in California, but more common elsewhere, moderately threatened in California

3 = Plants about which more information is needed – A review list

3.2 = Plants about which more information is needed – A review list, moderately threatened in California

4.2 = Plants of limited distribution – A watch list, moderately threatened in California

4.3 = Plants of limited distribution – A watch list, not very threatened in California

Special-Status Wildlife Species

The literature and database review performed for the nine-quadrangle area including and surrounding MDSHP discussed above determined that 56 special-status wildlife species have been documented within the BRSA or the surrounding region. Of the 56 special-status species known from the vicinity, 21 were determined to be present or have a moderate or high potential to occur within the BRSA. (WRA, 2021a) These 21 species and their status, habitat requirements, and potential to occur within the BRSA are summarized in Table 3.4-3, "Special-Status Wildlife Species Identified as Present or with a Moderate to High Potential to Occur in Project BRSA."

**Table 3.4-3
Special-Status Wildlife Species Identified as Present or
with a Moderate to High Potential to Occur in BRSA**

| Species/Status | Habitat | Potential for Occurrence |
|--|--|--|
| Ringtail <i>Bassariscus astutus</i> CFP | Widely distributed throughout most of California, absent from some portions of the Central Valley and northeastern California. Found in a variety of habitats including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 4,600 ft. in elevation. Typically uses cliffs or large trees for shelter. | Present. The BRSA has numerous rock crevices and tree cavities that would provide refuge for ringtail. The species has been detected in the Project Area. |
| Pallid Bat <i>Antrozous pallidus</i> SSC, WBWG High | Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various human structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. | High Potential. The BRSA has areas that are likely to be suitable for pallid bats including rock crevices and tree cavities. Suitable foraging habitat and adequate water are available within the BRSA. |
| Townsend's Big-Eared Bat <i>Corynorhinus townsendii</i> SSC, WBWG High | This species is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation. | Moderate Potential. This species has been documented in buildings in the vicinity of the BRSA. However, the Project Area does not contain buildings, mines, or caves to support maternity roosting by this species. The BRSA contains crevices and cavities which may be suitable day roosts. |

| Species/Status | Habitat | Potential for Occurrence |
|--|--|--|
| Western Mastiff Bat <i>Eumops perotis</i> SSC, WBWG High | In California this species roosts at elevations up to 4,600 feet where significant rock features are present (WBWG 2019). Mastiff bat roosts are primarily located high on cliffs under exfoliating rock slabs, but have also been found in similar crevices in large boulders and buildings. This species forages in groups high above the ground in broad, open areas and is most often found in desert washes, flood plains, chaparral, oak woodland, open pine forest, grasslands, and agricultural areas (WBWG 2018). | Moderate Potential. The BRSA contains rocky outcroppings that may support roosting by this species. |
| Western Red Bat <i>Lasiurus blossevillii</i> SSC, WBWG High | This species is typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores). | Moderate Potential. The BRSA has several areas that are likely to be suitable for this species, including some large willow stands. Foraging habitat and adequate water are available within the Project Area. |
| Hoary Bat <i>Lasiurus cinereus</i> WBWG Medium | Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. | High Potential. The BRSA supports stands of trees which may support roosting for hoary bats. This species was acoustically detected near the Project Area during a site assessment in June 2019. Foraging habitat and adequate water are available within the Project Area. |
| Silver-Haired Bat <i>Lasionycteris noctivagans</i> . WBWG Medium | Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. Summer habitats include a variety of forest and woodland types, both coastal and montane. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. | High Potential. The BRSA supports stands of trees which may support roosting for hoary bats. This species was acoustically detected near the BRSA during a site assessment in June 2019. Foraging habitat and adequate water are available within the project Area. |
| Long-Eared Myotis <i>Myotis evotis</i> WBWG Medium | Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests from sea level to 9000 feet. Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, and rocky outcrops on the ground. They also sometimes roost in buildings and under bridges. | Moderate Potential. The BRSA supports stands of trees which may support roosting for this species. Foraging habitat and adequate water are available within the BRSA. |

| Species/Status | Habitat | Potential for Occurrence |
|--|--|---|
| Fringed Myotis <i>Myotis thysanodes</i> WBWG High | Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts. | High Potential. The BRSA has several areas that are likely to be suitable for this species. Foraging habitat and adequate water are available within the BRSA. This species has been detected in a structure near the BRSA. |
| Long-Legged Myotis <i>Myotis Volans</i> WBWG High | Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings. | High Potential. The BRSA has several areas that are likely to be suitable for this species. Foraging habitat and adequate water are available within the BRSA. |
| Northern Goshawk <i>Accipiter gentilis</i> SSC | Year-round resident in extensive forest habitats, primarily those with old growth or otherwise mature stands of conifer and/or conifer/hardwood. Nests in trees. Preys on birds and mammals. | Moderate Potential. Historic breeding occurrences exist in the vicinity of the BRSA. The majority of the BRSA is arroyo willow and is not suitable for nesting by this species. In addition, no recent breeding occurrences have been documented in the vicinity. While nesting habitat within the BRSA is limited, stands of mature trees may support this species. |
| Golden Eagle <i>Aquila chrysaetos</i> BCC, CFP | Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas. | Moderate Potential. The majority of the BRSA is arroyo willow and is not suitable for nesting by this species. However, some adequate nesting habitat is present within and adjacent to the BRSA. No evidence of eagle nests was observed during the site visit. |
| Bald Eagle <i>Haliaeetus leucocephalus</i> SE, CFP | Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish. | Moderate Potential. Bald eagles are documented to breed in the area, though nesting opportunities in the BRSA are limited. The majority of the Project Area is arroyo willow and is not suitable for nesting by this species. Waterbodies in the BRSA are too small to support this species long-term but the species may occasionally forage in them. |
| Long-Eared Owl <i>Asio otus</i> SSC | Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding. | Moderate Potential. The BRSA contains mostly marginal or poor habitat for nesting long-eared owls. However, some forest edges may be suitable. |

| Species/Status | Habitat | Potential for Occurrence |
|--|--|---|
| California Spotted Owl <i>Strix occidentalis occidentalis</i> SSC | Year-round resident in dense, structurally complex forests, including coniferous, hardwood, and mixed forests. Most often found in deep-shaded canyons, on north-facing slopes, and within 1,000 feet of water. Nests on platform-like substrates in the forest canopy. Preys on mammals. | Moderate Potential. This species has been detected by park staff near Blair pond, outside of the BRSA. However, the Ponderosa pine forest within the BRSA does not have the structural complexity typically associated with nesting by this species. California spotted owl may nest in nearby suitable habitat. |
| Olive-Sided Flycatcher <i>Contopus cooperi</i> SSC | Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground. | Present. The edges of coniferous and mixed forests in the BRSA contain suitable habitat for this species, the species was detected during 2019 survey efforts by WRA and the species is documented to breed in the region. |
| Little Willow Flycatcher <i>Empidonax traillii brewsteri</i> SE | Summer resident in the Sierra Nevada and Cascades, breeding in extensive thickets of low, dense willows adjacent to wet meadows, ponds, or backwaters at 2,000 to 8,000 feet elevation. Current breeding population small and declining. | Present. The dense willow thickets in the BRSA are suitable habitat for this species. During bird surveys in 2019, several Empidonax flycatchers were observed within the BRSA, but the birds were not calling and call-playback surveys were not performed to confirm species-level identification. |
| Yellow Warbler <i>Setophaga petechia</i> SSC | Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration. | Present. The BRSA has adequate riparian habitat to support nesting by this species around some of the ponds. This species was detected in the BRSA during the May 2019 site visit by WRA and has been documented to occur in the Project Area in previous years. |
| Yellow-Breasted Chat <i>Icteria virens</i> SSC | Summer resident, occurring in riparian areas along stream courses with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape. | Present. This species is associated with riparian areas along stream courses and is documented to occur in the Pit. However, none were detected during the 2019 bird surveys conducted by WRA in the BRSA. |
| Northwestern Pond Turtle <i>Emmys marmorata</i> SSC | A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying. | High Potential. Suitable habitat for pond turtles exists in the aquatic features present in the BRSA. This species has been documented in one of the ponds in the MDSHP adjacent to the BRSA. |
| Foothill Yellow-Legged Frog, Northeast/Northern Sierra Clade <i>Rana boylei</i> is ST, SSC | Found in or adjacent to rocky streams in a variety of habitats. Prefers partly shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to | Moderate Potential. This species has been documented to occur in Humbug Creek and its tributaries, south of the BRSA. The BRSA does not contain rocky stream habitat to support breeding by this species. However, |

| Species/Status | Habitat | Potential for Occurrence |
|----------------|--|---|
| | attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates. | FYLF may move across the landscape during the autumnal rains and may seek refuge in upland areas or intermittent streams during the winter. The BRSA has hydrological connectivity to occupied areas and may temporarily support FYLF. Due to the proximity of the BRSA to suitable stream habitat and the presence of aquatic habitat within the BRSA, FYLF has a moderate potential to occur. |

Source: WRA, 2021a

Notes:

Potential for Occurrence

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Present. Species was observed on the site or has been recorded on the site recently.

Species Status

FE = Federal Endangered

FT = Federal Threatened

SE = State Endangered

ST = State Threatened

SSC = CDFW Species of Special Concern

CFP = CDFW Fully Protected Animal

WBWG = Western Bat Working Group High or Medium Priority species

Native Wildlife Nursery Sites and Critical Habitat

No native wildlife nursery sites or Critical Habitat are present in the BRSA. NMFS has determined that the upper Yuba River watershed contains EFH for Pacific salmon (NMFS 2007). However, the BRSA does not contain habitat or substrate to support spawning, breeding, feeding, or growth of Pacific salmon. The downstream Englebright Dam prevents fish passage upstream to the upper Yuba River and its tributaries, including MDSHP.

Wildlife Corridors

The BRSA may function as a wildlife movement corridor, based on the Essential Connectivity Areas geospatial dataset, which uses habitat modelling on a broad scale to identify areas of land with value as wildlife corridors (CDFW and Caltrans, 2021). The BRSA is classified in this dataset as highly permeable, meaning that wildlife may use the area as a corridor and that the area is generally high quality. However, the BRSA is subject to a low level of anthropogenic disturbance and activities from pedestrians (primarily visitor access on hiking trails in the Pit and vehicle travel on North Bloomfield Road) which does not preclude or substantially detract from its wildlife corridor value.

Biological Resources Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Biological Resources Impact Discussion

- a) ***Would the Project have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? Less than Significant with Mitigation.***

Project construction would result in vegetation and other disturbance that could adversely affect habitat and wildlife species that utilize habitat within and adjacent to construction disturbance and activities. Table 3.4-4, "Project Biological Community Impacts," summarizes the existing habitat community types within the BRSA and the permanent and additional temporary disturbance to each that would result from Project activities.

**Table 3.4-4
Project Biological Community Impacts**

| Biological Community | Impact Type (P – Permanent ; T – Temporary) | Total in Project BRSA (acres [linear feet]) | Disturbance (acres [linear feet]) | |
|-------------------------------|--|--|--------------------------------------|--|
| | | | Permanent | Temporary (in addition to permanent) |
| Non-Sensitive Communities | | | | |
| Ponderosa pine forest | Rock wall (P), access route (P), boardwalk (P), brush dams (P), diversion swale (P), soldier pile wall (P), staging area (T) | 21.00 | 0.85 | 5.47 |
| Developed | Rock wall (P), access route (P), boardwalk (P), brush dams (P), staging area (T) | 4.14 | 0.74 | 0.26 |
| Rock outcrop/barren | Access route (P), boardwalk (P), brush dams (P) | 2.67 | 0.11 | 0.06 |
| Whiteleaf manzanita chaparral | Rock wall (P), access route (P), brush dams (P), staging area (T) | 1.29 | 0.11 | 0.06 |
| Subtotal | | 29.10 | 1.95 | 0.77 |
| Sensitive Communities | | | | |
| Arroyo willow thickets | Access routes (P), brush dams (P), diversion swale (P), soldier pile wall (P), staging area (T), temporary construction mats (T) | 51.17 | 1.81 | 2.25 |
| Sandbar willow thickets | Rock wall (P), access routes (P), brush dams (P) | 18.04 | 0.91 | 11.95 |
| Cattail marsh | Access routes (P), boardwalk (P), staging area (T) | 4.94 | 0.02 | 0.12 |
| Open water | Staging area (T) | 1.88 | 0.00 | <0.01 |

| Biological Community | Impact Type (P – Permanent ; T – Temporary) | Total in Project BRSA (acres [linear feet]) | Disturbance (acres [linear feet]) | |
|----------------------|--|--|--------------------------------------|---|
| | | | Permanent | Temporary (in addition to permanent) |
| Intermittent stream | Access routes (P), brush dams (P) | 0.21 (677) | 0.01 (22) | 0.00 |
| Ephemeral stream | Brush dams (P) | 0.06 (486) | <0.01 (17) | 0.00 |
| Subtotal | | 76.30 (1,163) | 2.74 (39) | 14.19 |
| Total | | 105.40 (1,163) | 4.55 (39) | 20.04 |

Source: WRA, 2022.

As a result of habitat conversion and construction activities, the Project would have the potential to directly or indirectly adversely affect special-status species including:

- Ringtail, a California fully protected species;
- nine special-status and protected roosting bat species, including Pallid Bat, Townsend's Big-Eared Bat, Western Mastiff Bat, Western Red Bat, Hoary Bat, Silver-Haired Bat, Long-Eared Myotis, Fringed Myotis, and Long-Legged Myotis;
- Bald and Golden Eagle protected under the and Bald and Golden Eagle Protection Act;
- seven other special-status and nesting bird species, including Northern Goshawk, Long-Eared Owl, California Spotted Owl, Olive-Sided Flycatcher, Little Willow Flycatcher, Yellow Warbler, and Yellow-Breasted Chat;
- Northwestern Pond Turtle, a CDFW Species of Special Concern;
- Foothill Yellow-Legged Frog, a State Threatened species; and
- special-status plant species.

A discussion of potential impacts to these species and Project requirements that would avoid or reduce impacts is provided below.

With implementation of Standard Project Requirements BIO-1 through BIO-3 identified above in Table 2-6, and with implementation of species-specific mitigation measures identified below, potential impacts to biological would be avoided or reduced to less than significant, and the Project would not result in significant adverse effects on special-status species.

Ringtail

The Project BRSA contains areas that may provide refuge for California fully

protected Ringtail including tree hollows and rock gaps for dens. Most Project activities would occur in arroyo willow thickets which are unlikely to provide denning habitat. The Project installation of BMP components would temporarily disturb and permanently remove 5.47 and 0.85 acre, respectively, of the 21 acres of Ponderosa pine forest within the Project BRSA, which may have tree hollows or cavities to support denning. If dens are present, construction activities such as vegetation removal or ground disturbance may result in impacts to ringtail dens and mortality of individuals. Indirect impacts to ringtail could include increased noise, sound, and vehicle operation in the vicinity during construction. Mortality to individuals, or disturbance of denning individuals from construction activities is considered a potentially significant impact under CEQA. Project construction activities could result in injury or mortality of individuals present within the Project BRSA. The Project could indirectly impact individuals from increased noise and disturbance during construction. This impact is considered potentially significant.

Mitigation Measures BIO-MM-1 and BIO-MM-2 require monitoring and impact avoidance measures, including species-specific surveys and exclusionary buffers as may be necessary to minimize potential impacts to Ringtail. Implementation of DPR Standard Project Requirement BIO-1 and Mitigation Measures BIO-MM-1 and BIO-MM-2 would reduce potential impacts to ringtail to a less-than-significant level.

Roosting Bats

Nine special-status species of bat including Pallid Bat, Hoary Bat, Silver-Haired Bat, Western Mastiff Bat, Western Red Bat, Long-Eared Myotis, Fringed Myotis, Long-Legged Myotis, and Townsend's Big-Eared Bat have potential to occur within the Project BRSA including in rock structures, trees, and dense willow stands. Common bats protected under the CFGC may also roost within the Project BRSA. Project construction activities could directly impact special-status and non-status bat roosting through ground disturbance or vegetation removal. Construction activities could also create audible, vibratory, and/or visual disturbances that cause bats to abandon their roost site. Activities that result in the direct removal of active roosts or disturbance to maternity roosting bats sufficient to result in the abandonment of the roost is a potentially significant impact under CEQA.

Mitigation Measure BIO-MM-3 requires a bat roost assessment and impact avoidance measures, including construction scheduling restrictions, exclusionary buffers, and other measures as may be necessary to minimize potential impacts to roosting bats. Implementation of Mitigation Measure BIO-MM-3 would reduce potential impacts to special-status and non-status roosting bats to a less-than-significant level.

Bald and Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-669c). The Bald and Golden Eagle Protection Act protects eagles from being taken or disturbed. Take under the Bald and Golden Eagle

Protection Act is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect molest or disturb,” whereas Disturb is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause based on the best scientific information available:

1. Injury of an eagle;
2. A decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or
3. Nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

Project construction could directly destroy active nests or cause disturbance that results in nest abandonment. Direct or indirect effects to Bald and Golden Eagles would be considered significant under CEQA and unlawful under the Bald and Golden Eagle Protection Act, the MBTA, and potentially CESA.

Mitigation Measure BIO-MM-4 requires pre-construction eagle surveys and establishment of construction activity buffers and other measures as may be necessary to minimize potential impacts to Golden and Bald Eagle. Implementation of Standard Project Requirement BIO-1 and Mitigation Measure BIO-MM-4 would reduce potential impacts to Bald and Golden Eagle to a less-than-significant level.

Special-Status and Other Nesting Bird Species

Project construction activities have the potential to result in direct impacts or indirect disturbance to seven special-status species of nesting birds and other native nesting birds protected by the CFGC, including Olive-Sided Flycatcher, Little Willow Flycatcher, Yellow-Breasted Chat, Yellow Warbler, Northern Goshawk, California Spotted Owl, and Long-Eared Owl. Special-status and non-status nesting birds protected under the CFGC have the potential to nest in trees, shrubs, herbaceous vegetation, and on bare ground within and adjacent to the Project BRSA. Project construction activities have the potential to impact nests in these areas if construction is initiated during the breeding bird season (February 1 through August 31).

Potential impacts include direct destruction of nests as well as indirect visual and acoustic disturbance to nesting birds from construction in adjacent areas that has the potential to result in nest abandonment. Destruction of nests or indirect disturbance that may result in nest abandonment is a potentially significant impact.

Mitigation Measure BIO-MM-5 requires pre-construction nesting bird surveys, including protocol-level surveys for Little Willow Flycatcher when construction activities are planned within willow habitat, to detect nests of special-status and non-special-status birds and requires establishment of construction activity buffers and other measures as may be necessary to minimize potential impacts to nesting birds. Implementation of Standard Project Requirements BIO-1 and Mitigation

Measure BIO-MM-5 would reduce potential impacts to special-status and other nesting bird species to a less-than-significant level.

Northwestern Pond Turtle

Project construction activities have the potential to result in direct mortality or injury of Northwestern Pond Turtle. Construction equipment could destroy active nests or injure or kill individuals. Northwestern Pond Turtle is considered a Species of Special Concern by the CDFW. The Project BRSA contains ponds and other surface water features that could support Northwestern Pond Turtle. Following construction, the Project is anticipated to be beneficial to Northwestern Pond Turtle habitat by reducing sedimentation and erosion and by enhancing conditions in the Pit Lake.

Impacts to Northwestern Pond Turtle from a loss of habitat would be less than significant. Project activities within or adjacent to aquatic habitat including vegetation removal, grading, or operation of heavy equipment could impact Northwestern Pond Turtle and could result in direct mortality of individuals or nests if present. Mortality or injury of individuals and destruction of nests is a potentially significant impact under CEQA.

Mitigation Measure BIO-MM-6 requires that construction be performed during the summer dry period, and requires installation of herps exclusionary fencing where deemed necessary and surveys for species, including Northwestern Pond Turtle, within 48 hours prior to construction activities. Implementation of DPR Standard Project Requirements BIO-1 and Mitigation Measure BIO-MM-6 would reduce potential impacts to Northwestern Pond Turtle to a less-than-significant level.

Foothill Yellow-legged Frog

Project construction activities including grading and operation of equipment could result in injury or mortality of Foothill Yellow-Legged Frog (FYLF). State threatened FYLF has been documented in Humbug Creek and its tributaries downstream of the Malakoff Diggins, including in the Hiller Tunnel. However, the aquatic habitats within the BRSA are intermittent or lotic and are not suitable for FYLF breeding or larval development. This species is typically found within ten feet of suitable stream features. However, this species may move into upland during periods of high flow. Project construction activities could injure or kill FYLF if present during construction including vegetation removal or ground disturbance during Project construction.

The Project would implement sediment control BMPs to reduce sediment discharge from the Pit. The reduced sediment discharge is anticipated to be beneficial for FYLF habitat downstream of the BRSA by reducing fine sediment particles that enter the Hiller Tunnel and may adversely affect downstream aquatic habitat that occurs under existing conditions.

Mitigation Measure BIO-MM-6 requires that construction be performed during the summer dry period, and requires installation of herps exclusionary fencing where

deemed necessary and surveys for species, including FYLF, within 48 hours prior to construction activities. Implementation of Standard Project Requirements BIO-1 and Mitigation Measure BIO-MM-6 would reduce potential impacts to FYLF to a less-than-significant level:

Special-Status Plant Species

Project construction activities including grading and operation of equipment could result in the harm of potentially present special-status plant species if present within construction disturbance areas. Two targeted, protocol-level special-status plant surveys were conducted within each potentially occurring species' bloom period to evaluate the potential presence of any of the 23 species in the Project BRSA. Targeted, protocol-level special-status plant surveys were conducted on July 7, 8, and 9, 2020, and May 11 and 12, 2021. During the surveys, no special-status plant species were observed. Therefore, the Project is not anticipated to impact special-status plant species (WRA, 2021b). Standard Project Requirement BIO-2 will ensure the Project does not result in significant impacts to special-status plant species.

Essential Fish Habitat

Despite being above the Englebright Dam, National Marine Fisheries Service (NMFS) has determined that the upper Yuba River watershed contains Essential Fish Habitat (EFH) for Pacific salmon (NMFS, 2007). However, the Project BRSA does not contain habitat or substrate to support spawning, breeding, feeding, or growth of Pacific salmon. The Project would implement sediment control BMPs to reduce sediment discharge from the Pit. The Project is anticipated to be beneficial for aquatic habitat downstream of the Project BRSA by reducing particles that enter the Hiller Tunnel and downstream areas in the Yuba River watershed, including Humbug Creek and the South Yuba River. As such, the Project would have a beneficial effect on Pacific Salmon EFH. (WRA, 2021a)

b) Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? Less than Significant.

The CDFW defines sensitive natural communities and vegetation alliances using NatureServe's standard heritage program methodology. Aquatic, wetland, and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS.

The BRSA does not contain any natural communities or land cover types with a CDFW rarity ranking of G3 or lower, or S3 or lower, meaning that all communities are considered secure globally and in California. The BRSA does not contain any riparian habitat or habitat protected by the USFWS. Additionally, no communities in the BRSA are considered natural communities in local or regional plans, policies,

or regulations. However, as discussed further at item “c” below, the Project would permanently impact approximately 4.55 acres (39 linear feet) of aquatic resources, including arroyo willow thickets (1.81 acres), sandbar willow thickets (0.91 acre), cattail marsh (0.02 acre), intermittent stream (0.01 acre; 22 linear feet), and ephemeral stream (<0.01 acre; 17 linear feet), to construct the coarse sediment grade control structure, access routes, brush dams, diversion swale, and soldier pile wall and to remove the boardwalk and construct a new segment of trail along the southern perimeter of the Pit Lake. In addition to permanent impacts, the Project would also temporarily impact approximately 14.19 acre of aquatic resources, including arroyo willow thickets (2.25 acre), sandbar willow thickets (11.95), cattail marsh (0.12 acre), and open water (<0.01 acre), for the use of temporary construction mats and staging areas during the construction period. DPR would apply for, obtain, and comply with conditions of a Section 404 permit from the Corps, a Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Lake and Streambed Alteration Agreement from the CDFW for Project implementation. Compliance with the provisions and conditions of these regulatory approvals, development of the Project as designed to be environmentally sensitive, and implementation of standard and specific project requirements would ensure that the Project would not result in significant adverse impacts to protected riparian habitat or other sensitive natural community. Therefore, the Project would have a less than significant impact on riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS (WRA, 2021a).

c) *Would the Project have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? Less than Significant Impact.*

Wetlands are considered sensitive environmental resources protected at federal, state, and local levels. They provide unique habitat functions and values for wildlife and provide habitat for plant species adapted to wetland hydrology. Throughout California, the quality and quantity of wetlands has substantially declined owing to the construction of dams, dikes, and levees, from water diversions, filling of wetlands for development, and the overall degradation of water quality by inputs of runoff from agricultural, urban, and infrastructure development and other sources.

The Project would permanently impact approximately 4.55 acres (39 linear feet) of aquatic resources, including arroyo willow thickets (1.81 acres), sandbar willow thickets (0.91 acre), cattail marsh (0.02 acre), intermittent stream (0.01 acre; 22 linear feet), and ephemeral stream (<0.01 acre; 17 linear feet), to construct the coarse sediment grade control structure, access routes, brush dams, diversion swale, and soldier pile wall and to remove the boardwalk and construct a new segment of trail along the southern perimeter of the Pit Lake. In addition to permanent impacts, the Project would also temporarily impact approximately 4.19 acre of aquatic resources, including arroyo willow thickets (2.25 acres), sandbar

willow thickets (11.95 acres), cattail marsh (0.12 acre), and open water (<0.01 acre), for the use of temporary construction mats and staging areas during the construction period.

However, the Project would provide a net benefit to wetland resources within and downstream of the BRSA by improving water quality and reducing sediment discharge from the Pit. The Project has been designed to ensure that Project activities would minimize disturbance and other environmental effects while installing BMPs sufficient to achieve the Project's sediment control purpose. The Project would also implement construction stormwater control best management practices (stormwater BMPs) and water quality impact avoidance and minimization measures through Standard Project Requirements GEO-1, HAZ-1, and HYDRO-1, and Specific Project Requirement HYDRO-2 that would avoid or reduce potential environmental impacts and protect water quality during construction.

Though the Project would have a beneficial effect on aquatic resources and would be self-mitigating, DPR would need to obtain regulatory approvals for implementation of the Project from state and federal regulatory agencies for compliance with Sections 404 and 401 of the Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act, and Section 1602 of the California Fish and Game Code (CFGF). DPR would apply for, obtain, and comply with conditions of a Section 404 permit from the Corps, a Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Lake and Streambed Alteration Agreement from the CDFW for Project implementation. Compliance with the provisions and conditions of these regulatory approvals, development of the Project as designed to be environmentally sensitive, and implementation of Standard Project Requirements GEO-1, HAZ-1, and HYDRO-1, and Specific Project Requirement HYDRO-2 would ensure that the Project would not result in significant adverse impacts to protected wetlands.

d) Would the Project 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? Less than Significant Impact.

The Project is located in a larger area that may function as a wildlife movement corridor. The Project BRSA is subject to a low level of anthropogenic disturbance and activities from pedestrians (primarily visitor access on hiking trails in the Pit and adjacent areas) and vehicle travel on North Bloomfield Road but at levels that are not expected to substantially effect wildlife movement. Project construction activities could result in a temporary decrease in wildlife movement through areas near Project construction activities due to the increased activity and associated acoustic and visual disturbance. Following construction, the Project area would function much the way it does under current conditions, and the BMPs are not considered to have the potential to reduce wildlife movement through the Project area. The Project would be beneficial for aquatic and semi-aquatic species in the vicinity by reducing sediment discharge from the Pit. Based on these factors, the

Project would result in less than significant impact to migratory corridors and habitat linkages.

- e) Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? No Impact.***

The Project would not conflict with any local policies or ordinances that protect biological resources. All work would occur within MDSHP and be managed by DPR, adhering to all DPR policies and regulations. Therefore, the Project would result in no impact regarding conflicts with local policies and ordinances associated with the protection of biological resources.

- f) Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? No Impact.***

No adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans apply within the Project BRSA. Therefore, the Project would result in no impact regarding potential to conflicts with the provisions of such plans.

Biological Resources Mitigation Measure(s)

Mitigation Measure BIO-MM-1: Monitoring and Avoidance for CDFW Fully Protected Species

If a CDFW fully protected species (e.g., ringtail, golden eagle, bald eagle) is observed denning or nesting within or adjacent to construction activities, a DPR Environmental Scientist or a DPR-approved biologist shall monitor the area during the first day of Project activities adjacent to the exclusion zone, and additional subsequent monitoring during the construction period will also be performed if deemed necessary. If the biologist observes potential disturbance behavior, the exclusion zone shall be increased based on the biologist's recommendation as necessary to avoid disturbance behavior. The Project shall avoid take of CDFW fully protected species.

Mitigation Measure BIO-MM-2: Ringtail Surveys and Avoidance

No more than 21 days before the start of ground disturbance activities, a DPR Environmental Scientist or a DPR-approved biologist shall conduct pre-construction surveys in suitable ringtail habitat within 50 feet of the disturbance area to determine if potential ringtail dens are present. If potential dens are determined to be present and the den cannot be avoided, the Environmental Scientist or biologist shall monitor them for activity with camera or track trapping, or a similar method to determine whether the den is active. If the den is determined to be occupied, ground disturbance and construction activity shall be avoided (size and configuration of an exclusionary buffer would be determined by a DPR Environmental Scientist or a DPR-approved biologist depending on the status,

location, and proposed Project activities occurring in the vicinity) until the den is determined to no longer be active.

Mitigation Measure BIO-MM-3: Bat Roost Assessment and Avoidance

- a. Removal of active bat roosts shall be avoided.
- b. At least 30 days prior to the initiation of construction activities, a bat roost assessment shall be conducted by a DPR Environmental Scientist or a DPR-approved biologist to determine if potential roost habitat is present. If rocky outcroppings or vegetation within the project boundary and surrounding 100 feet has no potential to support roosting bats (e.g., no large basal cavities, exfoliating bark, interstitial spaces, or suitable foliage), project work may be initiated with no further measures required to protect roosting bats.
- c. If potential bat roost habitat is present, and work is occurring between September 1 and April 31 (outside of the maternity season), the DPR Environmental Scientist or DPR-approved biologist shall conduct an emergence survey no more than 7 days prior to tree removal to determine if the roost is occupied. If the emergence survey confirms the roost is inactive, the tree may be felled with no further measures required to protect roosting bats. If the roost is confirmed active, or is assumed to be active, the tree shall be given a 100-foot buffer within which construction activities shall be avoided until the roost is determined to be inactive.
- d. If potential bat roosting habitat is present and work is occurring during the maternity season, the DPR Environmental Scientist or DPR-approved biologist may either conduct an emergence survey to determine if the roost is occupied; or assume the roost is occupied and a buffer shall be implemented. If the emergence survey does not detect bats, the tree may be removed with no further measures required to protect roosting bats. If roosting bats are detected, or the tree is assumed to be an active roost, the tree shall be given a 100-foot buffer within which construction activities shall be avoided until the roost is determined no longer active or the maternity season is complete.

Mitigation Measure BIO-MM-4: Bald and Golden Eagle Surveys and Avoidance

Initiation of construction activities during the eagle nesting season (January 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, then a DPR Environmental Scientist or a DPR-approved biologist shall conduct at least two pre-construction eagle surveys spaced at least 30 days apart, with the last survey occurring within 30 days prior to initiation of ground disturbance or vegetation removal or other construction activities. Surveys shall encompass potentially suitable habitat within 1 mile of construction activities. If preconstruction surveys determine that eagles are nesting in the area, a 0.25-mile exclusion zone where no construction would be allowed shall be established around the active nest. The exclusion zone can be

reduced as determined by a DPR Environmental Scientist or DPR-approved biologist based on the location of the nest, ambient noise, and site topography, with a minimum exclusion zone of 500 feet. The buffer shall remain in place until the environmental scientist/biologist determines the nest is no longer active.

Mitigation Measure BIO-MM-5: Special-Status and Nesting Bird Surveys and Avoidance

Initiation of construction activities during the avian nesting season (February 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, then a DPR Environmental Scientist or a DPR-approved biologist shall conduct preconstruction nesting bird surveys within 7 days prior to initial ground disturbance or vegetation removal to avoid disturbance to active nests, eggs, and/or young of nesting birds. Surveys shall be used to detect the nests of special-status as well as non-special-status birds. When construction activities are planned within willow habitat, surveys shall include protocol-level surveys for Little Willow Flycatcher. Surveys shall encompass the entire construction area and the surrounding 500 feet. If an active nest is located, an exclusion zone where no construction would be allowed shall be established around any active nests of any protected avian species. A DPR Environmental Scientist or a DPR-approved biologist shall determine an appropriate exclusion zone based on the species, location, and placement of the nest. A minimum exclusion zone of 50 feet from non-raptor species and 300 feet from raptors shall be employed to assure protection of any nesting birds on or near the Project BRSA. The exclusion zone shall remain until a DPR Environmental Scientist or DPR-approved biologist has determined that all young have fledged and are independent of the nest. These surveys would remain valid as long as construction activity continues in a given area and shall be conducted again if there is a lapse in construction activities of more than 7 consecutive days during the breeding bird season.

Mitigation Measure BIO-MM-6: Northwestern Pond Turtle and Foothill Yellow-legged Frog Surveys and Avoidance

To minimize potential injury or mortality of Northwestern Pond Turtle and Foothill Yellow-legged Frog:

- Ground disturbing activities in aquatic habitat shall occur during the summer dry season where flows are low or streams are dry. Work shall be restricted to the period of June 1 through October 31. If work is not completed by October 31, and significant precipitation is not forecast within 48 hours, work may extend beyond with approval from CDFW. Initial ground-disturbing activities shall be avoided between November 1 and March 31, the period when aquatic species are most likely to be moving through upland areas.
- Herps exclusion fencing shall be installed where deemed necessary by DPR Environmental Scientist or DPR-approved biologist and through

consultation with regulatory agencies around the project area during access road development and excavation. The fencing will be monitored and repaired or replaced as necessary during construction.

- Within 48 hours prior to any construction activities, a DPR Environmental Scientist or a DPR-approved biologist shall conduct surveys for special-status species within and adjacent to the disturbance area.

3.5 Cultural Resources

Cultural Resources Environmental Setting

The area that is now MDSHP has unique importance in both its prehistoric archeological context associated with Native American land use and its historical context associated with gold mining, particularly hydraulic gold mining, in the latter half of the 1800s. A summary of the historic context and both prehistoric and historic resources of the MDSHP is provided here based largely on the May 2022 “*Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District*” (Selverston, 2022) prepared to support DPR’s development and design of the Project and to support the impact analysis in this Initial Study. The report contains confidential information regarding resources within MDSHP and is, therefore, not included as an attachment to this IS/MND. DPR personnel and decisionmakers that will use this Initial Study in considering adoption of this CEQA document and in considering whether to approve the Project have reviewed the report in its entirety. The cultural resources effect analysis report will be made available for viewing upon request to DPR by qualified individuals. (Selverston, 2022) The report’s recommendations have been considered in developing Project Requirements for cultural resources (CULT-1 through CULT-5 as listed above in Table 2-6) and in developing mitigation measures for cultural resources impacts as described below.

Native Americans

At the time of European contact, the area that is now MDSHP was inhabited by the Nisenan, whose name is translated as “from among us” or “of our side.” Their language is part of the larger Maidu language group. Self-described Nisenan traditional territory once encompassed a large area that included the Yuba and American river watersheds, extending to the Sacramento River to the west and the crest of the Sierra Nevada Mountains to the east. Archaeological excavations at MDSHP demonstrate that Native people lived there for at least the last 3,000 years. While their possessions and lifestyle differed markedly from the Nisenan at the time of colonial contact, use of the area as a seasonal base camp persisted. Earlier populations used atlatl spear throwing devices to hunt large game and grinding rocks to process seeds. Eventually the bow and arrow replaced atlatls and the mortar and pestle was adopted for processing acorns. (DPR, 2015)

Nisenan lived in semi-permanent multi-family communities during the winter and dispersed to smaller camps from spring to fall while they collected and hunted for food. Their favored staple food was Black Oak acorns which were supplemented by berries, seeds, and roots. Game such as fowl, fish, rabbit, deer, and even black bear were hunted as part of Nisenan subsistence. Nisenan contact with Europeans did not occur until 1808 when Spanish General Gabriel Moraga traveled through Nisenan territory. The Nisenan appear to not have been largely influenced by the efforts of the Spanish and Mexican mission system but were greatly affected by the malaria epidemic of 1833. The disease claimed the lives of as much as 75 percent of the Nisenan living in the Sacramento Valley. The traditional culture and lifestyle of the Nisenan was further

devastated by the California Gold Rush. In their hunt for gold, prospectors and miners invaded traditional Nisenan territory, bringing diseases, pushing them from their traditional homes, and making it nearly impossible to continue seasonal patterns of subsistence. The Nisenan were nearly obliterated and those who endured were forced to find new means of survival. Nisenan descendants still live in Nevada County and throughout California. (DPR, 2015)

Evidence of Native American culture and tradition can be found within the boundaries of MDSHP and archaeological sites within MDSHP can provide information about this chapter of history, including some with bedrock milling and rock art. There are also sites reflecting the turbulent period following the Gold Rush. (DPR, 2015)

Native American resources at MDSHP are concentrated between elevations of 3,400 and 3,600 feet amsl, as well as around the North Bloomfield (approximately 3,300 feet amsl) area and the saddle separating Humbug Creek and Pan Ravine (approximately 3,350 feet amsl). They are found more sporadically elsewhere in the Park. In some cases, historic placer mining has impacted prehistoric archaeological sites. For example, a toppled bedrock milling feature located in the Malakoff Hydraulic Mine Complex at approximately 3,040 feet amsl appears to have been dislodged from its original location somewhere not far upslope long ago by shallow placer mining. (Selverston, 2022)

Prehistoric resources at MDSHP have not been formally nominated for inclusion on Federal or State historic registers; however, the prehistoric resources at MDSHP appear to have the potential to contribute important data for understanding prehistory. (Selverston, 2022) DPR has engaged in consultation with representatives of Native American Tribes to consider and address potential effects of the Project on tribal cultural resources, as discussed in Section 3.18, "Tribal Cultural Resources," of this IS/MND.

Gold Mining History

Gold mining in the Sierra Nevada played a pivotal role in the history of California, the West, and the United States. The lure of gold pulled large numbers of people from all over the world to what was largely an unexplored peripheral frontier, drastically and permanently changing the region. Gold-mining interests shaped the social, economic, and political character of California. Industries ranging from banking to the foundry trade formed to support mining. Many of the mineral industry's technological advances sprang from innovations that were made in California during the Historic District's period of significance and are exemplified in MDSHP's resources. A robust industry evolved across 50 years (1850-1900) in Humbug canyon, fueled by thriving hydraulic and drift mining. Prospectors in 1854 initially named the area the Virgin Valley Mining District, the boundary of which closely matches that of MDSHP. The book "California Gold Camps" (Gudde, 1975), noted that the Malakoff Mine west of North Bloomfield "was one of the richest and best known mines, named after the Malakoff tower near Sebastopol during the Crimean War" that ended in 1855. The venture is known for its many adaptive applications of deep bedrock tunnels, electric light, and the world's first

successful long-distance telephone line to manage the expansive water system needed to operate the mine.

The Malakoff Diggins-North Bloomfield Historic District contains the remains of many extraction and milling operations of various sizes and eras, ranging from the work of solitary prospectors to industrial undertakings by joint-stock or heavily capitalized companies. The Historic District was listed on the National Register of Historic Places (NRHP) in 1973 (No. 73000418) and recently updated (Selverston 2020). This property qualifies for NRHP listing under all four criteria for significance (discussed further below). The successful Derbec Drift Mine operated within the historic District alongside Malakoff Diggins and supported the regional economy after the larger hydraulic mine's closure. Competing interests consolidated large tracts of mineral rights over time, eventually creating vast mineral holdings. The communities of North Bloomfield, originally named Humbug, Lake City, and Derbec, all grew and faded within the Historic District alongside the mining industry. (Selverston, 2022)

The Malakoff hydraulic mine and its supporting elements left a monumental open scar in the landscape more than 6,000 feet long by 2,500 feet wide. This feature is the most obvious component of the Malakoff Hydraulic Mine Complex (CA-NEV-551/H; Selverston 2015). The "diggings" had reached a depth of about 600 feet, although much of that is now filled by sediment deposited both intentionally to impound mine debris after an 1884 federal court injunction against discharging mine debris into the Yuba River (commonly referred to as the "Sawyer Decision") and naturally by over a century of erosion that has since occurred. Picturesque cliffs hundreds of feet tall continue to rise above the Pit floor, colorful with the hues of the ancient Tertiary gravel that overlay the richest gold deposits. Abandoned tunnels, channels, piles of rock, and scattered industrial material convey the magnitude of this once expansive operation. Visiting the Pit immerses visitors in these elements that define the character of the Historic District. (Selverston, 2022)

The town of North Bloomfield is an impressive and well-maintained built environment located just east of the Malakoff Diggins Pit. A number of buildings, fences, and shade trees line both sides of North Bloomfield Road. The little former mining town features still evokes the rural settlement dating to the 1880s boom era of the local hydraulic industry, and includes buildings in National Folk and other architectural styles dating to between the 1850s and 1930s. Combined, the expansive industrial landscape of the Malakoff Mine and the rustic setting of North Bloomfield anchor the Malakoff Diggins-North Bloomfield Historic District.

The Historic District contains 311 distinct cultural resources within its boundary that contribute to its significance. These resources are associated with Gold Mining in the Sierra Nevada, 1848–1950. Many of them contribute evocative vernacular and designed-landscape elements to the Historic District's significance. They range in size and complexity from the massive Malakoff Diggins hydraulic mine landscape itself, containing hundreds of gold-mining resources across more than 400 acres, to the numerous intertwining ditches crisscrossing MDSHP. The contributing elements

range in emotional and aesthetic appeal from the picturesque townsite of North Bloomfield, containing many buildings, structures, objects, and archaeological resources, to the scattered utility posts and insulators associated with the world's first successful long-distance telephone line. Abandoned mining operations and ruins of dwellings exist throughout MDSHP. Many of the identified properties contribute to the Historic District's ability to convey a sense of its gold mining past, and are capable of interpreting for the viewer facets of a complex historical process. All of them have yielded, or have the potential to yield, data important to understanding the full breadth of that history. No other property listed on the NRHP conveys the history of hydraulic mining as clearly and extensively as do the Malakoff Diggins-North Bloomfield Historic District and its namesake, the Malakoff Hydraulic Mine Complex. (Selverston, 2022)

Assessment Methods

Criterion used to determine the significance of these resources, and in turn allows for an evaluation of whether any effects from the Project would be substantial or adverse with regard to their historical significance, consider a resource's eligibility to be listed on the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR). To be eligible for listing on the NRHP, a property must be historically significant, where significance is found in properties that retain integrity and,

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of significant persons in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important in history or prehistory. (NPS, 1997)

To be eligible for listing in the CRHR, a resource must meet at least one of four criteria:

- 1. Resources associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- 2. Resources associated with the lives of persons important to local, California, or national history;
- 3. Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
- 4. Resources that have yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

A research design was developed in 2008 by a team of historical archaeologists and

historians for the California Department of Transportation (Caltrans) for use in assessing the significance of historic-era mining resources under NRHP Criterion D. Six research themes provide a framework with which to assess whether a property contributes, or has the potential to contribute, information contributing to a Historic District's significance. The themes are:

1. Technology: mining and technological developments.
2. Historical ethnography/cultural history: stories of mining sites and their populations.
3. Ethnicity: studies of distinctive cultural groups associated with mining and cross-cultural interactions.
4. Gender and family: the roles of women and children. Economy: market development, consumption, and class.
5. Policy: law, regulation, and self-governance (Caltrans, 2008).

The NRHP and CRHR eligibility criteria above and the mining-era resource assessment themes associated with Criterion D, were used in assessing the potential significance of historic resources that could be affected by the Project and in determining the significance of potential impacts.

Cultural Resources Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---|-------------------------------------|--------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Cultural Resources Impact Discussion

a) Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? Less than Significant with Mitigation.

Project construction disturbance and visible construction activities would have the potential to adversely affect historic resources within and adjacent to the Project site. The Project area of potential effect includes three identified and recorded historic properties/historical resources, one of which (the Malakoff Diggins-North Bloomfield Historic District) is a collection of contributing cultural resources. The

other two are the Malakoff Hydraulic Mine Complex (CA-NEV-551/H) and the Ridge Telephone Company's Long-Distance Telephone Line (CA-NEV-581H), both contributing elements of the Historic District.

Analysis of the Project's potential to adversely affect these resources determined that construction and maintenance of the coarse sediment management component or the interceptor swale component of the Project would not directly or indirectly affect any of the known cultural elements. The analysis also concluded that development of the Shooting Range Staging Area in the southeastern portion of the mine basin does not appear likely to result in an adverse direct or indirect impact to identified cultural resource values.

Construction of the access road into and within the Pit, the soldier pile wall, and the enhanced Pit Lake would have the potential to result in direct and indirect impacts to historic resources. Portions of the Malakoff Diggins landscape would be altered directly by grading and activities associated with development of the Pit access road entrance from North Bloomfield Road. Other portions in the vicinity of the Hiller Tunnel inlet, including not only the tunnel inlet and its setting but also placer-mining features such as stacked-rock walls and placer tailings, would be visually, if not physically, directly altered by the obvious addition of the soldier pile wall and spillway scour protection pad, and visually altered by the enhanced Pit Lake behind the wall. Other mining landscape features within the enhanced Pit Lake area would periodically or permanently inundated by the enhanced Pit Lake and would eventually be buried by accumulating sediment.

The mine landscape's physical features visible from within the Pit and from the historic viewshed are character-defining elements of both the Malakoff Hydraulic Mine Complex and the Malakoff Diggins-North Bloomfield Historic District under NHPA listing eligibility Criteria A, B, and C, and alterations to the appearance of these features resulting from these aspects of the Project would incrementally diminish the ability of the site and the Historic District to convey their Criteria A, B, and C values. Accordingly, in the absence of measures to avoid or reduce the effects, these components of the Project could cause a substantial adverse change in the significance of both the Malakoff Hydraulic Mine Complex site and the Malakoff Diggins-North Bloomfield Historic District.

Standard and Specific Project Requirements CULT-1 through CULT-5 would reduce potential impacts to historic resources, but are not considered sufficient to avoid the potential for significant impacts. Mitigation Measure CULT-MM-1 requires that ground disturbance and other construction activities on the southern ends of the Project grade control structure and interceptor swale, soldier pile wall, west side of the access road, areas of soil stabilizer application, and all staging areas and access road development be monitored by a cultural resources specialist to ensure avoidance of inadvertent adverse effects to cultural resources. Monitoring will be emphasized in those areas described as particularly sensitive and as recommended in *"Analysis of Effects on Cultural Resources of Proposed*

Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District.” Project Requirements CULT-1 through CULT-5 in combination with the monitoring and avoidance requirements of Mitigation Measure CULT-MM-1 would reduce the potential for inadvertent significant impacts on the Malakoff Hydraulic Mine Complex and the Malakoff Diggins-North Bloomfield Historic District to less than significant. Additional mitigation measures are identified below to address impacts of specific BMP components.

In recognition that placement of the soldier pile wall around the Hiller Tunnel inlet would have the potential to adversely affect contributing elements of the Historic District, DPR and its design team considered options for the location and materials used for the soldier pile wall to minimize the visual effect. As proposed, the wall alignment constructed of piling and wood lagging consist of materials less visually dominant than other construction alternatives (e.g., metal sheeting). The wall would also be set back from the Hiller Tunnel and most of the wall would quickly be shielded by regrowth of the riparian vegetation. Although the soldier pile wall and rip rap would not completely impair the Historic District from conveying its significance, the placement of the soldier pile wall is considered a significant impact of the Project.

Mitigation Measure CULT-MM-2 requires development and implementation of an interpretive project plan to preserve cultural elements of the Malakoff Hydraulic Mine Complex site and the Malakoff Diggins-North Bloomfield Historic District. The interpretive project plan would be sufficient to compensate for the adverse changes of the Project, including changes associated with development of the soldier pile wall and rock apron. The analysis concludes that through Project design and implementation of Project Requirements CULT-1 through CULT-5, and with implementation of Mitigation Measures CULT-MM-1 and CULT-MM-2, the Project effect associated with the soldier pile wall and associated elements would be less than significant.

A surviving telephone pole of the Ridge Telephone Company’s Long-Distance Telephone Line (CA-NEV-581H) is visible in the Pit Lake and located near the existing boardwalk that crosses a portion of the lake. The Project includes removal of the existing boardwalk across the Pit Lake as the boardwalk would be inundated as a result of the enhanced Pit Lake. Removal of the boardwalk would eliminate this opportunity for viewing the telephone pole. Additionally, increased lake levels associated with the enhanced Pit Lake would ultimately inundate and obscure and potentially dislodge the telephone pole, and sediment accumulation associated with the enhanced Pit Lake would eventually bury much or all of the pole. Although the Project would install a new trail segment along the southern perimeter of the Pit Lake that would provide an alternative viewing location for the pole until such time as it may become dislodged or submerged, the Project effects associated with the telephone pole are considered a significant impact of the Project.

Mitigation Measure CULT-MM-3 requires development and implementation of an

interpretive project plan to preserve and convey information about the telephone pole sufficient to compensate for the adverse change to the telephone pole resulting from the Project. The analysis concludes that through Project design and implementation of Project Requirements CULT-1 through CULT-5, and with implementation of Mitigation Measures CULT-MM-1 and CULT-MM-3, effects on the telephone pole associated with the soldier pile wall and enhanced Pit Lake would be less than significant.

Realignment of the Diggins Trail to avoid inundation by the enhanced Pit Lake would involve removing the existing boardwalk across Diggins Pond and constructing a new trail segment along the mine cuts associated with historic mining operations. In addition to the loss of a viewing opportunity of the telephone pole discussed above, the loss of public access using the boardwalk would eliminate some views of the Pit and some interpretive features. Construction of the new trail segment would have potential to disturb the mining landscape features along its immediate path, as well as unrecorded artifacts if present. However, the new trail route would compensate for any such effects by providing new, but comparable, views and providing opportunities for interpretation of the mining landscape that it passes through. On balance, and with implementation of Project Requirements CULT-1 through CULT-5 and Mitigation Measures CULT-MM-1, CULT-MM-2, and CULT-MM-3, these changes would not result in a significant impact to these resources.

Construction of the Pit access road would directly impact mining landscape features in the southwest corner of the Pit. The pale cliffs and rolling slope are character-defining elements of the Malakoff Diggins landscape, and excavation of the existing cliffs to create the access would contribute to visual impacts that could affect the ability of the site and the Historic District to convey some of their Criterion A, B, and C values. In recognition of these potentially significant impacts, Mitigation Measure CULT-MM-2 requires developing and implementing an interpretive plan that would reduce the impacts to less than significant. The rest of the access road that would border the Pit floor and cross the floor over the alluvial deposition below the cliffs would not impact the historic property's known significant values. Project access road construction would have a limited potential of encountering resources during ground disturbance within the alluvium, particularly where a 1920s drift mine operated in the west side of the basin. Mitigation Measure CULT-MM-1 would serve to identify and protect any currently unidentified cultural material that may be encountered and ensure significant impacts are avoided.

In conclusion, Project impacts to historic resources would be reduced through implementation of Standard and Specific Project Requirements CULT-1 through CULT-5. Mitigation Measures CULT-MM-1, CULT-MM-2, and CULT-MM-3 would further reduce the potential for impacts and would mitigate the adverse effects of the Project. With implementation of these Project requirements and mitigation measures, the Project impact to historic resources would be less than significant.

b) *Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? Less than Significant with Mitigation.*

Analysis of the Project's potential effect on prehistoric archeological resources identified impacts to a bedrock milling feature considered to be potentially individually eligible to the NRHP under Criterion D. The feature has rolled downslope and is no longer in its original position, but may contain important data for understanding Native American occupation along what was historically known as Virgin Valley prior to the Gold Rush. Creation of the enhanced Pit Lake component of the Project would cause or increase water inundation of this feature and would eventually result in the accumulation of sediment around and over the feature ultimately having the potential to bury the milling boulder with deposited sediment and foreclosing visual or physical access to the potentially significant values it has to offer. This feature may also have value to the Native American community as a tribal cultural resource under Public Resources Code 21080.3.1 that could be infringed upon by inundation and slow burial through sediment accumulation in the enhanced Pit Lake. The loss of access to the potentially significant values of the bedrock milling feature, in the absence of measures to preserve the cultural values of this feature, is considered significant.

Mitigation Measure CULT-MM-4 would develop and implement treatment measures for the bedrock milling feature through coordination with Native American tribal representatives. Treatment measures include development and implementation of an evaluation and data recovery plan to mitigate the loss of potentially significant Criterion D values, and collaboration with interested tribal parties on an interpretive plan that may involve relocating the feature outside of the enhanced Pit Lake perimeter. For instance, a possibly suitable treatment plan could be to relocate the bedrock milling feature adjacent to near the recreation trail approximately 85 feet south of the feature's present location and to install a panel that interprets the feature and its realized data potential to the public. DPR considers Mitigation Measure CULT-MM-4 feasible and sufficient to mitigate substantial adverse effects to this resource and implementation of Mitigation Measure CULT-MM-4 would reduce the impact to less than significant. (For additional discussion of the bedrock milling feature as relates to tribal cultural resources, see Section 3.18, "Tribal Cultural Resources," of this IS/MND.)

c) *Would the Project disturb any human remains, including those interred outside of dedicated cemeteries? Less than Significant Impact.*

One historic cemetery is located generally between the Pit and the North Bloomfield townsite. The cemetery is more than 1,000 feet to the east of the nearest Project disturbance area (Shooting Range staging area) and no Project disturbance would occur within or near the cemetery. There are no known human remains in the Pit or other areas where Project ground disturbance would occur. Much of the Project excavation would be within areas of relatively recent sediment deposition, and the potential for encountering human remains during Project

construction is considered low. However, if human remains are encountered during Project activities, Standard Project Requirement CULT-3 requires cessation of construction activities in the immediate area of the finding, notification of appropriate DPR personnel and the County Coroner, for assessment and notification of NAHC and tribal representatives if the remains are determined to be related to a Native American internment.

Cultural Resources Mitigation Measure(s)

Mitigation Measure CULT-MM-1: Site-Specific Cultural Resources Monitoring and Avoidance

Ground disturbance and other construction activities on the southern ends of the Project grade control structure and interceptor swale, soldier pile wall, west side of the access road, areas of soil stabilizer application, and all staging areas and access road development will be monitored by a cultural resources specialist to ensure avoidance of inadvertent adverse effects to cultural resources. Monitoring shall be emphasized in those areas described as particularly sensitive and as recommended in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-2: Cultural Resources Interpretive Project Plan

DPR shall develop and implement an interpretive project plan to preserve cultural elements that would be directly or indirectly affected by the Project. The plan shall be sufficient to compensate for the adverse change to the Malakoff Hydraulic Mine Complex site and the Malakoff Diggins-North Bloomfield Historic District resulting from the Project. The interpretive project plan shall be developed based on recommendations in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-3: Telephone Pole Interpretive Project Plan

DPR shall develop and implement an interpretive project plan to preserve and convey information about the telephone pole located in the existing Pit Lake associated with the Ridge Telephone Company’s Long-Distance Telephone Line (CA-NEV-581H). The interpretive project plan shall be sufficient to compensate for the adverse change to the telephone pole resulting from the Project as recommended in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-4: Bedrock Milling Feature Evaluation and Treatment Plan

Through consultation with local Native American tribal representatives, DPR shall evaluate and develop and implement appropriate protection or other treatment

measures for the Native American bedrock milling feature located within the enhanced Pit Lake inundation area. DPR shall complete consultation with Native American tribal representatives and determine appropriate treatment of the feature prior to Project construction, possibly including, but not limited to, relocation.

3.6 Energy

Energy Environmental Setting

Electrical power is available within MDSHP produced from a solar photovoltaic electricity generating system near the North Bloomfield townsite and a backup EPA-approved diesel generator system, both of which were installed in 2014. The system replaced a previously used diesel generator and was installed to reduce operational costs and to comply with requirements for state agencies and departments to reduce greenhouse gas emissions and improve energy efficiency. The solar power system provides a renewable energy source of electricity and is the primary power source within North Bloomfield. The existing electrical generation and distribution system does not extend to the Pit or areas of Project construction activities.

Energy Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Energy Impact Discussion

a) *Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? No Impact.*

The Project would consume energy resources by using fossil fuels (e.g., gasoline and diesel) in internal combustion engines of vehicles used to transport workers, equipment, and materials to the site, and for operation of vehicles and equipment during construction. The Project construction area locations are not suitable for use of imported electrical power on distribution lines; therefore, electricity needed during Project construction would be generated using portable diesel generators.

The Project is designed to provide efficient access (e.g., shared access road for access to each of the three BMP components) and to minimize vegetation removal and earthwork to that necessary for installation of the BMP components. Construction contractor(s) would use only the amount of heavy equipment needed to efficiently complete the Project and contract technical specification provisions would provide opportunities for contractors to request substitution of materials and

construction methods for reasons including energy conservation. Once installed, the BMP components would function passively and would not consume energy. Maintenance and monitoring activities would involve periodic visitation and use of vehicles and equipment, but would be conducted efficiently. Thus, the Project would not result in wasteful, inefficient, or unnecessary use of energy resources during construction or operation.

b) *Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? No Impact.*

DPR is subject to state agency requirements for energy efficiency and Project construction and maintenance activities would comply with all such requirements.

Although not directly subject to local energy efficiency plans, in preparing this Initial Study, DPR has reviewed and considered local plans addressing renewable energy and energy efficiency, including the Nevada County General Plan, Nevada County Code of Ordinance, and the Nevada County Energy Action Plan (NCEAP) (Sierra Business Council, 2019).

The County General Plan elements with energy efficiency components include the Housing Element, Air Quality Element, and Water Element. No aspects of the Project construction or operation and maintenance would have the potential to conflict with or obstruct these elements of the General Plan. Nevada County Code of Ordinance includes provisions for design of development and landscaping (Section L-II 4.2.7) and housing (Section L-II 4.3.9) with energy conservation provisions. The Project would not have the potential to conflict with or obstruct these provisions of the County Code.

The NCEAP provides an analysis of the energy use within unincorporated Nevada County by community and County operated facilities and provides a roadmap for accelerating energy efficiency, water efficiency, and renewable energy efforts in the County. The NCEAP is designed to assist the County in implementing the energy and water-energy related goals and policies in the County's General Plan and Housing Element, and inform the community of cost-effective programs and best practices that will help them save energy and money. The three enumerated goals of the NCEAP are: Goal 1: Improve Energy Efficiency in Buildings, Facilities, and County Operations; Goal 2: Expand the Utilization of Renewable Energy and Resilience Measures; and Goal 3: Encourage the Efficient and Safe Transportation and Use of Water Resources. In reviewing these goals and implementation strategies, DPR concluded that the Project would not conflict with or obstruct the goals or strategies of the NCEAP.

Energy Mitigation Measure(s)

None required.

3.7 Geology and Soils

Geology and Soils Environmental Setting

Geologic Units

The stratigraphy at Malakoff Diggins consists of three distinct rock units: (1) andesitic tuff of the Miocene Mehrten Formation, (2) gold-bearing Eocene Auriferous Gravels, and (3) Mesozoic-Paleozoic metamorphic basement rock. (Golder, 2019)

The uppermost unit in the Malakoff Diggins area consists of andesitic pyroclastics consisting of mudflow breccia, tuffs, and tuff breccia, volcaniclastic sediments and conglomerates. In the central Sierra Nevada, these rocks are classified as the Mehrten Formation. The Mehrten volcanics originated from calderas in central Nevada during the Miocene. Based on recent geologic mapping and the elevations from 2017 Lidar survey, the unit is estimated to have a maximum thickness within the Malakoff Diggins basin of approximately 770 feet. (Golder, 2019)

Eocene Auriferous Gravels consist of fluvial channel deposits of boulder-to clay-sized sediments from the Sierra Nevada pre-Tertiary bedrock. These gravels were deposited by the Eocene ancestral Yuba River which carried eroded material from the ancestral Sierra Nevada. Within the area of the Pit, the maximum stratigraphic thickness of the Auriferous Gravels is approximately 475 feet. Preserved sedimentary structures within the gravel include both small- and large-scale cross-beds, graded beds, and scour channels. (Golder, 2019)

There are two distinct subdivisions within the Auriferous Gravels, distinguished as lower upper gravel units. The common feature between the two units is in-situ weathering of some of the gravel and cobble-sized clasts that are composed of fine-grained sediment or weathered shale. The silicic gravels remain coherent particles, while the gravel-sized particle composed of fine-grained sediment erode out of the gravel and desiccate relatively quickly and crumble, which contributes to the fine sediment load of the basin. (Golder, 2019)

Bedrock at the Pit is comprised of Permian to Triassic marine rocks of the Calaveras Complex. The bedrock consists of steeply dipping metasedimentary rocks and metavolcanic rocks that lie within a tectonic mélange. (Golder, 2019)

Faults and Seismicity

The Malakoff Diggins area lies within a region of relatively low seismic activity, referred to as the Sierran microplate by recent researchers. The Sierran microplate encompasses two physiographic provinces: the Great Valley in the west and the Sierra Nevada in the east. A minor amount of deformation also occurs within the Sierran microplate, based on a low level of seismicity in the region. Over the past 150 years, only 13 earthquakes greater than magnitude five ($M > 5$), and no events larger than magnitude six ($M > 6$) have occurred between the Sierran crest to the northeast and the San Andreas fault system to the southwest. The geologic structures that

dominate the Sierra Nevada are the Foothills fault system on the west, and the active Sierra Nevada Frontal fault zone on the east. The Foothills fault system comprises two fault zones, the Bear Mountains fault zone on the west and the Melones fault zone on the east. Both fault zones contain numerous, individual faults strands and segments. Some of the individual faults in the northwest-trending Bear Mountains and Melones fault zones have been reactivated in late Cenozoic time (last 5 million years), but they have a very low average slip-rate (typically less than 0.01 millimeter [mm] per year [mm/year]). In contrast, the faults of the Sierra Nevada Frontal fault system, located more than 40 miles to the northeast, have higher average slip rates (typically about 1 mm/year). (Golder, 2019)

The largest earthquakes occurring within the vicinity of MDSHP occurred in 1909. Two earthquakes were reported on The Gillis Hills Fault, one on March 3, and the other June 23, 1909. According to Topozada et al. (2000), the first earthquake (estimated local Richter M 5.0 located less than a mile to the northeast of the basin) could have been a foreshock of the second earthquake (estimated M 5.9 located ~9 miles to the northeast). The Foothills fault system includes several faults in western and central Nevada County, including, from west to east, the Swain Ravine fault zone, the Wolf Creek-Grass Valley fault zone, the Gillis Hills fault zone, and the Melones fault zone. Of these faults, two have been identified as having possible late Quaternary activity (within the past 2 million years). (Golder, 2019)

Landslides

The Pit is a dynamic landscape with erosion and earthflow/landslides contributing to erosion of the Pit walls, sediment deposition to the Pit floor, and fine sediment discharge from the Pit via the Hiller Tunnel in surface water flows. Most landslide events in the Pit are characterized as earthflows based on the surface morphology evident in the Lidar data and based on field observations performed by Golder in assessing site conditions and in preparation of engineering evaluations in support of considering sediment control options. Earthflows are gravity driven mass movement events that are characterized by a high degree of internal deformation of the soils resulting from a viscous flow of the material. Earthflows can move at variable rates ranging from several hundreds of feet or more in a single event to less than an inch per year. Additionally, earthflows are distinguished by their fine grain size. The general pattern of mass movement in the Pit consists of a series of events:

1. Initial failure occurs as a relatively small localized shallow landslide, topple, or surface erosion (e.g., dry ravel, needle ice, etc.) originating from the Pit wall, most often from gravel.
2. Interim deposition of the debris on the steep slopes and benches of the eastern Pit walls.
3. Subsequent remobilization of the debris material, either as a complex of coalescing earthflows, or by surface erosion via incision gullies.
4. Delivery of the material to the Pit floor where it is either stored in or transported out of the basin via the Hiller tunnel. (Golder, 2019)

A similar pattern occurs when the initial failure originates lower down the Lower Unit of the Auriferous gravel, but these failures occur in fewer areas and are less likely to be temporarily stored on the Pit walls before being conveyed to the Pit floor. Mass movement in the form of shallow landslide and surface erosion are considered as the dominant processes driving sediment added to the basin via erosion. (Golder, 2019)

There are two occurrences of larger scale earthflows in the eastern portion of the Pit that can be identified from the historic record. One of these events is a large earthflow located in the Northeast corner of the Pit, evidence of which is identifiable in records (photographs) from 1909. The second, and larger, earthflow was also in the northeast portion of the Pit and took place sometime between 1946 and 1975. The walls along the western area of the Pit are more stable than the walls of the eastern Pit. Pit rim recession in the western area of the Pit has been significantly less than the higher rates observed in the eastern area. Additionally, a slide area referred to as the Northeast Landslide is an earthflow that measures approximately 2,600 feet long, 700 feet wide, and is estimated to be approximately 50 feet thick or more through the body of the landslide, with the material at the toe of the landslide estimated to be up about 100 feet thick. The modern surface of this slide area is hummocky with sag ponds present at several places within the deposit. The landslide deposit is incised by surficial erosion gullies, with one gully paralleling each of the presumed lateral margins of the original slide. The first occurrence of the Northeast Landslide is thought to have occurred sometime between 1908 and 1930, with the most likely date being 1909. (Golder, 2019)

Soils and Subsurface Conditions

Soil mapping units within the Project Area include: (1) Horseshoe gravelly loam, 15 to 30 percent slopes; (2) Josephine- Mariposa complex, 15 to 50 percent slopes, eroded; (3) Mariposa-Rock outcrop complex, 2 to 50 percent slopes; (4) Tailings; and (5) Water.

Soil properties were evaluated by Golder (2021) for the purposes of Project design based upon subsurface investigation and drilling program, site evaluation and previous studies. Soil encountered during the drilling program consisted primarily of highly plastic clay and elastic silt sediment overlying a gravel-like highly weathered bedrock. This sediment was also encountered in the interior of the Pit, where sand and gravel talus deposits along the west side and intermittently along the north side of the Pit and along the south rim were also encountered. Recommendations from the analysis were considered and incorporated into Project design.

Geology and Soils Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii. Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii. Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv. Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Geology and Soils Impact Discussion

a) Would the Project 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? Less than Significant Impact.

ii) Strong seismic ground shaking? Less than Significant Impact.

iii) Seismic-related ground failure, including liquefaction? Less than Significant Impact.

Regarding items i, ii, and iii, the Project area is not within an Alquist-Priolo or other fault zone as mapped by the California Geological Survey (CGS, 2022). Potential ground motion from seismic events was evaluated as part of the Project design, as documented in the Geotechnical Investigation Pit Drainage Runoff BMP Design, Malakoff Diggins State Historic Park (Golder, 2021). Seismic design provisions from the 2019 California Building Code (CBC) are applicable to the site and Project components would not cause risk of loss, injury, or death in the event of seismic ground shaking.

The soils all have a Plasticity Index (PI) greater or equal to 20. According to Bray & Sancio (2006) and Boulanger & Idriss (2006) criteria soils with a PI greater than 18 are not liquifiable, and therefore, the soils in the vicinity of Hiller Tunnel are not susceptible to liquefaction.

iv) Landslides? Less than Significant Impact.

As discussed in the Environmental Setting above, landslides along the Pit walls are an ongoing aspect of the Pit under existing conditions. The Project would not increase the potential for landslides and would not increase visitor exposure to potential risk of harm due to landslides.

b) Would the Project result in substantial soil erosion or the loss of topsoil? No Impact.

The Project would not result in substantial soil erosion or loss of topsoil. Construction activities would result in temporary soil disturbance, however, best management practices for minimizing erosion and sedimentation during construction (stormwater BMPs) would be implemented during construction to minimize the potential for erosion and loss of topsoil from work areas. Once installed, the Project BMPs would aid in managing and containing sediment within the Pit reducing fine sediment discharge from the Pit. Project BMP construction and function would not increase the rate of erosion that occurs on the Pit walls under existing baseline conditions.

c) Would the Project 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? Less than Significant Impact.

The Project would be located in an area with dynamic geologic and soils conditions. The Project is designed to function within these conditions. The Project would not expose structures or people to unanticipated geologic or soils

instabilities. The Project's grade control structure would increase the retention rate of coarse sediment in the eastern portion of the Pit, eventually resulting in accumulation of coarse sediment behind (upgradient/east of) the grade control structure. The grade control structure is designed accommodate this condition. A seismic event damaging the soldier pile wall is considered unlikely.

d) *Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? No Impact.*

The Project would not be located on expansive soil and would not create a direct or indirect risk to life or property associated with expansive or other soils conditions. The Project is designed for construction and to function within the specific soils conditions at the site as determined through Golder (2021) geotechnical evaluations and engineering in designing geotechnical recommendations for the Project.

e) *Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of wastewater? No Impact.*

No septic tanks or alternative onsite septic disposal systems would be used for the Project. Construction specifications require that the contractor provide adequate chemical toilet facilities with regular service as needed to maintain sanitary conditions. Chemical toilet service would periodically remove, transport, and dispose of wastewater in an approved offsite treatment facility or system. Chemical toilet spill containment would be provided through implementation of Specific Project Requirement GEO-2.

f) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? Less than Significant Impact.*

No known paleontological resources are present within MDSHP and no fossils have been mapped in the project area (Macrostrat, 2022). The majority of Project ground disturbance would be within areas of relatively recent sediment accumulation in the Pit floor and it is unlikely that significant paleontological plant or animal fossils would be encountered. Further, Specific Project Requirement GEO-3 provides that if a subsurface deposit having the potential to be a paleontological resource is discovered during construction activities, work near the deposit will stop and a DPR-qualified specialist will assess the deposit and identify and implement any necessary treatment measures to avoid the loss of a unique paleontological resource.

The Pit walls represent a unique geologic feature as a result of the substantial cultural (human induced) modifications resulting from historic hydraulic mining, the Pit walls are a contributing element to the significance of the Malakoff Hydraulic Mine Complex. The Project BMP components would be located on the Pit floor and the Project would not modify the Pit walls. Additional discussion of potential

effects on the cultural resources, including the Malakoff Hydraulic Mine Complex, is provided in Section 3.5, “Cultural Resources.” As discussed there, the Project as design and with implementation of standard and specific project requirements would not have a significant effect on these resources.

Geology and Soils Mitigation Measure(s)

None required.

3.8 Greenhouse Gas Emissions

Greenhouse Gas Emissions Environmental Setting

Gases that trap heat in the atmosphere and affect regulation of the earth's temperature are known as greenhouse gases (GHG). Many chemical compounds found in the earth's atmosphere exhibit the GHG property. GHGs allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, some of it is reflected back towards space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the earth's atmosphere.

GHGs that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHGs are emitted to the atmosphere naturally by biological and geological processes, but GHG emissions from human activities contribute significantly to overall GHG concentrations in the atmosphere, and climate scientists have become increasingly concerned about the effects of these emissions on global climate change.

The effects of increased GHG concentrations in the atmosphere include climate change (increasing temperature and shifts in precipitation patterns and amounts), reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is carbon dioxide (CO₂), which has a GWP of one. By comparison, methane (CH₄) has a GWP of 25, which means that one molecule of CH₄ has 25 times the effect on global warming as one molecule of CO₂. Multiplying the estimated emissions for non-CO₂ GHGs by their GWP determines their carbon dioxide equivalent (CO₂e), which enables a project's combined global warming potential to be expressed in terms of mass CO₂ emissions.

The California's 2017 Climate Change Scoping Plan (2017 Scoping Plan Update; CARB 2017) identifies measures needed to achieve Senate Bill (SB) 32's GHG reduction target of 40 percent below 1990 levels by 2030.

Neither the NSAQMD nor Nevada County has adopted numerical thresholds of significance for GHG emissions applicable to the Project. The NSAQMD recommends that projects subject to CEQA review be considered in the context of GHG emissions and climate change impacts, and that CEQA documents include a quantification of GHG emissions from all project sources, as well as including measures to minimize and mitigate GHG emissions as feasible. Several northern California air districts have identified or adopted quantified thresholds for GHG emissions. In particular, the Sacramento Metropolitan Air Quality Management District, Placer County Air Pollution Control District, and Bay Area Air Quality Management District have each identified a

threshold of 1,100 metric tons of CO₂e per year below which are considered less than significant in the CEQA context.

Greenhouse Gas Emissions Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Greenhouse Gas Emissions Impact Discussion

a) *Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? Less than Significant Impact.*

The Project's GHG emissions were estimated using the CalEEMod methodology used to estimate criteria air pollutant emissions as discussed in Section 3.3, "Air Quality." Total Project construction GHG emissions are estimated at 125 metric tons of CO₂e (Appendix B) and well below the representative threshold of 1,100 metric tons discussed above. Thus, the Project GHG emissions are considered less than significant.

b) *Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? No Impact.*

Nevada County has not adopted any plans, policies, or regulations that meet the requirements of a Qualified GHG Emissions Reduction Plan under CEQA Section 15183.5(D) and no GHG reduction or climate action plans have been identified with direct applicability to the Project. As discussed at item "a," above, the Project would have a less than significant impact associated with GHG emissions as compared to quantified emissions thresholds. For these reasons, this analysis concludes that the Project would not have the potential to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Greenhouse Gas Emissions Mitigation Measure(s)

None required.

3.9 Hazards and Hazardous Materials

Hazards and Hazardous Materials Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 or excessive noise for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death from wildland fires? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Hazards and Hazardous Materials Impact Discussion

a) *Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Less than Significant Impact.*

The Project includes temporary construction activities involving the transportation and use of limited quantities of miscellaneous hazardous substances, including diesel fuels, lubricants, and solvents. Handling and transportation of these materials could result in the exposure of workers to hazardous materials. Federal and State laws regulate the handling, storage and transportation of these and other hazardous materials. Additionally, these laws provide mechanisms to prevent and rapidly respond to spills. Standard Project Requirement HAZ-1 provides for implementation of measures to minimize the potential for leaks or spills of hazardous materials and to respond to any such events should they occur. No hazardous materials would be stored within the Project area after construction. The potential for impacts related to hazardous materials transport, use, or disposal is considered less than significant with adherence to Federal and State regulations and implementation of standard project requirements.

b) *Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment? Less than Significant Impact.*

During Project construction, the potential would exist for hazardous substances to be released to the environment from construction-related vehicle or equipment fluid spills or leaks. Chemicals present on site during construction would be handled by the contractor in accordance with applicable Federal, State, and local regulations for hazardous substances. In addition, DPR Project Requirement, HAZ-1: Spill Prevention and Response, identifies measures to avoid spills and reduce the potential for adverse impacts should a spill occur. Adherence with Federal, State and local regulations for hazardous substances and implementation of DPR Project Requirement HAZ-1 would reduce risks associated with a release of hazardous materials during construction to a less than significant level.

c) *Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? No Impact.*

The nearest schools to the Project area are Twin Ridges Elementary School and Grizzly Hill School located approximately 3.5 miles northwest of MDSHP in the community area of North Columbia and Washington Elementary School located approximately 5 miles to the southeast in the community area of Washington. Therefore, no impacts would occur related to emissions or handling of hazardous materials within one-quarter mile of an existing or proposed school.

- d) Would the Project be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment? No Impact.**

The California Environmental Protection Agency (CalEPA) compiles information on hazardous material sites in California that together comprise a list of sites compiled pursuant to Government Code §65962.5, also known as the “Cortese” list. The Project site is not identified as or located in an area designated as a hazardous materials site on the list compiled per Government Code §65962.5, but is identified as a Cleanup Program Site by CalEPA. Cleanup Program Sites include non-federally owned sites that are regulated under the State Water Resources Control Board's Site Cleanup Program and/or similar programs conducted the nine California Regional Water Quality Control Boards. The site's Cleanup Program status is Open, which identifies that an interim remedial action is occurring at the site and additional activities such as site characterization investigation, risk evaluation, and/or site conceptual model development are occurring to address potential contaminants of concern identified as mercury (elemental), other metal, and total dissolved solids (TDS). The Project is directly related to addressing and remediating conditions associated with these potential contaminants of concern and would be beneficial in terms of reducing potential hazards to the public and environment associated with site conditions.

- 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 or excessive noise for people residing or working in the project area? No Impact.**

MDSHP is not located within an airport land use plan nor within two miles of a public airport, public use airport, private airstrip, or within the boundaries of an airport land use plan. Therefore, there will be no impacts from airport-related hazards.

- f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? No Impact.**

The Project would not preclude or constrain emergency access and would not induce the need for increased emergency response. Thus, the Project would not affect any adopted emergency response plan or emergency evacuation plan.

- g) Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death from wildland fires? Less than Significant Impact.**

MDSHP is within a State Responsibility Area (SRA) and is identified by the California Department of Forestry and Fire Protection (CalFire) as a very high fire hazard severity zone (CalFire, 2007). Project construction activities involving

vehicles and equipment with combustion engines within and adjacent to areas of vegetation would create the potential for fire ignition. Standard Project Requirement HAZ-2 includes measures for wildfire avoidance and response that would minimize the risk of fire ignition and provide for response measures document in a Fire Safety Plan that would be developed by a DPR-approved forester, prior to the start of construction and followed throughout the Project construction. Heavy equipment would be equipped with spark control and vehicles and equipment would be staged in areas separated from flammable material and vegetation. These measures are considered sufficient to ensure the Project's potential risk associated with wildland fires would be less than significant.

Hazards and Hazardous Materials Mitigation Measure(s)

None required.

3.10 Hydrology and Water Quality

Hydrology and Water Quality Environmental Setting

Mining operations at Malakoff Diggins Pit were conducted by the North Bloomfield Gravel Mining Company from the late 1860s until early 1890s. During active mining activities, hundreds of millions of tons of hydraulic mining debris (approximately 40 million cubic yards) were washed into Humbug Creek and then to the South Yuba River below. Farms and cities in the Sacramento Valley were inundated and flooded out by hydraulic mining debris that were washed down the river channels during the winter seasons. By 1883 San Francisco Bay, due to all the existing hydraulic mines, was estimated to be filling with silt at a rate of one foot per year. Debris, silt, and millions of gallons of water used daily by the mine caused extensive flooding, prompting Sacramento valley farmers to file a lawsuit that resulted in a January 7, 1884, court decision that effectively made hydraulic mining illegal.

The Pit is approximately 7,000 feet long, up to 3,800 feet wide and is 600 feet deep in some areas. Barren and unstable cliffs (Pit walls) surround the perimeter of the Pit. Precipitation and weathering cause erosion of the cliffs, and the Pit is growing in size as the walls continue to erode. The sediment from the eroded cliffs is transported through the Pit by storm water surface flow toward the west southwest and the Pit Lake, which is unlined. If unabated, landslides and cliff erosion will continue. The pond is shrinking in size as it fills with eroded sediment. Water exits the Pit through the Hiller Tunnel (constructed in 1859), which is approximately 557 feet long. Flow from the Hiller Tunnel is termed "Diggins Creek." Diggins Creek flows into Humbug Creek approximately 0.32 mile (1,700 feet) downstream of the Hiller Tunnel outlet. Humbug Creek flows to the South Fork Yuba River, approximately 2.2 miles downstream. (RWQCB, 2017)

Most of the fine-grained sediment that is discharged to Humbug Creek originates from unstable slopes in the Pit. Metals that are natural components of the rocks that form the regional geology are adsorbed or contained in the fine silt and clay sediment particles that are mobilized during storm events and are discharged to Humbug Creek and South Yuba River. This is demonstrated by the fact that metals concentrations correlate well with surface water Total Suspended Solids (TSS) concentrations. Sourced from certain areas within the pit and related to historical mining or aerial deposition, mercury is also detected in discharges from the Pit. Similar to the other metals, fine-grained silts and clays (less than 0.063 millimeters) contain the greatest concentration of mercury in contaminated sediment. Mercury adsorbed to fine sediment can stay in suspension for long periods of time and be transported long distances to locations where it can be methylated upon deposition. Disturbance of mercury-contaminated sediment increases the concentration and load of mercury in downstream waters. Humbug Creek is listed pursuant to Section 303(d) of the Clean Water Act as impaired for pH, sedimentation/siltation, mercury, iron, chromium, copper, and zinc. The South Yuba River is 303(d) listed for mercury and temperature for approximately 22 miles downstream of Humbug Creek to Englebright Lake. Englebright Lake is listed for mercury. (RWQCB, 2017)

Hydrology and Water Quality Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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; | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv. impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Hydrology and Water Quality Impact Discussion

a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? No Impact.

The Project is designed to reduce sediment discharge from the Pit resulting in improved water quality to downstream receiving waters and to comply with waste discharge requirements pursuant to CVRWQCB Order No. R5-2017-0086.

Many areas of the Pit floor are susceptible to saturated soil conditions, especially

during and immediately following the rainy season. The use of heavy equipment has the potential to create short-term sediment disturbance. As discussed above in Section 2.6.4 of the Project Description, sediment disturbance during construction would be managed to minimize the potential for sediment discharge to surface water using standard storm water and construction best management practices where necessary to minimize construction-related disturbance and potential sedimentation and water quality impacts. Construction best management practices to be implemented for the Project include:

- Use of temporary protective matting for wetland protection and temporary road;
- Installation of temporary silt fences, straw waddles, and/or other temporary construction area sediment filtration measures;
- Installation of rock riprap at in-Pit access road intersection with North Bloomfield Road.
- Stabilization of disturbed soils through compaction, vegetation, and/or application of stabilizers; and
- Performing construction activities during the dry season to the extent feasible.

Through implementation of the above measures, potential degradation of water quality during construction would be minimized. Further, since construction is anticipated to occur during the summer/dry months of one construction season and any stormwater runoff from construction areas would be minimal and substantially retained in the Pit, violation of water quality standards or degradation of surface or groundwater would not occur.

Following construction, the Project would comply with water quality standards and waste discharge requirements of Order No. R5-2017-0086 and would improve, not degrade, surface water quality.

b) Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? No Impact.

The Project would have no effect on groundwater supplies or groundwater recharge in a manner that could impede sustainable groundwater management.

c) Would the Project 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? Less than Significant Impact.

The Project would intentionally alter the existing localized surface water runoff pattern within the Pit. The Project includes an interceptor swale that would

divert surface water from the eastern portion of the Pit to the northcentral portion of the Pit and into the enhanced Pit Lake. The soldier pile wall creating the enhanced Pit Lake would not divert flows but would alter surface water flows to the Hiller Tunnel by retaining and more slowly releasing flows to the Hiller Tunnel than occurs under existing conditions. The Project would not add impervious surface that would increase stormwater runoff rates.

The Project integrates three primary BMPs that would function interdependently to reduce fine sediment discharge from the Pit through 1) coarse sediment management in the eastern portion of the Pit, 2) an interceptor swale to divert flows from the eastern portion of the Pit from directly discharging to the Hiller Tunnel, and 3) enhanced Pit Lake function with installation of the soldier pile wall. Potential use of soil stabilizers and flocculants, if used, would also contribute to the Project's fine sediment control functions. Thus, the Project would not 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 offsite? Less than Significant Impact.

The Project soldier pile wall would retain surface flows during storm events and decrease the rate and amount of surface water discharge from the Pit during and following storm events. The soldier pile wall would create the enhanced Pit Lake component of the Project which would intentionally result in additional surface water inundation within the western portion of the Pit during and following storm events. The increased inundation is an intentional function of the Project, providing for increased duration of retained water in the Pit Lake allowing for fine sediment to settle and decrease fine sediment discharge from the Pit. This is considered a beneficial outcome of the Project, thus, resulting in a No Impact conclusion for the purposes of this Initial Study.

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? Less than Significant Impact.

The Project soldier pile wall would retain surface flows during storm events and decrease the rate and amount of surface water discharge from the Pit during and following storm events. The Project would not 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.

iv) impede or redirect flood flows? Less than Significant Impact.

The Project would intentionally impede and redirect flood (i.e., stormwater event) flows within the Pit. The Project includes an interceptor swale that would divert surface water from the eastern portion of the Pit to the northcentral portion of the Pit and into the enhanced Pit Lake. The soldier pile wall creating the enhanced Pit Lake would not divert flows, but would alter surface water flows to the Hiller Tunnel by retaining and more slowly releasing flows to the

Hiller Tunnel than occurs under existing conditions. This is considered a beneficial outcome of the Project, thus, resulting in a No Impact conclusion for the purposes of this IS/MND.

d) Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? Less than Significant Impact.

The Project is not in a designated flood hazard, tsunami, or seiche zone. The Project soldier pile wall and enhanced Pit Lake would provide for increased retention of surface water during and after storm events. The enhanced Pit Lake would inundate a larger area within the western portion of the Pit that would otherwise occur under existing conditions. The Project is designed to increase the retention of sediment – considered a pollutant for the purposes of this evaluation – within the Pit, and would decrease the amount of sediment that would otherwise discharge from the Pit during storm events. The increased retention of sediment is considered a beneficial outcome of the Project, thus, resulting in a No Impact conclusion for the purposes of this Initial Study. Under existing conditions, there is the potential that the Hiller Tunnel could become blocked by debris or excessive sediment mobilization in the Pit causing an un-engineered discharge through one of the lower elevation saddles in the southwest area of the Pit. The Project would decrease the potential for blockage by debris or excessive sediment mobilization.

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? No Impact.

The Project would reduce fine sediment discharge from the Pit and improve water quality discharges to downstream receiving waters. “The Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region for the Sacramento and San Joaquin River Basins (“Basin Plan”) (Fifth Edition, revised February 2019, with approved amendments) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements of CVRWQCB Order No. R5-2017-0086 are intended to implement the Basin Plan (then the Fourth Edition, July 2016), and the Project, as designed to comply with the Order, would be consistent with the Basin Plan. Thus, the Project would not conflict with a water quality control plan and as an implementation mechanism of the Basis Plan is considered beneficial, thus, resulting in a No Impact conclusion for the purposes of this Initial Study.

Hydrology and Water Quality Mitigation Measure(s)

None required.

3.11 Land Use and Planning

Land Use and Planning Environmental Setting

As a state-owned facility managed by DPR, MDSHP is subject to DPR land management and land use planning. A Resource Management Plan (RMP) was developed for the Park in March 1979 which was intended to serve as a tool for managing MDSHP until a General Plan was approved. The RMP also refers to a 1974 Interpretive Prospectus as the guiding document by which interpretation should be carried out. The RMP and the Interpretive Prospectus are over 40 years old and many of their contents are outdated and do not conform to current standards. In January 2015, DPR approved an Interpretive Master Plan and Action Plan (IMP/AP) for MDSHP developed in consideration of the natural, cultural, and recreational resources of MDSHP. The IMP/AP goals to improve existing interpretation and develop new interpretation intended to increase visitation and enhance appreciation of MDSHP's resources. The goals are supported by relevant objectives, strategies, and tasks which provide an outline towards the accomplishment of each goal.

The IMP/AP recognizes that the conditions at MDSHP and, in particular, the Pit are not static and that changes in conditions of the Pit are occurring and will continue over time, noting that "changes that the Malakoff Diggins SHP area has experienced and continues to experience make inventorying its natural resources an ever evolving process."

Although under state jurisdiction and land use authority, MDSHP is located within the area covered by the Nevada County General Plan. MDSHP has a land use designation of Open Space in the Nevada County General Plan. As defined in the County General Plan Land Use Element, "Open Space (OS) is intended to provide for land, primarily in public ownership, which is dedicated to recreation, resource and habitat preservation, and protection of environmental resources, and which typically allows only recreation or very low-intensity limited uses, such as, but not limited to, visual corridor preservation, interconnecting wildlife corridors, slope protection, preservation of ditches, railroad rights-of-way, historic trails, agriculture, and timber production. This designation shall also provide for the designation of land in private ownership which is permanently devoted to open space through clustering or other open space requirements."

Land Use and Planning Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---|------------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Land Use and Planning Impact Discussion

a) Would the Project physically divide an established community? No Impact.

The Project would install BMP components within the Pit. No established communities are present either within the Pit or in areas where Project construction and staging areas would be located. Thus, the Project would not divide an established community.

b) Would the Project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? No Impact.

Review of the IMP/AP in consideration of the Project concludes that the Project would not conflict with any of the goals, objectives, or strategies in the IMP/AP. Goal 8 of the IMP/AP states, “Ensure that Park facilities will support present and future interpretation,” and includes objectives and strategies associated with maintaining facilities to be usable and safe and to manage the landscape in a way that supports interpretation. The Project has been designed to minimize alterations of the landscape while achieving the regulatory requirements of Waste Discharge Requirements (WDR) Order R5-2017-0086 (NPDES Permit No. CA0085332). Project design and standard and specific project requirements incorporated into the Project would ensure that the MDSHP landscape continues to be managed in a way to support interpretation of, and to protect the cultural and biological resources present within MDSHP.

Although not directly applicable to lands under DPR jurisdiction, review of Nevada County General Plan policies related to avoiding or mitigating environmental effects concludes that the Project would not conflict with any such policies.

Land Use and Planning Mitigation Measure(s)

None required.

3.12 Mineral Resources

Mineral Resources Environmental Setting

The California Geological Survey (CGS) classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act (SMARA) of 1975 and assists in the designation of lands containing significant aggregate resources. MDSHP is within an area classified as MRZ-2b, defined as, “areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are sub-economic. Further exploration work and/or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2a.” (DMG, 1990)

Notwithstanding its designation as MRZ-2b, the mineral resource zone within which MDSHP is located, “was excluded from consideration as an Aggregate Resource Area because of the presence of Malakoff Diggins State Park, which covers a large portion of the deposit. It is unlikely that the resources remaining outside of the park boundaries could be mined because of the distribution of the resources and their proximity to [MDSHP].” (DMG, 1990)

Public Resources Code (PRC) § 5001.65 prohibits commercial exploitation of resources in units of the state park system.

Mineral Resources Checklist

| 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 is or would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Mineral Resources Impact Discussion

- a) Would the Project result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state? No Impact.***
- b) Would the Project 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? No Impact.***

Regarding items “a” and b”, the Project would install sediment control BMPs within the Pit consisting of surficial features intended to control the discharge of sediment from the Pit. The BMPs and the captured sediment would not physically preclude future access to mineral resources within the Pit. Further, mineral resources within the Pit are not considered to be of value to the state or region, and are not considered locally important. Additionally, PRC § 5001.65 prohibits commercial exploitation of resources in units of the state park system; thus, although the Project would not necessarily technically preclude access to mineral resources, state law would be prohibitive were such an effort for commercial exploitation considered.

For these reasons, the Project would have no effect on the availability of a state, regional, or locally important mineral resource.

Mineral Resources Mitigation Measure(s)

None required.

3.13 Noise

Noise Environmental Setting

The noise environment within MDSHP is consistent with the rural character of the area. Existing noise sources are associated with visitors to MDSHP, limited vehicle through travel, and DPR management vehicle trips on North Bloomfield Road and other various land use management activities. Noise associated with MDSHP management and other management activities are limited generally to seasonal day use throughout the park, overnight camping (at Chute Hill Campground east of the Pit), and periodic and limited maintenance activities. Similarly, the noise environment along the local offsite travel routes that would be used for access to the site by Project construction workers and deliveries (e.g., Tyler Foote Crossing Road, Cruzon Grade Road, and North Bloomfield Road) is characterized as rural with noise-sensitive land uses including residential and institutional (e.g., churches, schools, retreats) uses. Due to the limited existing noise sources, relatively low ambient noise levels characterize areas with MDSHP and along primary travel routes.

The Nevada County General Plan Noise Element established noise level criteria for various land use types within the County, but does not apply the standards to activities associated with construction of a project or to projects associated with the provisions of emergency services or functions. (Nevada County General Plan Noise Element, Policy 9.1.2.f, 2014). Noise level standards are not established for MDSHP by DPR, however, DPR seeks to limit noise sources and noise levels generated by management activities to maintain a peaceful and enjoyable outdoor experience for park visitors.

Noise Checklist

| Would the Project result in: | Potentially Significant Impact | Less Than Significant With 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) For a project located 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Noise Impact Discussion

- a) Would the Project result in 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? Less than Significant Impact.**

Construction activities associated with the Project would involve the use of construction vehicles and equipment that would generate noise throughout the approximately three-month duration of construction. Table 3.13-1, "Typical Noise Level (dBA) at 50 Feet from Source," presents typical noise levels associated with representative construction equipment similar to that which would be used periodically during Project construction.

**Table 3.13-1
Typical Noise Level (dBA) at 50 Feet from Source**

| Equipment | Noise Level at 50 Feet (dBA) |
|-----------------------------------|-------------------------------------|
| Auger Drill Rig | 85 |
| Backhoe | 80 |
| Chain Saw | 85 |
| Compactor (ground) | 80 |
| Compressor (air) | 80 |
| Crane (mobile or stationary) | 85 |
| Dump Truck | 84 |
| Excavator | 85 |
| Flatbed Truck | 84 |
| Front End Loader | 80 |
| Generator (<25 kV amperes) | 70 |
| Generator (>25kV amperes) | 82 |
| Grader | 85 |
| Mounted Impact Hammer | 90 |
| Pickup Truck | 55 |
| Pneumatic Tools | 85 |
| Pumps | 77 |
| Pile Driver (vibratory or impact) | 95 |

Source: Caltrans, 2013.

Project construction activities would be limited to daylight hours Monday through Friday. Any weekend construction activities would be limited to the hours between 8:00 a.m. and 6:00 p.m., in accordance with Standard Project Requirement NOISE-1. Internal combustion engines used during construction would be equipped with mufflers and noise shielding, and separated from visitors to the

extent feasible also in accordance with Standard Project Requirement NOISE-1. Additionally, contract specifications would require contractors to perform work in a manner to minimize and control noise.

Two activities associated with the Project having the most likely potential to result in substantial, though short-term, noise during Project construction are: 1) pile driving for installation of the soldier pile wall piles and 2) dumping of rocks when delivered to work areas within the Pit. These activities would generate short-term noise levels that would detract from the rural environment and generally low ambient noise levels. Specific Project Requirement NOISE-2 requires that pile driving and rock dumping be performed only during non-weekend and non-holidays and during the hours of 8:00 a.m. and 6:00 p.m. Although noise from these activities would remain audible, limiting to these days and hours would avoid the potential for noise from these activities to substantially affect MDSHP users during high-use weekend and holiday periods and during more noise-sensitive times of day (e.g., evening, nighttime, and early mornings).

It is anticipated that Project construction noise associated both with vehicle travel along offsite access routes and from activities at staging areas and within the Pit would be periodically audible to residents along haul routes and MDSHP visitors. Since there are no application construction noise standards for the Project, construction activities would not have the potential to exceed any applicable standards, and this impact is considered less than significant. Additionally, implementation of Standard Project Requirement NOISE-1 and Specific Project Requirement NOISE-2 would serve to reduce noise exposure during construction and construction noise is not expected to result in a substantial impact to park visitors.

Once installed, Project BMP components would function passively and would not generate noise other than the sound of flowing water within the swale and through and over the soldier pile wall. Periodic maintenance activities involving vehicle and equipment operation would generate localized noise during the short duration of maintenance activities. Such maintenance would also be subject to Standard Project Requirement NOISE-1 and Specific Project Requirement NOISE-2 and would not exceed any applicable noise standards or otherwise result in significant noise impacts.

b) Would the Project result in generation of excessive groundborne vibration or groundborne noise levels? Less than Significant Impact.

Groundborne vibration and groundborne noise would result from the use of heavy construction equipment and construction activities and vary during the period of construction depending on the specific construction equipment being used and activities involved. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. The effects of ground-borne vibration can include perceptible movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling

sounds. In extreme cases, the vibration can cause damage to buildings. Ground vibrations from construction activities do not often reach a level that can cause damage to structures, but they can achieve the audible and feelable ranges in buildings that are very close to a work site. An accepted threshold used for assessing potential structural damage associated with ground-borne vibration is 0.2 inches per second peak-particle velocity (PPV) at a distance of 25 feet for normal building and 0.1 PPV at a distance of 25 feet for older or historically significant buildings.

The construction activity with the potential to generate the highest level of groundborne vibration is pile driving associated with installation of the soldier pile wall piles. Based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment guidance (FTA, 2006), pile driver vibration levels can be anticipated to range from approximately 0.644 PPV at 25 feet to a high of 1.518 PPV at 25 feet and potential groundborne vibrations would dissipate to below levels having the potential to damage older/historic structures at a distance of less than 400 feet from the pile driving operation. There are no structures within 400 feet of the proposed soldier pile wall; therefore, the Project would not be expected to have the potential to damage structures associated with groundborne vibrations.

- c) For a project located 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? No Impact.***

MDSHP is not located within two miles of a public airport, public use airport, private airstrip, or within the boundaries of an airport land use plan. The Project would not introduce and exposure people to excess noise levels associated with a public or private airport.

Noise Mitigation Measure(s)

None required.

3.14 Population and Housing

Population and Housing Environmental Setting

Communities the vicinity of MDSHP are small and rural residential. There are no private residences within MDSHP or within 1 mile of the Project site; however, there are five residences within MDSHP some of which are used by DPR staff.

Population and Housing Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Population and Housing Impact Discussion

- 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)? No Impact.***
- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? No Impact.***

Regarding items “a” and “b”, the Project would not directly or indirectly induce population growth and the Project would not displace any residents or otherwise necessitate construction of housing.

Population and Housing Mitigation Measure(s)

None required.

3.15 Public Services

Public Services Environmental Setting

Fire Protection

The California Department of Fire and Forestry Protection (CalFire) has primary jurisdiction for fire suppression in State Responsibility Areas (SRA), including units of the State Park System. The nearest CalFire station is located at 19076 Tyler Foote Road, approximately 7.5 miles (vehicle travel) from the Project site.

Police Protection

DPR rangers assigned to MDSHP are Peace Officer Standards and Training (POST) certified law enforcement officers and provide law enforcement within MDSHP.

A Nevada County Sheriff's office is approximately about 15 miles and 40 minutes' driving time southwest of MDSHP in Nevada City. The Sheriff would assist DPR with any emergency and law enforcement issues within the boundaries of the park.

Schools

The nearest schools to the Project area are Twin Ridges Elementary School and Grizzly Hill School located approximately 3.5 miles northwest of MDSHP in the community area of North Columbia and Washington Elementary School located approximately 5 miles to the southeast in the community area of Washington.

Parks and Other Public Facilities

In addition to MDSHP, other parks and recreational facilities that serve residents and visitors are located throughout Nevada County.

Public Service Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---|------------------------------|-------------------------------------|
| a) 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: | | | | |
| i. Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii. Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii. Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv. Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| v. Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Public Services Impact Discussion

- a) 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: i. Fire protection; ii. Police protection; iii. Schools; iv. Parks; or v. Other public facilities? No Impact.***

The Project would not increase the demand for public services and, therefore, would not have the potential to 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.

Public Services Mitigation Measure(s)

None required.

3.16 Recreation

Recreation Environmental Setting

MDSHP provides a variety of recreational opportunities. The most popular activities are historic interpretation, hiking, mountain biking, camping, picnicking, and recreational gold panning. Blair Lake near the North Bloomfield townsite offers opportunities for swimming and fishing. Two trailheads in MDSHP provide access to the South Yuba National Trail and the Wild & Scenic South Yuba River Recreational Area.

There are over 20 miles of hiking trails within MDSHP. The trails range from less than one-quarter mile to over three miles in length and provide opportunities for visitors to experience this historic town of North Bloomfield and other areas including forests, relic mining lakes, and various habitats. The 3-mile Diggins Loop trail general follows the perimeter of the Pit floor and offers close-up views of the dramatic geological strata in the Pit. The most popular trail in the park is the Humbug Trail, a 6-mile roundtrip hike to the South Yuba River and back, and a rustic group campsite located on BLM property at the bottom (southern end) of the Humbug Trail, adjacent to the South Yuba River, is popular with youth groups.

Chute Hill Campground is located in MDSHP about 0.5-mile from the historic town of North Bloomfield and just east of the eastern rim of the Pit. The campground contains 30 campsites with picnic tables, bear-proof food lockers, fire rings, and access to potable water and flush-toilet restrooms. Special ranger led programs such as night hikes and evening campfire programs are also available to Chute Hill campers on holiday weekends. The Rim and Townsite trails can be accessed from the campground. As discussed in Section 3.1, "Aesthetics," of this IS/MND, a scenic overlook of the Pit is located at the campground's southwestern edge along the east Pit rim. Three rustic miner's cabins are located in North Bloomfield and can be reserved for overnight stays.

Other recreational activities available at the Park include swimming and fishing in Blair Lake, biking, gold panning, trail running, photography, birding, and painting. Junior Ranger programs, the Environmental Living Program, and Litter Getter activities are also available to young visitors.

Recreation Checklist

| | Potentially Significant Impact | Less Than Significant With 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|--|--------------------------------------|---|-------------------------------------|--------------------------|
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Recreation Impact Discussion

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? Less than Significant.*

During Project construction, public access to certain trail segments and areas within the Pit would be temporarily precluded for public safety to exclude public access to construction areas. In particular, it is anticipated that the western and northern segments of the Diggins Loop Trail and access to areas near the inlet of the Hiller Tunnel would be closed to the public during the construction period. Access to other areas within the Pit and areas immediately adjacent to and within construction staging areas would also be restricted. Additionally, the existing boardwalk crossing the Pit Lake (Diggins Pond) would be permanently removed as a result of the Project, with a new segment of trail constructed along the southern end of the Pit Lake. The new trail segment will provide for public access around the Pit Lake above the new highwater elevation of the enhanced Pit Lake resulting from the Project. Once Project construction is complete, public access to trails within the Pit would be restored.

The Project would not adversely affect or preclude access to other trails, including the Rim Trail, Slaughterhouse Trail, Church Trail, and Humbug Creek Trail. Additionally, other areas of MDSHP would remain open during Project construction, including public access to North Bloomfield and the Chute Hill Campground.

Although access restrictions during Project construction would reduce availability of certain recreational opportunities (e.g., hiking and viewing within the Pit), the reduced opportunities are not expected to result in an increased demand for other facilities to a degree or in a manner that would result in substantial deterioration or increased maintenance requirements for recreation facilities within or outside of MDSHP that would remain open. Therefore, this impact is considered less than significant.

Additionally, Specific Project Requirement REC-1 would serve to minimize access restrictions during construction and would provide information to visitors regarding

temporary area closures and available opportunities for hiking, interpretation, and other recreation activities within MDSHP.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? Less than Significant Impact.

The Project would construct a new segment of trail along the southern end of the Pit Lake to provide for public access around the enhanced Pit Lake. Additionally, the Project would develop a construction access road along the western and northern perimeter of the Pit floor generally along a portion of the existing Diggins Loop trail. Following construction, the access road alignment would be available for hiking use. The environmental effects of these Project components are evaluated as part of the Project in this IS/MND. As concluded herein, with implementation of project requirements and mitigation measures identified in this IS/MND, the Project (including the construction of these components) would not result in substantial effects on the environment. With the exception of the new trail segment along the southern perimeter of the Pit Lake, the Project would not construct or require the construction or expansion of any recreational facilities.

Recreation Mitigation Measure(s)

None required.

3.17 Transportation

Transportation Environmental Setting

The Nevada County General Plan Circulation Element (2010) roadway classifications for the Project primary access routes as: SR 49 (Nevada City to Placer County line) – Minor Arterial; Tyler Foote Crossing Road – Major Collector; and Cruzon Grade Road, Backbone Road, Derbec Road, and North Bloomfield Road – Minor Collector. Most recent average daily trip (ADT) counts for the segment of Tyler Foote Crossing Road are from 2018, and indicate an ADT of 2,578. Most recent ADT counts other access road segments are Cruzon Grade Road ADT of 517 (year 2013), Derbec Road ADT of 89 (year 2019), and North Bloomfield (south of Derbec) ADT of 42 (year 2014). (Nevada County Transportation Commission, 2022) (Nevada County Traffic Counts as of 3-30-21, access May 1, 2022.) As indicated by the ADTs, these roads typically experience low traffic volumes.

No public transit systems provide service to or within MDSHP. Bicycle and pedestrian circulation in MDSHP is available through the use of roads and trails, with some trails prohibiting bicycle use.

Transportation Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Transportation Impact Discussion

- a) Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? No Impact.***

Construction-related vehicle trips would involve construction worker vehicle trips

and equipment and materials deliveries, including imported rock for construction of the coarse sediment grade control structure. Vehicle access to the Project site for construction workers and delivery of equipment and materials would be from SR 49 approximately 10 miles north of Nevada City. Vehicles would travel east approximately 9.5 miles on Tyler Foote Crossing Road to Cruzon Grade Road. Vehicles would then travel approximately 8 miles southeast then south on Cruzon Grade Road, Backbone Road, Derbec Road, and North Bloomfield Road, into MDSHP through the historic town of North Bloomfield and to the shooting Range Construction Staging area or to the Pit access road located near the southwest portion of the Pit as discussed in Section 2.5.5, above. Standard Project Requirement TRAFFIC-1 requires the development and implementation of a traffic control plan and Specific Project Requirement TRAFFIC-2 provides for specific requirements in the traffic control plan for vehicle routing and scheduling, traffic controls along access routes and within MDSHP.

The Nevada County General Plan Circulation Element (2010) identifies four primary goals that involve: 1) coordinate the circulation system with the County's land use patterns (Circulation and Land Use); 2) provide for the movement of goods and people (Movement of Goods and People); 3) reduce dependence on automobiles (Reduce Automobile Dependency); and 4) minimize transportation system impacts to the environment (Environmental Protection). The Circulation Element includes several policies to achieve these goals and includes policies that contain traffic operations level of service (LOS) standards for various roads and road classifications within the County. Generally, the level of service standards are applicable to the County's consideration of land use and land use development patterns, and are not applicable to traffic or vehicle trips associated with short-term, temporary vehicle trip increases such as those associated with the Project. (Although the Project is not anticipated to adversely affect traffic operations levels of service, it should be noted that pursuant to Senate Bill (SB) 743 of 2013 and adoption of amended CEQA Guidelines in 2018, automobile delay, for which LOS is a measure, may no longer be considered an impact under CEQA.)

Due to the temporary and short duration (approximately 3 months) of construction activities and with implementation of standard and specific project requirements, no potential conflicts with programs, plans, ordinances, or policies addressing the Project area circulation system are anticipated.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? No Impact.

CEQA Guidelines Section 15064.3, subdivision (b) discusses specific considerations for evaluating a project's transportation impact under CEQAs. The section discusses that, generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts, and that other relevant considerations may include the effects of the project on transit and non-motorized travel. As discussed in item "a", above, the section also discusses that a project's effect on automobile delay shall not constitute a significant environmental impact.)

The Project would involve vehicle trips during the construction period for worker access and delivery of equipment and materials. Construction-related vehicle trips would not create the potential for conflicting with CEQA Guidelines Section 15064.3 pertaining to vehicle miles traveled. Long-term operation of Project components would require minimal vehicle trips and would not have the potential for conflicting with CEQA Guidelines Section 15064.3 pertaining to vehicle miles traveled.

c) *Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? No Impact.*

The Project would not alter regional or location transportation infrastructure. Project construction activities would involve vehicle operation on road segments that would also be open to the public, which has the potential to create a conflict and safety issues. Specific Project Requirement TRAFFIC-2 provides for incorporating signage and other vehicle controls to facilitate safe interaction between Project-related vehicles and MDSHP visitors in vehicles as well as bicyclists and pedestrians. With implementation of Specific Project Requirement TRAFFIC-2, this potential impact would be less than significant.

d) *Would the Project result in inadequate emergency access? No Impact.*

The Project would not increase the demand for emergency vehicle operation, nor would the Project preclude or delay emergency vehicle access. Project technical specifications require that the construction contractor keep driveways and entrances to the Project site clear and available to emergency vehicles at all times. The specifications also require that vehicle routes not be used for parking or storage of materials. The contractor would be required to schedule deliveries to minimize use of driveways and entrances at MDSHP and to minimize space and time requirements for storage of materials and equipment on site. Project construction specifications require that the contractor remain vigilant about the threat of wildfire and adhere to a Fire Safety Plan. This includes listening and researching local media to learn of wildfires in the area before going to the site. And if there is a wildfire in the area call off work even if there is a remote threat of fire at the site or blocking evacuation routes. The contractor would be required to be familiar with and comply with evacuation routes that would be established in a construction wildfire health safety and environmental plan and to use designated routes. No adverse impact to emergency vehicle access would result from Project construction.

Following construction, the improved vehicle access that would be developed into the Pit would be retained after Project construction and would provide a benefit of improved emergency vehicle access to the Pit in the event of a medical or fire emergency response within the Pit.

Transportation Mitigation Measure(s)

None required.

3.18 Tribal Cultural Resources

Tribal Cultural Resources Environmental Setting

DPR is required to consult with Native American tribes regarding projects that may impact tribal cultural resources under PRC 21080.3.1(b)(d) (as established in Assembly Bill 52). Additionally, DPR has requirements to consult tribes under E.O. W-26-92.

Under PRC 21074, tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a tribe. Important tribal cultural resources can include, but are not limited to, archaeological resources. Other places and landscapes can be considered tribal cultural resources. If tribal cultural resources are identified during consultation, the agency should evaluate them for the California Register of Historical Resources (PRC 21080.3.2(a)). DPR notified Native American tribal representatives of the Project and invited tribal representatives to request consultation regarding tribal cultural resources pursuant to CEQA §21080.3.1.

Malakoff Diggins SHP is situated within the traditional territory of the Nisenan people. The Nisenan ancestral lands included the drainages of the Yuba (Uba Seo), Bear and American rivers, as well as the lower drainages of the Feather River. Their boundary was bordered by the west bank of the Sacramento River from approximately the mouth of the Feather River southward to the confluence with the American River, to the lands between the American and the Cosumnes rivers in the south, the crest of the Sierra Nevada to the east and roughly the Sierra Buttes and upper Feather River to the north. The Nisenan continue to live in the communities of the Yuba and Bear River watersheds and maintain their connection with the river and land despite the effects of the Gold Rush and genocide had on their people. Today, Nisenan tribal members identify with several political representative entities including the Nevada City Rancheria of Nisenan, the United Indian Auburn Community, and Shingle Springs Band of Miwok.

DPR received replies from Nevada City Rancheria (NCR), United Auburn Indian Community (UAIC), and the Washoe Tribe of Nevada and California. The Washoe Tribe of Nevada and California responded that they will not be participating in consultations for the Project. NCR and UAIC responded that they would participate in consultations for the proposed Project. The UAIC participated in a site visit where their representative tentatively expressed that the bedrock milling feature may be a tribal cultural resource under Public Resources Code 21080.3.1.

DPR met with Nevada City Rancheria's spokesperson, Shelly Covert during a field visit to Malakoff Diggins SHP on Monday, May 16, 2022. Ms. Covert acknowledged that Nisenan inhabited the park since time immemorial during the site visit, that included visitation to several prehistoric archaeological sites within the park including the bed rock mortar within the project area. Ms. Covert also shared personal memories of visiting the park in her youth with her family and Tribal elders and that landscape, although altered by the Gold Rush, still retains a strong connection to her and other Nisenan. Ms. Covert relayed to DPR Tribal Liaisons that for the purpose of compliance with California AB-52 all the prehistoric sites within the ancestral lands of the Nisean are considered Tribal

Cultural Resources (TCR). Ms. Covert supported the concept of the bed rock mortar being moved and interpreted as a physical “touchstone” of the impact of the Gold Rush on the Nisenan.

Definitions of Nisenan Tribal Cultural Resources (TCR):

a. Sites

- (1) Defined as Archeological sites; archeological sites and the associated are all considered important to the identity of the Nisenan people. Archeological sites establish our presence and tell a story of what we did there. Landscapes, sacred places, place names, habitation sites, burial sites, plant gathering sites, hunting sites, fishing sites
- (2) Defined as Objects of Cultural Affiliation: Associated Funerary Objects: Objects that, as a part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later, [25 USC 3001 (3)(A)]

b. Sacred Objects

- (1) Specific ceremonial objects which are needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present day adherents. [25 USC 3001 (3)(C)]

c. Object of Cultural Patrimony

- (1) An object having ongoing historical, traditional, or cultural importance central to the Native American group or culture itself, rather than property owned by an individual Native American, and which, therefore, cannot be alienated, appropriated, or as of the completion of this report, but conveyed by any individual regardless of whether or not the individual is a member of the Indian tribe or Native Hawaiian organization and such object shall have been considered inalienable by such Native American group at the time the object was separated from such group. [25 USC 3001 (3)(D)]

Descriptions

a. Nisenan objects of cultural affiliation:

i. Regalia

1. Beads - Clamshell, olivella, abalone, glass, steatite, magnesite, slate or bone
2. Pendants – abalone or bone
3. Bird bone tubes – these are often incised
4. Bone whistles
5. Netting or basketry fragments
6. Clapper sticks

7. Rattles

- ii. Ochre
- iii. Burial Matrix
- iv. Offerings – Any artifact or ecofact, especially one that is burned, at a burial/cry site is a funerary object. Because of the practice of continuing to visit a cry site and to leave offerings and because these offerings vary considerably, such objects can include many types of items. Qualified Tribal Monitors can determine whether an item is an offering, and such items can include but not limited to:
 - 1. Any of the sacred objects or objects of cultural patrimony listed below:
 - a) Basketry
 - b) Textiles
 - c) Bone gambling dice.
 - d) Bone awls.
 - e) Flaked stone – including projectile points, blades and debitage.
 - f) Acorns (often carbonized).
 - g) Plants – wormwood, sage, tobacco.
 - h) Historic objects – may include metal tools, glassware or ceramics.
 - i) Faunal bones or shell.
 - j) Contemporary offerings – please be aware that offerings are still made at burial/cry sites and do not disturb any contemporary offerings, which often include wormwood, sage or tobacco.
 - 2. Diagnostic Sacred Objects (may also occur as funerary objects):
 - a) Charmstones.
 - b) Quartz crystals.
 - c) Quartz projectile points.
 - 3. Diagnostic Objects of Cultural Patrimony
 - a) Stone mortars, pestles, acorn anvils, hammerstones or other ground-stone used in discussions their support for food processing
 - b) Steatite pipes
 - c) Stone or baked clay net weights
 - d) Rabbit fences or nets

Tribal Cultural Resources Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With 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 section 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 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Tribal Cultural Resources Impact Discussion

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 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 Section 5024.1? Less than Significant with Mitigation.

As discussed above in Section 3.5(b), analysis of the Project's potential effect on

prehistoric archeological resources identified impacts to a bedrock milling feature considered to be potentially individually eligible to the NRHP under Criterion D. The feature has rolled downslope and is no longer in its original position, but may contain important data for understanding Native American occupation along what was historically known as Virgin Valley prior to the Gold Rush. Creation of the enhanced Pit Lake component of the Project would cause or increase water inundation of this feature and would eventually result in the accumulation of sediment around and over the feature ultimately having the potential to bury the milling boulder with deposited sediment and foreclosing visual or physical access to the potentially significant values it has to offer.

As concluded in Section 3.5(b), the loss of access to the potentially significant values of the bedrock milling feature, in the absence of measures to preserve the cultural values of this feature, is considered a significant impact. Additionally, through discussions with Native American tribal representatives, as described above, this feature is considered to be a tribal cultural resource under Public Resources Code 21080.3.1 based on consultation with the Nisenan tribal spokesperson. The Project would infringe upon this feature by inundation and slow burial through sediment accumulation in the enhanced Pit Lake. The loss of access to the potentially significant values of the bedrock milling feature, in the absence of measures to preserve the tribal cultural values of this feature, is considered a significant impact to tribal cultural resources.

Mitigation Measure CULT-MM-4, described above in Section 3.5, would develop and implement treatment measures for the bedrock milling feature through coordination with Native American tribal representatives. Treatment measures include development and implementation of an evaluation and data recovery plan to mitigate the loss of potentially significant Criterion D values, and collaboration with interested tribal parties on an interpretive plan that may involve relocating the feature outside of the enhanced Pit Lake perimeter. For instance, a possibly suitable treatment plan could be to relocate the bedrock milling feature adjacent to the recreation trail approximately 85 feet to the south of the feature's present location and to install a panel that interprets the feature and its realized data potential to the public. DPR considers Mitigation Measure CULT-MM-4 feasible and with the measure's inclusion of Native American tribal representatives in the development of a treatment plan, DPR considers the measure sufficient to mitigate substantial adverse effects to this potential tribal cultural resource. Therefore, implementation of Mitigation Measure CULT-MM-4 would reduce the impact to less than significant.

Tribal Cultural Resources Mitigation Measure(s)

Implement Mitigation Measure CULT-MM-4.

3.19 Utilities and Service Systems

Utilities and Service Systems Environmental Setting

The Project is located in a rural area of Nevada County, within MDSHP. The Project would install sediment control BMP components within the Pit and would not require any long-term utility provisions. Utilities within MDSHP include electricity, water, and wastewater (septic) systems providing service within certain areas of the MDSHP; however, there are no electrical, water, wastewater, or other utility services readily available in and near the Pit where Project construction would occur.

Utilities and Service Systems Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 if solid waste reduction goals? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Utilities and Service Systems Impact Discussion

- a) *Would the Project require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? Less than Significant Impact.***

The Project would not require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Project construction provisions would require the construction contractor to provide telephone service, electricity through the use of portable generators, chemical toilets and service for treatment at an approved offsite facility, drinking water, and other water as necessary for construction. The contractor would provide such service through temporary facilities and equipment that would be contained within construction staging areas. These services would not have the potential to cause environmental effects beyond those evaluated for the Project as presented in this Initial Study and concluded to not have the potential to result in a significant effect on the environment.

- b) *Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? No Impact.***

Project drinking water and water for dust control and fire protection would be the responsibility of the construction contractor and would be obtained through a water source approved by DPR. Project water demand for dust control is estimated to be up to approximately 10,000 gallons per day during the approximately 3-month construction period, and available from existing sources within MDSHP or other nearby locations.

- c) *Would the Project 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? No Impact.***

Construction specifications require that the contractor provide adequate chemical toilet facilities with regular service as needed to maintain sanitary conditions. Chemical toilet service would periodically remove, transport, and dispose of wastewater in an approved offsite treatment facility or system. No permanent wastewater service would be required, and the Project would not have the potential exceed a wastewater serviced provider's capacity.

- d) *Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment if solid waste reduction goals? No Impact.***

Construction specifications require that the contractor prepare and submit a construction waste management plan and construction waste estimate for approval that, among other requirements, identifies the permitted landfill or other disposal facility that will accept the Project disposed waste materials. This requirement ensures that the facility receiving Project construction waste would have sufficient capacity. Following construction, the Project would not generate an ongoing source of waste requiring landfill disposal.

- e) *Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? No Impact.***

Construction specifications require that the contractor prepare and submit a construction waste management plan and construction waste estimate for approval that, among other requirements, indicates the means by which the contractor would recover a minimum of 75 percent of the construction waste and debris for reuse and recycling. Through contract construction specifications, the Project would comply with applicable federal, state, and local management and reduction statutes.

Utilities and Service Systems Mitigation Measure(s)

None required.

3.20 Wildfire

Wildfire Checklist

| Would the Project: | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---|-------------------------------------|-------------------------------------|
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 a wildfire? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Require the 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Wildfire Impact Discussion

a) *Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan? No Impact.*

The Project would not preclude or constrain emergency access and would not induce the need for increased emergency response. Thus, the Project would not affect any adopted emergency response plan or emergency evacuation plan.

b) *Would the Project, 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 a wildfire? Less than Significant Impact.*

Project construction activities involving vehicles and equipment with combustion engines within and adjacent to areas of vegetation would create the potential for fire ignition during construction. Standard Project Requirement HAZ-2 includes measures for wildfire avoidance and response that would minimize the risk of fire ignition and provide for response measures document in a Fire Safety Plan that

would be developed by a DPR-approved forester, prior to the start of construction and followed throughout the project. Heavy equipment would be equipped with spark control and vehicles and equipment would be staged in areas separated from flammable material and vegetation. These measures are considered sufficient to ensure the Project's potential risk associated with wildland fires would be less than significant.

c) *Would the Project require the 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? Less than Significant Impact.*

Project construction activities involving vehicles and equipment with combustion engines within and adjacent to areas of vegetation would create the potential for fire ignition during construction. Standard Project Requirement HAZ-2 includes measures for wildfire avoidance and response that would minimize the risk of fire ignition and provide for response measures document in a Fire Safety Plan that would be developed by a DPR-approved forester, prior to the start of construction and followed throughout the project. Heavy equipment would be equipped with spark control and vehicles and equipment would be staged in areas separated from flammable material and vegetation. These measures are considered sufficient to ensure the Project's potential risk associated with wildland fires would be less than significant.

Further, although most of the areas disturbed by construction of BMP components would be revegetated, the BMP components, including the grade control structure, interceptor swale and berm, enhanced Pit Lake, and portions of the in-Pit construction access road that would remain following construction could have a secondary benefit of providing fire breaks in the event of a wildfire within the Pit.

d) *Would the Project 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? No Impact.*

As discussed above, the Project would include control measures to minimize the potential for wildfire ignition. In the event of a wildfire in the Project area, the Project would not expose people or structures to significant risks associated with downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes as the Project would not alter drainage patterns outside of the Pit. Once constructed, the Project BMPs would serve to control erosion and sedimentation from the Pit walls. The Project BMPs would attenuate stormwater and sediment discharge from the Pit, including stormwater flows from potential future wildfire areas upgradient of the Pit.

Wildfire Mitigation Measure(s)

None required.

CHAPTER 4 MANDATORY FINDINGS OF SIGNIFICANCE

| | Potentially Significant Impact | Less Than Significant With 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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? Less than Significant with Mitigation.

The Project as designed and with implementation of standard and specific project requirements identified above in Table 2-6 and mitigation measures identified in this IS/MND would not 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)? Less than Significant with Mitigation.**

As discussed in the evaluation of specific resource topic areas in this Initial Study, Project impacts would either be avoided or reduced to less than significant through Project design and with implementation of standard and specific project requirements listed above in Table 2-6 and mitigation measures identified in this IS/MND. Project effects are primarily associated with Project construction activities and would be temporary and of short-duration occurring during an approximately 3-month construction season. Longer-term effects of the Project are associated with the presence of the Project BMP components within the Pit and periodic access and activities associated with limited BMP maintenance. The analysis in this Initial Study considers existing conditions and uses of MDSHP and the Project’s potential to adversely affect those conditions.

As discussed in Chapter 2, “Project Description,” the Project is designed to comply with RWQCB Order R5-2017-0086 and reduce sediment discharge from the Pit during an interim period while DPR considers long-term sediment control and remediation measures. Long-term sediment control and remediation measures have not been determined and the environmental effects of their implementation have not and cannot be assessed at this time. Once defined, DPR will evaluate the environmental effects of potential long-term sediment control and remediation measures and will consider, among other factors, conditions at MDSHP including the cumulative effects of such measures in conjunction with the Project BMPs.

No past, present, or reasonably foreseeable future projects within or near MDSHP have been identified with which the Project would create a potential to incrementally contribute adverse effects that would be cumulatively considerable.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Less than Significant with Mitigation.**

The analysis in this IS/MND determines that, with incorporation of the standard and specific project requirements listed above in Table 2-6 and with implementation of mitigation measures identified in this IS/MND, the Project would not result in significant environmental effects that would cause substantial adverse effects on humans, either directly or indirectly.

CHAPTER 5 MITIGATION MEASURES

Biological Resources Mitigation Measures

Mitigation Measure BIO-MM-1: Monitoring and Avoidance for CDFW Fully Protected Species

If a CDFW fully protected species (e.g., ringtail, golden eagle, bald eagle) is observed denning or nesting within or adjacent to construction activities, a DPR Environmental Scientist or a DPR-approved biologist shall monitor the area during the first day of Project activities adjacent to the exclusion zone, and additional subsequent monitoring during the construction period will also be performed if deemed necessary. If the biologist observes potential disturbance behavior, the exclusion zone shall be increased based on the biologist's recommendation as necessary to avoid disturbance behavior. The Project shall avoid take of CDFW fully protected species.

Mitigation Measure BIO-MM-2: Ringtail Surveys and Avoidance

No more than 21 days before the start of ground disturbance activities, a DPR Environmental Scientist or a DPR-approved biologist shall conduct pre-construction surveys in suitable ringtail habitat within 50 feet of the disturbance area to determine if potential ringtail dens are present. If potential dens are determined to be present and the den cannot be avoided, the Environmental Scientist or biologist shall monitor them for activity with camera or track trapping, or a similar method to determine whether the den is active. If the den is determined to be occupied, ground disturbance and construction activity shall be avoided (size and configuration of an exclusionary buffer would be determined by a DPR Environmental Scientist or a DPR-approved biologist depending on the status, location, and proposed Project activities occurring in the vicinity) until the den is determined to no longer be active.

Mitigation Measure BIO-MM-3: Bat Roost Assessment and Avoidance

- a. Removal of active bat roosts shall be avoided.
- b. At least 30 days prior to the initiation of construction activities, a bat roost assessment shall be conducted by a DPR Environmental Scientist or a DPR-approved biologist to determine if potential roost habitat is present. If rocky outcroppings or vegetation within the project boundary and surrounding 100 feet has no potential to support roosting bats (e.g., no large basal cavities, exfoliating bark, interstitial spaces, or suitable foliage), project work may be initiated with no further measures required to protect roosting bats.
- c. If potential bat roost habitat is present, and work is occurring between September 1 and April 31 (outside of the maternity season), the DPR Environmental Scientist or DPR-approved biologist shall conduct an emergence survey no more than 7 days prior to tree removal to determine if the roost is occupied. If the emergence survey confirms the roost is

inactive, the tree may be felled with no further measures required to protect roosting bats. If the roost is confirmed active, or is assumed to be active, the tree shall be given a 100-foot buffer within which construction activities shall be avoided until the roost is determined to be inactive.

- d. If potential bat roosting habitat is present and work is occurring during the maternity season, the DPR Environmental Scientist or DPR-approved biologist may either conduct an emergence survey to determine if the roost is occupied; or assume the roost is occupied and a buffer shall be implemented. If the emergence survey does not detect bats, the tree may be removed with no further measures required to protect roosting bats. If roosting bats are detected, or the tree is assumed to be an active roost, the tree shall be given a 100-foot buffer within which construction activities shall be avoided until the roost is determined no longer active or the maternity season is complete.

Mitigation Measure BIO-MM-4: Bald and Golden Eagle Surveys and Avoidance

Initiation of construction activities during the eagle nesting season (January 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, then a DPR Environmental Scientist or a DPR-approved biologist shall conduct at least two pre-construction eagle surveys spaced at least 30 days apart, with the last survey occurring within 30 days prior to initiation of ground disturbance or vegetation removal or other construction activities. Surveys shall encompass potentially suitable habitat within 1 mile of construction activities. If preconstruction surveys determine that eagles are nesting in the area, a 0.25-mile exclusion zone where no construction would be allowed shall be established around the active nest. The exclusion zone can be reduced as determined by a DPR Environmental Scientist or DPR-approved biologist based on the location of the nest, ambient noise, and site topography, with a minimum exclusion zone of 500 feet. The buffer shall remain in place until the environmental scientist/biologist determines the nest is no longer active.

Mitigation Measure BIO-MM-5: Special-Status and Nesting Bird Surveys and Avoidance

Initiation of construction activities during the avian nesting season (February 1 through August 31) shall be avoided to the extent feasible. If construction initiation during the nesting season cannot be avoided, then a DPR Environmental Scientist or a DPR-approved biologist shall conduct preconstruction nesting bird surveys within 7 days prior to initial ground disturbance or vegetation removal to avoid disturbance to active nests, eggs, and/or young of nesting birds. Surveys shall be used to detect the nests of special-status as well as non-special-status birds. When construction activities are planned within willow habitat, surveys shall include protocol-level surveys for Little Willow Flycatcher. Surveys shall encompass the entire construction area and the surrounding 500 feet. If an active nest is located, an exclusion zone where no construction would be allowed shall be established

around any active nests of any protected avian species. A DPR Environmental Scientist or a DPR-approved biologist shall determine an appropriate exclusion zone based on the species, location, and placement of the nest. A minimum exclusion zone of 50 feet from non-raptor species and 300 feet from raptors shall be employed to assure protection of any nesting birds on or near the Project BRSA. The exclusion zone shall remain until a DPR Environmental Scientist or DPR-approved biologist has determined that all young have fledged and are independent of the nest. These surveys would remain valid as long as construction activity continues in a given area and shall be conducted again if there is a lapse in construction activities of more than 7 consecutive days during the breeding bird season.

Mitigation Measure BIO-MM-6: Northwestern Pond Turtle and Foothill Yellow-legged Frog Surveys and Avoidance

To minimize potential injury or mortality of Northwestern Pond Turtle and Foothill Yellow-legged Frog:

- Ground disturbing activities in aquatic habitat shall occur during the summer dry season where flows are low or streams are dry. Work shall be restricted to the period of June 1 through October 31. If work is not completed by October 31, and significant precipitation is not forecast within 48 hours, work may extend beyond with approval from CDFW. Initial ground-disturbing activities shall be avoided between November 1 and March 31, the period when aquatic species are most likely to be moving through upland areas.
- Herps exclusion fencing shall be installed where deemed necessary by DPR Environmental Scientist or DPR-approved biologist and through consultation with regulatory agencies around the project area during access road development and excavation. The fencing will be monitored and repaired or replaced as necessary during construction.
- Within 48 hours prior to any construction activities, a DPR Environmental Scientist or a DPR-approved biologist shall conduct surveys for special-status species within and adjacent to the disturbance area.

Cultural Resources Mitigation Measures

Mitigation Measure CULT-MM-1: Site-Specific Cultural Resources Monitoring and Avoidance

Ground disturbance and other construction activities on the southern ends of the Project grade control structure and interceptor swale, soldier pile wall, west side of the access road, areas of soil stabilizer application, and all staging areas and access road development will be monitored by a cultural resources specialist to ensure avoidance of inadvertent adverse effects to cultural resources. Monitoring shall be emphasized in those areas described as particularly sensitive and as recommended in "Analysis of Effects on Cultural Resources of Proposed Sediment

Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-2: Cultural Resources Interpretive Project Plan

DPR shall develop and implement an interpretive project plan to preserve cultural elements that would be directly or indirectly affected by the Project. The plan shall be sufficient to compensate for the adverse change to the Malakoff Hydraulic Mine Complex site and the Malakoff Diggins-North Bloomfield Historic District resulting from the Project. The interpretive project plan shall be developed based on recommendations in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-3: Telephone Pole Interpretive Project Plan

DPR shall develop and implement an interpretive project plan to preserve and convey information about the telephone pole located in the existing Pit Lake associated with the Ridge Telephone Company’s Long-Distance Telephone Line (CA-NEV-581H). The interpretative project plan shall be sufficient to compensate for the adverse change to the telephone pole resulting from the Project as recommended in “Analysis of Effects on Cultural Resources of Proposed Sediment Control Best Management Practices, Malakoff Diggins-North Bloomfield Historic District” (Selverston, 2022).

Mitigation Measure CULT-MM-4: Bedrock Milling Feature Evaluation and Treatment Plan

Through consultation with local Native American tribal representatives, DPR shall evaluate and develop and implement appropriate protection or other treatment measures for the Native American bedrock milling feature located within the enhanced Pit Lake inundation area. DPR shall complete consultation with Native American tribal representatives and determine appropriate treatment of the feature prior to Project construction, possibly including, but not limited to, relocation.

CHAPTER 6 ACRONYMS

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| amsl | above mean sea level |
| ATV | all-terrain vehicles |
| BMPs | Best Management Practices |
| BRSA | biological resources study area |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| CFGF | California Fish and Game Commission |
| Cu | copper |
| CVRWQCB | Central Valley Regional Water Quality Control Board |
| DPR | California Department of Parks and Recreation |
| EFH | Essential Fish Habitat |
| EIR | Environmental Impact Report |
| FMMP | California Department of Conservation Farmland Mapping and Monitoring Program |
| FYLF | foothill yellow-legged frog |
| Hg | Mercury |
| IS | Initial Study |
| MDSHP | Malakoff Diggins State Historic Park |
| MND | Mitigated Negative Declaration |
| NAHC | Native American Heritage Commission |
| NCEAP | Nevada County Energy Action Plan |
| Ni | nickel |
| NMFS | National Marine Fisheries Service |
| NRHP | National Register of Historic Places |
| OHP | State of California Department of Parks and Recreation, Office of Historic Preservation |
| OS | Open Space |
| PAM | polyacrylamide |
| PRC | Public Resource Code |
| RWQCB | Regional Water Quality Control Board |
| SHP | State Historic Park |
| SPRP | Spill Prevention and Response Plan |
| SRA | State Responsibility Area |
| TSO | Time Schedule Order |
| TSS | Total Suspended Solids |
| USACE | U.S. Army Corps of Engineers |
| USFWS | U.S. Fish and Wildlife Service |
| WDR | Waste Discharge Requirements |

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