Final

Initial Study/Mitigated Negative Declaration

Big Bear Municipal Water District Special Use Boat Launch & Deepening Project

April 2025

Prepared for:

Big Bear Municipal Water District
PO Box 2863
Big Bear Lake, CA 92315

Big Bear Municipal Water District
Lake Management

Prepared by:

GEI Consultants

Consulting Engineers and Scientists

Final

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Special Use Boat Launch & Deepening Project

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PO Box 2863
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Contact:

Jared Cheek
General Manager

Brittany Lamson
Assistant General Manager

(909) 866-5796

Prepared by:

GEI Consultants
99 South Lake Avenue, Suite 300
Pasadena, CA 91101

Contact:

Katelyn Matroni
Senior Project Manager
(760) 795-1960

April 2025

Project No. 2200394

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FINAL MITIGATED NEGATIVE DECLARATION

Project:	**Big Bear Municipal Water District Special Use Boat Launch & Deepening Project**
Lead Agency:	**Big Bear Municipal Water District**

Introduction to the Final Initial Study/Mitigated Negative Declaration

The Draft Initial Study/Mitigated Negative Declaration (IS/MND) was recirculated for a 30-day public review period from February 20, 2025 to March 22, 2025. The Big Bear Municipal Water District (District) received one comment letter on the Draft IS/MND from the California Department of Fish and Wildlife on March 21, 2025. In response to those comments, the District made changes to the text of the IS/MND (refer to Page 2-14 of this Final IS/MND). These text changes do not affect the analysis of environmental impacts of the Big Bear Municipal Water District Special Use Boat Launch & Deepening Project (proposed project or project). All environmental findings and/or significance determinations of the IS/MND would remain the same. Revisions to the IS/MND are shown with strikethrough text for deletions and underlined text for additions.

Project Location

The District is proposing the project within Big Bear Marina (Marina), located just north of the District's Headquarters at 40524 Lakeview Drive, Big Bear Lake, CA. The City of Big Bear Lake borders the south shore of the Lake. The unincorporated community of Big Bear City is located east of the Lake, and the unincorporated community of Fawnskin is located along the north shore. The remaining portions of the Lake are bordered by the San Bernardino National Forest and managed by the United States (U.S.) Forest Service. State Highways 18 and 38 provide regional access to the Lake.

Project Description

The District is proposing the project to remove approximately 14,000 cubic yards of sediment from approximately 2.6 acres of the Lake-bottom to dredge the West Navigation Channel that would provide access for District boats and other recreational boaters. The dredging would also support implementation of a proposed special use boat launch facility for the District and first responder operations and support the overall project objective of improving access to the Lake. Equipment and spoils from dredging and additional sediment removed to construct the special use boat launch facility would be stored on a vacant parcel adjacent to the District Headquarters. The project area would be closed to the public during construction activities; however, use of the existing boat launch facility immediately north of the District Headquarters and the Marina boat dock/slips would be available for use. Construction would begin in late summer or early fall and is expected to take approximately 20 weeks.

Findings

An IS was prepared to assess the proposed project's potential effects on the environment and the significance of those effects. Based on the IS, it has been determined that the proposed project would not result in significant adverse effects on the physical environment after implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project would have no impacts on agriculture and forestry, public service, and population and housing.

2. The proposed project would have less-than-significant impacts on aesthetics, air quality, energy, greenhouse gas emissions, land use and planning, mineral resources, noise, recreation, transportation, and utilities and service systems.

3. The proposed project would have potentially significant impacts on biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, tribal cultural resources, and wildfire.

4. The proposed project 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 an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

5. The proposed project would not have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

6. The proposed project would not have possible environmental effects that are individually limited but cumulatively considerable and contribute to a significant cumulative impact. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

7. The environmental effects of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly.

Following are the proposed mitigation measures that would be implemented by the District to avoid or minimize environmental impacts. Implementation of these mitigation measures would reduce the environmental impacts of the proposed project to less-than-significant levels.

Mitigation Measure BIO-1: Minimize and Compensate for Loss of Riparian Vegetation.

The District and its construction contractor(s) will implement the following measures to reduce impacts on riparian vegetation and compensate for unavoidable loss:

- A fenced, protective buffer will be erected and maintained during project activities to prevent accidental damage and removal of riparian vegetation adjacent to the project footprint.

- Unavoidable impacts on riparian vegetation will be compensated at a minimum 1:1 replacement ratio based on the acreage removed to ensure no net permanent loss.

- Compensatory mitigation may be fulfilled through purchase of agency-approved mitigation bank credits, payment of in-lieu fees, and/or implementation of permittee-responsible mitigation. If permittee-responsible mitigation is proposed, a mitigation plan will be prepared to identify mitigation location, mitigation actions (e.g., habitat preservation, enhancement, restoration, and/or creation), monitoring protocol, annual performance standards and final success criteria for replacement vegetation, and corrective measures to be applied if performance standards are not met. The plan also will specify long-term management responsible parties and requirements to ensure long-term habitat viability and protection.

Mitigation Measure BIO-2: Compensate for Permanent Fill of Waters of the United States and Waters of the State.

The District and its construction contractor(s) will implement the following measures to compensate for permanent fill of waters of the U.S. and waters of the State:

- Permanent fill of waters of the U.S. and waters of the State will be compensated to ensure no net permanent loss of habitat functions and values.

- Compensatory mitigation may be fulfilled through purchase of agency-approved mitigation bank credits, payment of in-lieu fees, and/or implementation of permittee-responsible mitigation. If permittee-responsible mitigation is proposed, a mitigation plan will be prepared to identify mitigation location, mitigation actions (e.g., habitat preservation, enhancement, restoration, and/or creation), monitoring protocol, annual performance standards and final success criteria for replacement vegetation, and corrective measures to be applied if performance standards are not met. The plan also will specify long-term management responsible parties and requirements to ensure long-term habitat viability and protection.

Mitigation Measure CR-1: Address Previously Undiscovered Historic Resources, Archaeological Resources, and Tribal Cultural Resources.

If cultural resources are identified during project-related ground-disturbing activities, all ground disturbing work (within 60 feet) of the find should cease immediately and the

District should be notified; all work outside of this area may continue. In the event of an inadvertent discovery, the District will retain a qualified archaeologist to assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for a treatment. The Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) should be contacted regarding any precontact finds and be provided with information after the archaeologist makes their initial assessment of the nature of the find, so as to provide Tribal input with regards to the significance and treatment of the find. Any treatment plan should be reviewed by the District prior to implementation. Avoidance or preservation-in-place are the preferred treatment options under CEQA, but if this is not feasible, then YSMN should be provided the opportunity to review, provide input, and comment on any Monitoring and Treatment Plan that may be developed. The archaeologist will be retained until any agreed upon monitoring and treatment is completed. Ground-disturbing activities should not resume near the find until the treatment, if any is recommended, is complete or the qualified archaeologist determines the find is not significant. Any documentation generated as a result of any finds will be provided to YSMN.

Direct tribal monitoring of dredging activities and the need for the development of a Monitoring and Treatment Plan are not anticipated; however, the District shall provide YSMN representatives with the opportunity to periodically spot check the dredged material piles within the established staging areas for the presence of tribal cultural resources. If cultural material is identified during dredge pile inspection, then the Monitoring and Treatment Plan will include provisions for more regular-scheduled inspection of dredged material piles or monitoring by YSMN, collection of identified cultural material, and final disposition of collected cultural material.

Mitigation Measure CR-2: Implement Worker Environmental Awareness Program (WEAP) Training.

Cultural resources awareness training, as part of an overall Workers Environmental Awareness Program, should be conducted for all construction personnel by a cultural resources specialist who meets the SOI's Professional Qualifications Standards (36 CFR Part 61; 48 Federal Register 44716). The training should be conducted before any stages of physical project implementation and construction. YSMN should be given the opportunity to comment on the WEAP and participate in the presentation of the WEAP.

The WEAP training should include information on the potential kinds of pre-contact Native American and historic-era cultural materials that could be encountered, how to identify buried faunal and human remains, and how to identify anthropogenic soils (e.g., midden soils). The WEAP training should also include a summary of the relevant laws concerning cultural resources and human remains, along with a summary of the following protocols to follow if workers encounter cultural resources or human remains.

Mitigation Measure CR-3: Avoid Potential Effects on Undiscovered Burials.

If human remains are found, the District shall be immediately notified. All work within 100 feet of any discovered human remains will cease. The California Health and Safety

Code requires that excavation be halted in the immediate area and that the San Bernardino County coroner be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the coroner must contact the NAHC by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan, if required, Implement Erosion Control Best Management Practices, and Comply with San Bernadino County Standards for Grading and Erosion Control.

Project related activities would be subject to SWRCB's Statewide Stormwater General Permit for Construction (2009-0009-DWQ) (General Construction Permit) The General Construction Permit will be obtained by the District before beginning ground-disturbing activities. If the project must be implemented in the wet condition, the District may be subject to Santa Ana RWQCB General Waste Discharge Requirements and NPDES Permit for Limited Threat Discharges to Surface Waters (Order R8-2015-0004/NPDES Permit No. CAG998001), which apply to various categories of construction activities including dewatering.

The District shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that identifies BMPs for erosion control and to prevent or minimize the introduction of contaminants into surface waters. These BMPs for in-channel construction may include, but are not limited to, silt fencing, straw bale barriers, fiber rolls, hydraulic mulch, silt curtains, cofferdams, the use of environmental dredges, and erosion control on all exposed earthen banks. The SWPPP will include development of site-specific structural and operational BMPs to prevent and control impacts on runoff quality, measures to be implemented before each storm event, inspection, and maintenance of BMPs, and monitoring of runoff quality by visual and/or analytical means. The SWPPP will also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. The BMPs shall be clearly identified and maintained in good working condition throughout the construction process. Turbidity shall be monitored up- and downstream of construction sites as a measure of impact. The construction contractor shall retain a copy of the approved SWPPP on the construction site and modify it as necessary to suit specific site conditions.

If required, the District would obtain and comply with all provisions of a San Bernardino County Grading Permit, which includes submittal of design plans to the County Building and Safety Department for verification of compliance with the California Building Code, San Bernardino County Development Code, and/or any required laws and regulations.

Mitigation Measure HAZ-1: Implement Best Management Practices to Minimize the Potential Release of Hazardous Materials.

Project-related vehicles and equipment will be maintained prior to site access and checked and maintained daily to prevent leaks of materials that, if introduced to the water, could be deleterious. Equipment fueling will occur outside the channel whenever possible. If a stationary piece of equipment cannot be readily moved out of the channel for fueling, a containment system will be used to capture any accidental spill. Onsite fueling trucks and fueling areas will contain spill kits and/or other spill protection devices. Vehicle and equipment fluid spills will be cleaned up immediately. Equipment and material staging/storage will occur outside the channel. No project-related hazardous substances will be allowed to contaminate the soil and/or enter into or be placed where it may be washed by rainfall or runoff into Big Bear Lake.

Mitigation Measure HAZ-2: Prepare and Implement BMPs for Wildland Fire Prevention.

As part of the SWPPP for the Construction General Permit, or otherwise, the District shall develop and implement BMPs for wildland fire prevention. As part of these BMPs, the District shall ensure that the construction contractor will clear dried vegetation or other materials that could serve as fuel for combustion from construction or building areas. To the extent feasible, the contractor shall keep these areas clear of combustible materials to maintain a firebreak. Construction contractors shall ensure that construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles and heavy equipment. Additionally, the District will provide construction workers with education regarding wildfire risk and fire prevention measures during tailgate safety meetings.

Mitigation Measure HAZ-3: Prepare and Implement Fire Safety Plan.

The District shall prepare and implement a Fire Safety Plan during project construction. The plan will describe the fire prevention process for construction activities, weather conditions during which fire risk is elevated and all equipment operation shall cease and other measures taken to reduce fire risk, equipment used to prevent fire and respond to a fire immediately, and responsibilities of the work crews when conducting construction activities.

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Abbreviations and Acronyms

Abbreviation	Description
AQMP	Air Quality Management Plan
BMP	best management practices
BVES	Bear Valley Electric Service
Caltrans	California Department of Transportation
CARB	California Air Resource Boards
CAAQS	California Ambient Air Quality Standards
CALFIRE	California Department of Foresty and Fire Protection
Cal/OSHA	California Division of Occupational Safety and Health
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	Californi Environmental Quality Act
CGS	California Geologic Survey
CRHR	California Register of Historical Resources
CDFW	California Department of Fish and Wildlife
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2E	carbon dioxide equivalent
County	San Bernardino County
CWA	Califonria Water Act
CY	cubic yards
dBA	A-weighted decibel
District	Big Bear Municipal Water District
DTSC	Department of Toxic Substance Control
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
GGERP	Greenhouse Gas Emissions Reduction Plan
GHG	greenhouse gas
HCP	Habitat Conservation Plan
HCWC	Habitat Connectivity and Wildlife Corridor
IS/MND	Initial Study/Proposed Mitigated Negative Declaration

IWMD	Integrated Waste Management Division
KWh	kilowatts per hour
SARWQCB	Santa Ana Regional Water Quality Control Board
Leq	equivalent continuous sound level in decibels
Lmax	maximum instantaneous sound level
MLD	most likely descendant
MRP	Mineral Resource Protection
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Comission
NMFS	National Marine Fisheries Services
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OHP	Office of Historic Preservation
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PRC	Public Resources Code
Project	Big Bear Marina Dredging and Boat Launch Facility Project
ROG	reactive organic gases
SCAB	South Coast Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coast Information Center
SO_2	sulfur dioxide
SR 18	State Route 18
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TMDL	Total Maximum Daily Load
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VMT	Vehicle miles traveled

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1.0 Introduction

The Big Bear Lake Municipal Water District (District) has prepared this Initial Study/proposed Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) to address the potentially significant environmental impacts of the Big Bear Municipal Water District Special Use Boat Launch & Deepening Project (proposed project or project) in San Bernardino County, California (County). The District is the Lead Agency under CEQA.

The District has completed the following documents, as required by CEQA:

- a notice of intent to adopt an MND for the proposed project
- a proposed MND
- an IS

After the required public review of this document is complete, the District's Board of Directors will consider all IS/MND comments received, and the entirety of the administrative record for the project, in whether to adopt the proposed MND, a Mitigation Monitoring and Reporting Program, and approve the proposed project.

1.1 Purpose of the Initial Study

This document is an IS prepared in accordance with CEQA (California Public Resources Code [PRC], Section California Code of Regulations [CCR] 21000 et seq.) and the state CEQA Guidelines (Title 14, Section 15000 et seq. of the CCR). The purpose of this IS is to (1) determine whether proposed project implementation would result in potentially significant or significant impacts on the physical environment; and (2) incorporate mitigation measures into the proposed project design, as necessary, to eliminate the proposed project's potentially significant or significant project impacts or reduce them to a less-than-significant level. A MND is prepared if the IS identified one or more potentially significant impacts, and: (1) revisions in the proposed project mitigate the potentially significant impacts to less-than-significant levels; and (2) there is no substantial evidence, in light of the whole record before the lead agency, that the proposed project, as revised, may have a potentially significant or significant impact on the physical environment.

An IS presents environmental analysis and substantial evidence in support of its conclusions regarding the significance of environmental impacts. Substantial evidence may include expert opinion based on facts, technical studies, or reasonable assumptions based on facts. An IS is neither intended nor required to include the level of detail provided in an Environmental Impact Report (EIR).

CEQA requires that all State and local government agencies consider the potentially significant and significant environmental impacts of projects they propose to carry out or over which they have discretionary authority, before implementing or approving those projects. The public agency

that has the principal responsibility for carrying out or approving a proposed project is the lead agency for CEQA compliance (State CEQA Guidelines, CCR Section 15367). The District is a public agency and has principal responsibility for carrying out the proposed project and is therefore the CEQA lead agency for this IS/MND.

If there is substantial evidence (such as the findings of an IS) that a proposed project, either individually or cumulatively, may have a significant or potentially significant impact on the physical environment, the lead agency must prepare an EIR (state CEQA Guidelines, CCR Section 15064[a]). If the IS concludes based on substantial evidence that impacts would be less-than-significant, or that mitigation measures committed to by the project proponent (the District) would reduce impacts to a less-than-significant level, a Negative Declaration or MND may be prepared.

The District has prepared this IS to evaluate the potential environmental impacts of the proposed project and has incorporated mitigation measures to eliminate or reduce any potentially significant project-related impacts. Therefore, an MND has been prepared for this project.

1.2 Summary of Findings

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the proposed project. Based on the issues evaluated in that chapter, it was determined that:

The proposed project would result in no impacts on the following issue areas:

- Agriculture and Forestry
- Population and Housing
- Public Services

The proposed project would result in less-than-significant impacts on the following issue areas:

- Aesthetics
- Air Quality
- Energy
- Greenhouse Gas
- Land Use and Planning
- Mineral Resources
- Noise
- Recreation
- Transportation
- Utilities and Service Systems

The proposed project would result in less-than-significant impacts after mitigation implementation on the following issue areas:

- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials

- Hydrology and Water Quality
- Tribal Cultural Resources
- Wildfire

The proposed project would result in beneficial impacts to the following issue area:

- Recreation

1.3 Document Organization

This document is divided into five sections:

Chapter 1, Introduction. This chapter describes the purpose of the IS/MND, summarizes findings, and describes the organization of this IS/MND.

Chapter 2, Project Description. This chapter describes the project location and background, project need and objectives, project characteristics, construction activities, project operations, and discretionary actions and approvals that may be required.

Chapter 3, Environmental Checklist. This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether project implementation would result in a beneficial impact, no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, potentially significant impact, or significant impact on the physical environment for each resource topic identified in CEQA Guidelines Appendix G. Should any impacts be determined to be potentially significant or significant, an EIR would be required. For the proposed project, however, mitigation measures have been incorporated as needed to reduce all potentially significant and significant impacts to a less-than-significant level.

Chapter 4, References. This chapter lists the references used to prepare this IS/MND.

Chapter 5, Report Preparers. This chapter identifies report preparers who contributed to the preparation of this document.

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2.0 Project Description

This chapter describes the project background, location and setting, project objectives, project elements and characteristics, construction implementation, operation and maintenance, and discretionary actions and approvals that may be required.

2.1 Big Bear Lake and Project Background

Big Bear Lake (or Lake) is approximately 7 miles long and an average of 1.5 miles wide and was created by the construction of the Bear Valley Dam (or Dam) in 1884. The original use of the Lake water was for irrigation water delivered downstream for agricultural uses, now, if released, it is delivered to Bear Valley Mutual Water Company to be delivered to their users. The spillway crest is at elevation 6,743.25 feet above mean sea level (MSL). When full, Big Bear Lake covers a surface area of 2,971 acres, holds 73,320 acre-feet of water, and has an average depth of 32 feet and a maximum depth of 72.23 feet at the Dam.

Big Bear Lake water is supplied from snowmelt, direct runoff, and several small intermittent streams and creeks. The most prominent tributaries to the Lake are Grout Creek to the northwest, Van Dusen Canyon to the northeast, Sawmill Canyon to the southeast, Rathbun Creek to the southeast, Knickerbocker Creek, and Metcalf Creek to the south, and North Creek to the southwest. The Lake discharges to Bear Creek, a tributary to the Santa Ana River. Big Bear Lake is one of the head waters of the Santa Ana River Watershed.

The District was formed in 1964 for the purpose of transferring control of the irrigation interests represented by the Bear Valley Mutual Water Company. Based on a 1977 judgment among the parties, the District purchased from the Bear Valley Mutual Water Company the Lake bottom, Bear Valley Dam, and the rights to utilize and manage the surface of the Lake for the purposes of recreation and wildlife. Today, the Lake serves outdoor recreation activities, including fishing, boating, and water skiing as well as serving as functioning habitat for various wildlife.

The District is responsible for Big Bear Lake's maintenance including conducting dredging of the shoreline and stream confluences to control sedimentation. Over time, silt builds up in creek outlets and other areas of the Lake with the greatest sediment loading into the Lake is generated from Rathburn, Grout, Boulder, Knickerbocker, and Metcalf Creeks. The combined annual sediment load entering the Lake from these streams is on average 13,000 tons (URS 2006). Sedimentation limits access and navigation through the Marina area and may create unsafe conditions. The proposed project would facilitate safe use of the Marina by the public and District, and maintain environmental resources supported by the Lake. Specifically, implementation of the proposed boat launch facility would improve access by the District for maintenance and emergency response activities. Furthermore, the proposed project would improve water quality, navigation, and recreational use of the area.

2.2 Project Location and Surrounding Land Uses

Big Bear Lake is situated in the southwestern portion of San Bernardino County, approximately 40 miles northeast of the City of San Bernardino. The Lake is identified on the U.S. Geological Survey - Fawnskin and Big Bear Lake Quadrangles 7.5 Minute Topographic Map Sections11, 12, 13, 14, 23 & 24 of T2N, R1W; and Sections 16, 17, 18, 19 & 20 of T2N, R1E.

The project site is located within and adjacent to the Big Bear Lake Marina (Marina) located just north of the District's Headquarters at 40524 Lakeview Drive, Big Bear Lake, CA. 92315 (**Figure 2-1**). The project site consists of the proposed dredge area (approximately 2.6 acres) within Big Bear Lake; the staging and stockpile area (approximately 0.8 acre) within a paved, vacant parcel; and the special use boat launch facility area (approximately 1.1 acre) (**Figure 2-2**).

A variety of land uses are found near the project site including residential, commercial, and recreational uses. To the north of the project site, lies open water and boat docks in the Marina. To the east and opposite the jetty, lies the existing Marina boat ramp and parking lot. To the south, lies the District Headquarters and paved lot used for storage fronting Lakeview Drive. To the west of the project site lies residential uses along the shoreline (refer to Figure 2-2 and **Figure 2-3**).

The spoils from dredging activity and sediment removal required for implementation of the proposed special use boat launch facility would be stored on the vacant parcel adjacent to the District Headquarters. Uses near the staging and stockpile site are primarily commercial and institutional uses. To the north of the staging and stockpile site is the area where the proposed dredging and boat launch facility are located. To the east lies the District Headquarters building. Vacation rental properties are located to the west and south of the staging and stockpile site, opposite Lakeview Drive (refer to Figure 2-2 and **Figure 2-4**).

2.3 Project Objectives

The proposed project is needed to improve access to the Lake. Specific project objectives consist of the following:

- Improve water quality through the dredging of sediment.
- Maintain the West Navigation Channel to permit all regulated watercraft unrestricted access to the Lake through dredging the Lake bottom and clearing obstacles or debris that restricts the ability of vessels to maneuver safely.
- Provide safe, healthy, and sustainable environment for the public to engage in private and commercial outdoor recreational activities.
- Improve maintenance, emergency, and operational duties on the Lake by the District through construction of a new, restricted-use boat launch facility.
- Maintain access and use of the Lake in a safe manner.

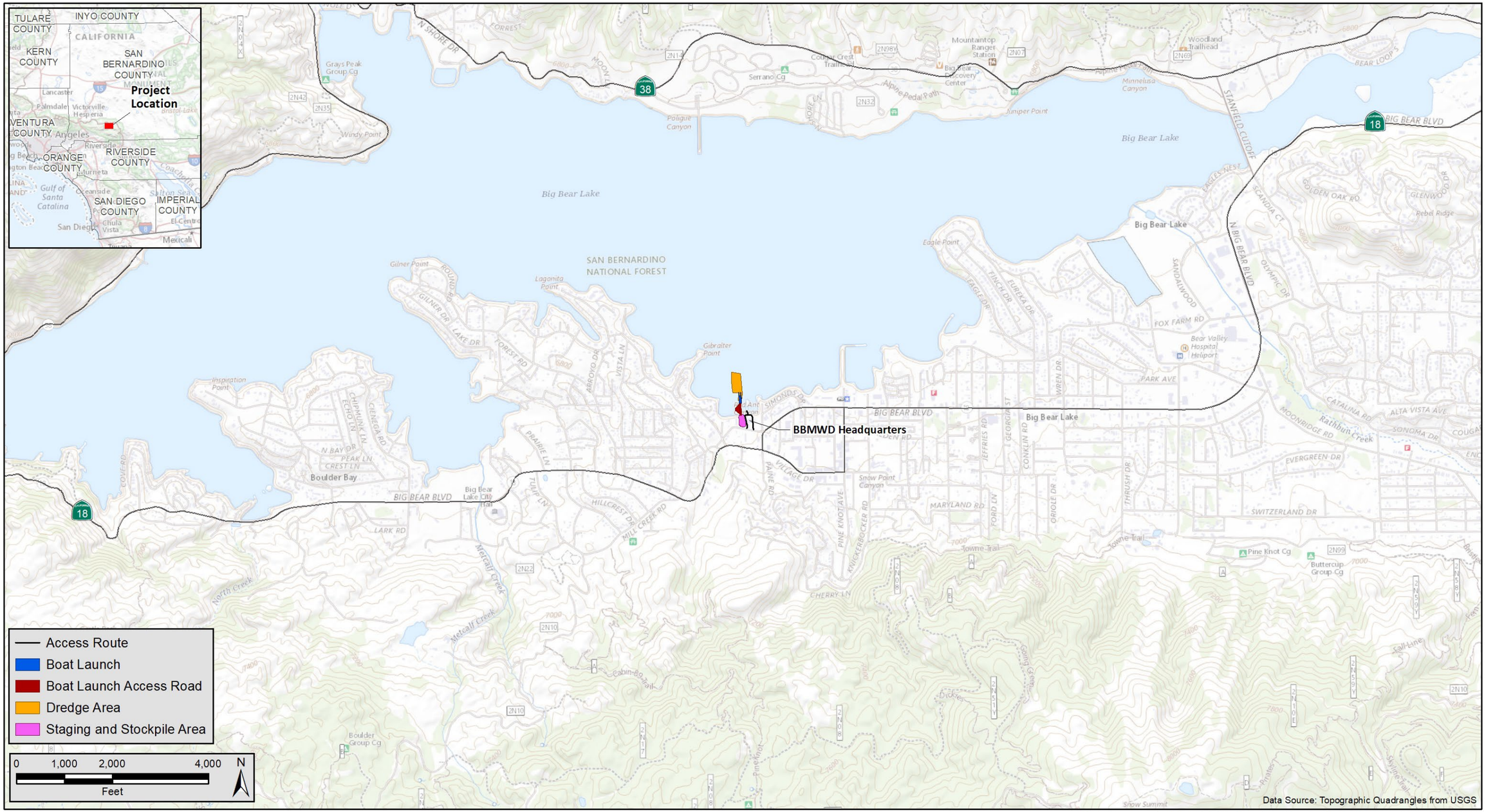

Figure 2-1. Project Location

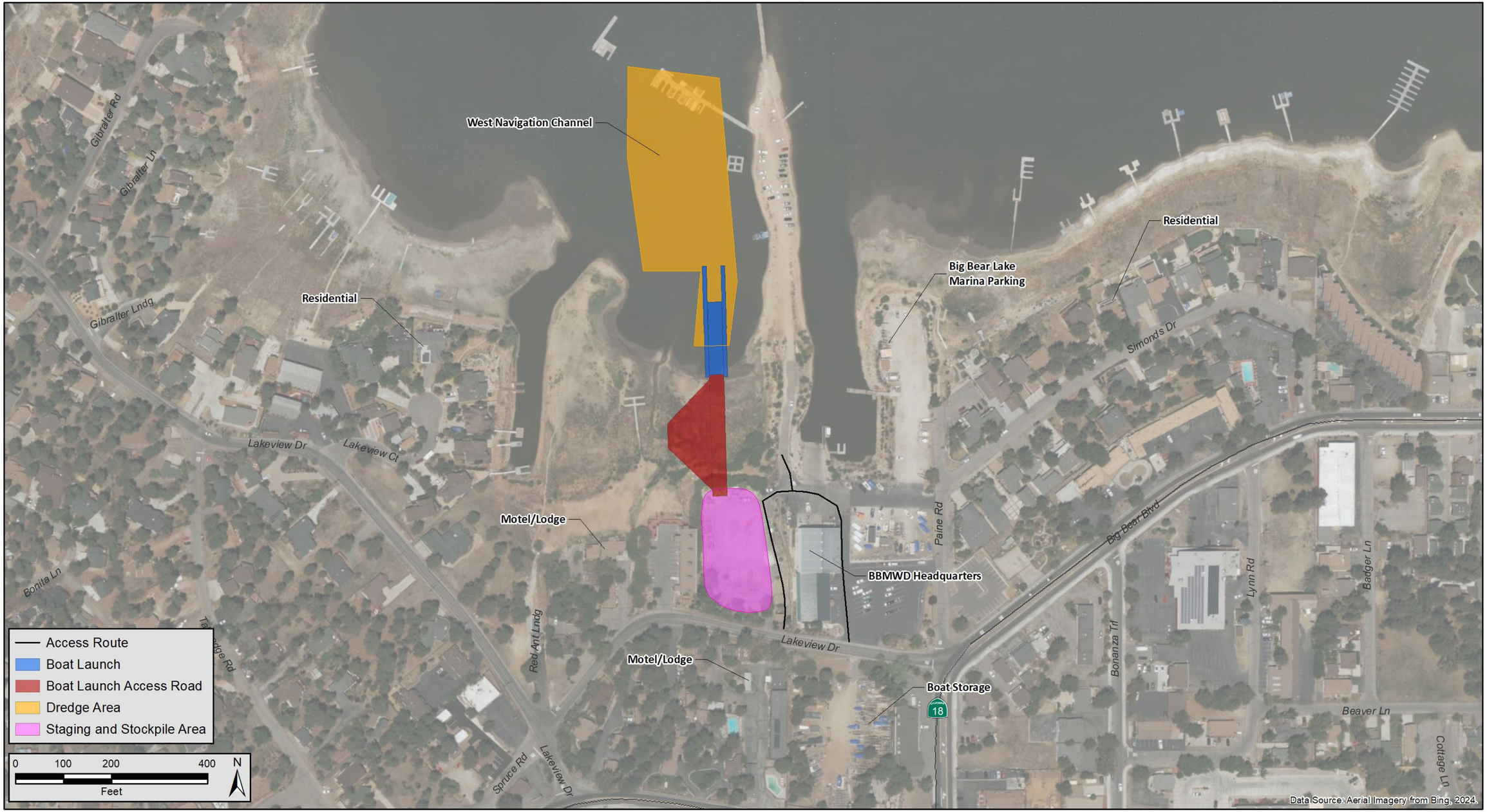

Figure 2-2. Project Site and Components

Figure 2-3. Looking South Toward Area of Proposed Dredging and Boat Launch (and the Shoreline)

Figure 2-4. Looking North from Lakeview Drive into the District Staging and Stockpile Site

2.4 Project Activities

2.4.1 Marina Dredging

The proposed project would remove approximately 14,000 cubic yards (CY) of sediment from 2.6 acres of the Lake bottom to allow District Staff and other recreational boaters access to the Marina through a newly dredged West Navigation Channel, as shown on Figure 2-2. The dredging would also support implementation of the proposed special use boat launch facility and support the overall project objective of improving access to the Lake.

To facilitate dredging and implementation of the boat launch facility, the District would install two temporary access ramps (each approximately 40 feet wide), which would allow equipment and personnel to pass into and out of the dry Lake bottom (Figure 2-2).

Sediment would be removed from the Lake bottom via mechanical dredging using excavators and dozers. To the extent possible, work would be conducted in dry conditions when the water level is between elevations 6,728 ft MSL and 6,725 ft MSL, which is 15 to 18 feet below the spillway elevation of 6,743.25 feet above MSL. Existing Lake bottom elevations in the dredging area are estimated to range from 6,729 ft MSL to 6,726 ft MSL. The target dredge depth within the dredge area for the proposed project is 6,725 ft MSL.

If dredging is required when the water level is higher than planned, a cofferdam would be installed, and water would be pumped out from behind the cofferdam to expose the Lake bottom. Pumped water would be allowed to drain back into the Lake through a rock check structure to reduce solids reentering the Lake. Dredging would be completed mechanically from the dry Lake bottom using excavators and dozers. Material would be loaded near the point of excavation and hauled to the staging and stockpile area (Figure 2-2). A floating silt curtain or similar silt barrier would be installed in the water outside the footprint of the dredge area (Figure 2-2) to contain suspended solids and silt generated during excavation to prevent this material from migrating into the greater Lake area. A water truck would be made available for minimizing dust during the excavation and hauling operations. All activities associated with water diversion would be governed in accordance with required permits.

Upon completion of dredging and the construction of the lower portion of the special use boat launch facility, the cofferdam would be removed in a phased manner. Removal would begin by hauling away equipment, material, and debris from the work site. The rock check structure would be dismantled, and the cofferdam removed gradually allowing Lake water to cover the work site. If necessary, a silt barrier, silt bag, or equivalent best management practice (BMP) would control the flow of water to gradually cover the work site.

The project area would be closed to the public during construction activities; however, use of the existing boat launch facility and the Marina boat dock/slips immediately north of the District Headquarters, and east of the project site would be available for use.

Soil and Sediment Stockpiling

Material removed from the Lake bottom that is not used as fill for the proposed special use boat launch facility would be stockpiled at the District storage yard adjacent to the District Headquarters on Lakeview Drive (Figure 2-2). The stockpiled material is anticipated to consist of gravels, gravelly sands, fine sands, silty to clayey sands, and inorganic and organic silts and clays, which are predominately found along the Lake shoreline. The District would implement BMPs for storage of spoils to avoid release of sediment laden runoff into surface water and to sterilize the soil for removal of invasive weeds. The project site would contain a water truck equipped with a spray system to control/prevent dust from being transported offsite, as needed.

2.4.2 New Special Use Boat Launch Facility

Once dredging is complete, a new special use boat launch facility would be constructed within the Marina area, which would extend into the West Navigation Channel (proposed dredging area). The proposed special use boat launch facility would be owned and operated by the District to allow for more efficient and safe access to the Lake in the event of emergency or during regular maintenance. The proposed special use oat launch facility could also be accessed by first responders in the event of an emergency. The proposed special use boat launch facility would be 30 feet wide (two 15-feet wide lanes totaling 6,000 square feet in area) and have a maximum slope of 15 percent. Additionally, the proposed special use boat launch facility would contain a turnaround area that would accommodate two-way vehicular traffic (19,452 square feet in area), and boat boarding floats. The boat launching lanes would be made of concrete slabs with v-grooves to assist with vehicle, trailer and boat grip when entering the Lake. The sides slopes of the boat launch would be lined with geotextile fabric and contain 3 to 5 feet or riprap around the perimeter for scour protection. The toe of the proposed boat launching lanes would also contain riprap for scour protection (**Figure 2-5** through **Figure 2-8**). The 8-foot-wide boarding floats would be installed on the outside of the boat launch slopes.

Implementation of the special use boat launch facility would require dredging and/or excavation of sediment and rock in the immediate area of the facility. See Section 2.4.1, "Marina Dredging," for a description of dredging activities and where material removed would be stockpiled. All dredging activities within the special use boat launch facility area would be completed during the preliminary dredging phase of construction and the dredging would support fill required for the boat launch facility.

Approximately 14,000 CY of material would be dredged from the special use boat launch area (which is in addition to soil dredged for the Marina area), and 7,480 CY of the dredged material would be use as fill to construct the special use boat launch facility. The remaining 6,296 CY of dredge material would be hauled to the staging and stockpile area. Approximately 53 percent of the material that would be dredged from the West Navigation Channel would be used as fill for the special use boat launch facility. Approximately 617 CY of concrete and 481 CY of rip rap would be imported. Additionally, implementation of the proposed boarding floats would require the importation of 465 linear feet (LF) of materials.

An excavator and dozer would be used to initially grade the focal area and a compactor would be used to compact subgrade and rock aggregate. Rock aggregate delivery dump trucks would be used to deliver material to form the base for the special use boat launch facility and would be hauled from an offsite source. The special use boat launch facility would be constructed with reinforced concrete. The project site would contain a water truck equipped with a spray system to control/prevent dust from being transported offsite.

The project area would be closed to the public during construction activities; however, use of the existing boat launch and the Marina boat dock/slips immediately north of the District Headquarters and east of the project site would be available for use.

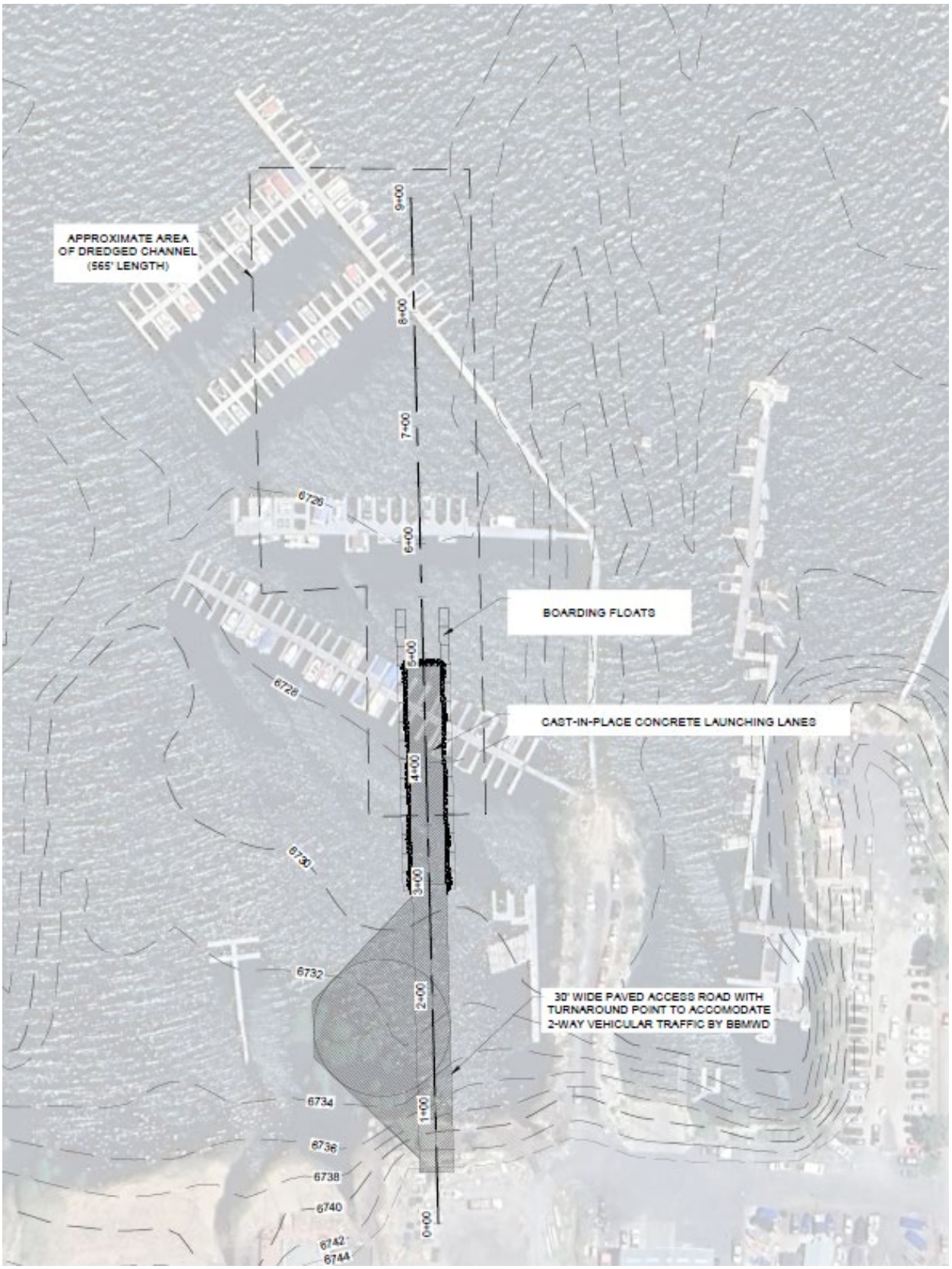

Figure 2-5. Overview of Dredging Area and Boat Launch Facility

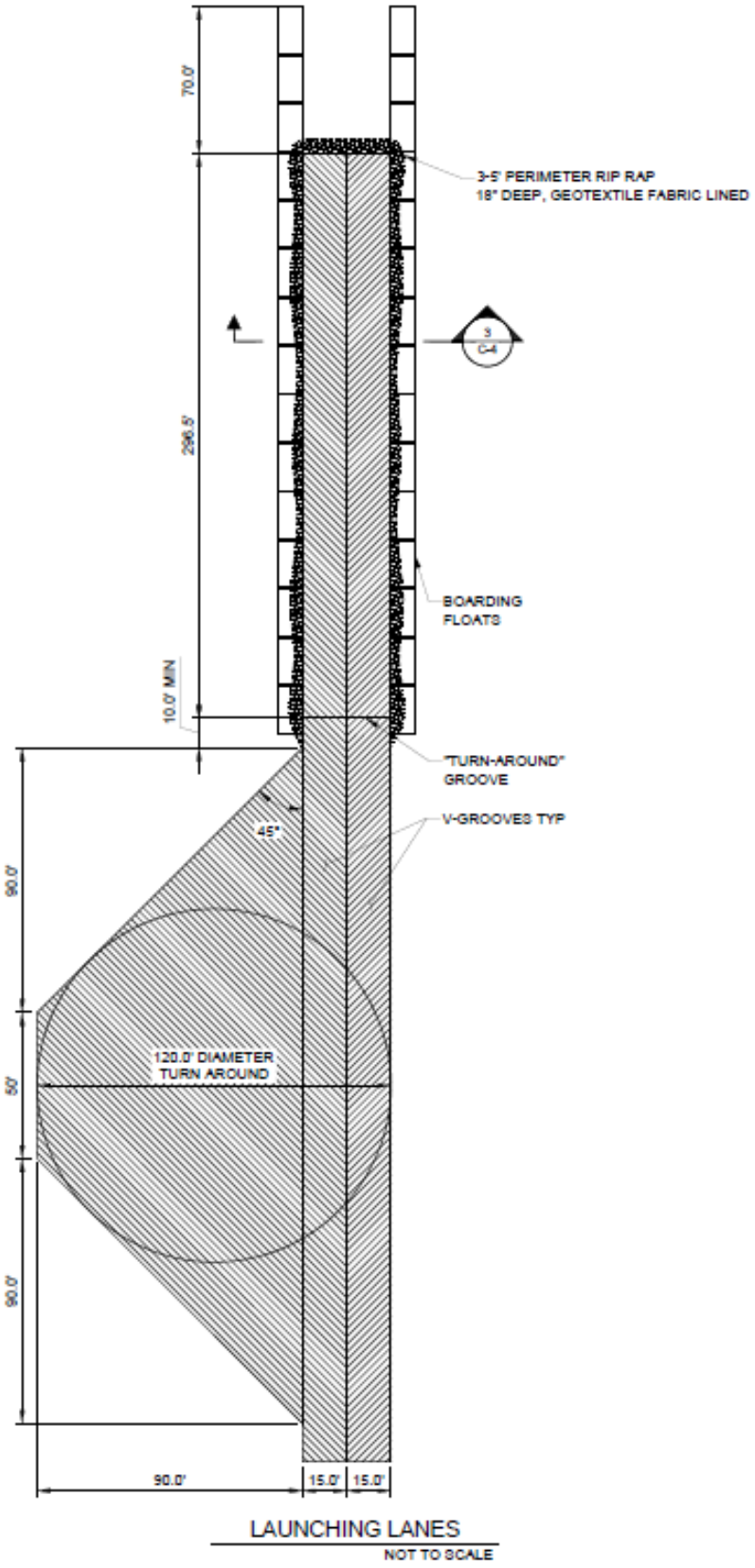

Figure 2-6. Boat Launch Facility Site Plan

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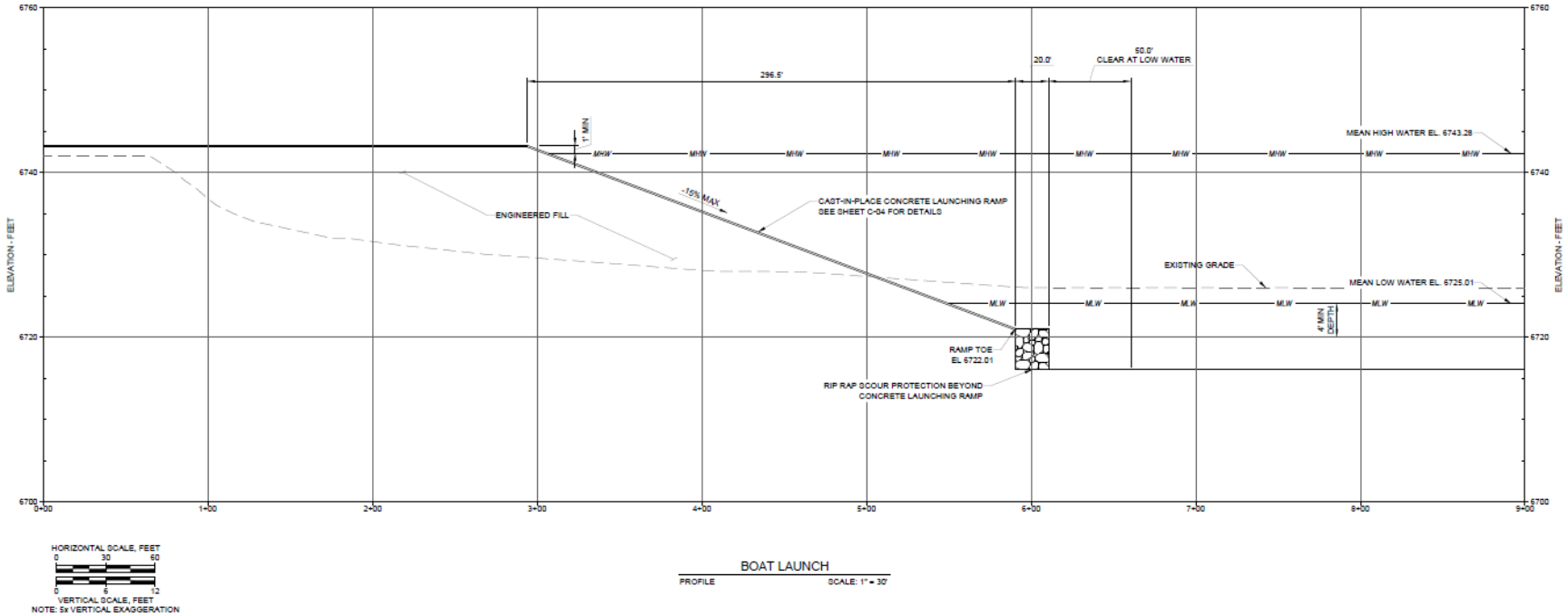

Figure 2-7. Boat Launch Facility Profile

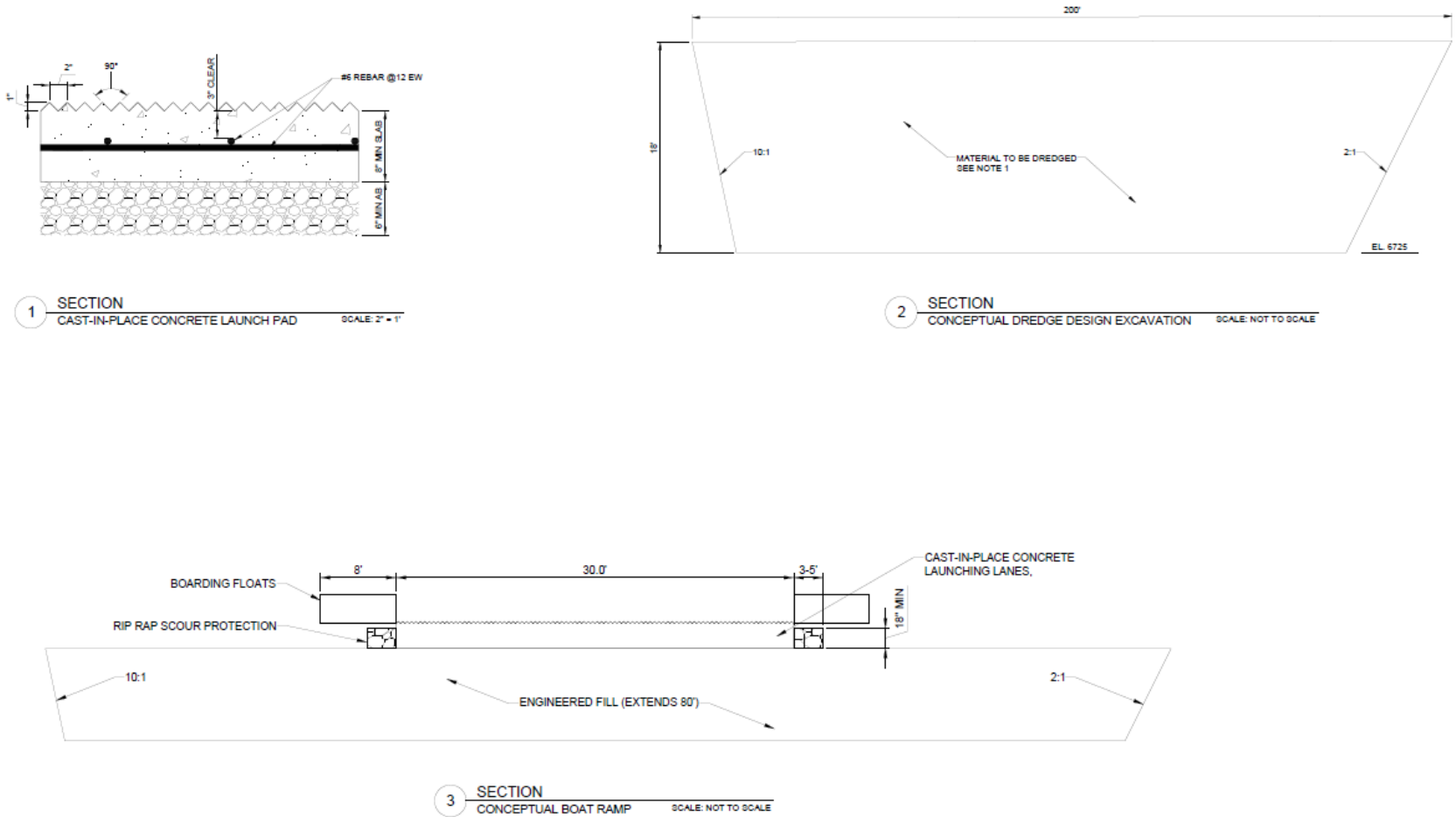

Figure 2-8. Boat Launch Facility Details

2.5 Project Construction and Surveys

2.5.1 Construction Schedule, Phasing, and Characteristics

Construction would begin in late summer or early fall and is expected to take approximately 20 weeks. Project construction activities would occur between 7:00 a.m. to 4:30 p.m., Monday through Friday, except on Federal holidays. Nighttime construction would not be required. The dredging would be done prior to construction of the special use boat launch facility. Material generated from dredging would be used as engineering fill and placed as needed at the same time dredging is ongoing. The cofferdam would be removed after the lower portion of the boat launch facility is completed. **Table 2-1** summarizes the proposed construction activities, their estimated durations, equipment mix, maximum number of workers required, and import and export quantities.

Table 2-1. Construction Activity Overview

Proposed Construction Activity	Anticipated Types of Equipment and Number of Pieces	Anticipated Use Duration	No. of Workers	Import Quantity (CY/LF[1])	Export Quantity
Mobilization and Staging	Pickup Trucks (2) Low-bed Truck (1) Support Vehicles (2) Dozer (1) Water Truck (1)	10 days	5	-	-
Dredging and Stockpiling	Excavator (3) Dozer (1) ADT Cat 740 (2) Water Truck (1) Pumps and Hoses Small Boat (1) Support Vehicle (3)	40 days	10	-	6,296 CY
Material Fill	Excavator (1) Dozer (1) Compactor (1) Support Vehicle (3) Water Truck (1)	20 days	8	-	-
Boat Launch Facility Construction	Concrete Pump Truck (1) Dozer (1) Compactor (1) Support Vehicle (3) Water Truck (1)	40 days	10	Concrete: 617 CY Riprap: 481 CY Miscellaneous: 465 LF	-
Demobilization and Cleanup	Pickup Trucks (2) Water Truck (1) Low-bed Truck (1) Dozer (1) Support Vehicles (2)	10 days	5	-	-

1. Notes: CY= cubic yards; LF=linear feet

2.5.2 Pre-construction Biological Resources Surveys

During the blooming season immediately before project construction begins, a qualified botanist would conduct a focused survey for special-status plants determined to have potential to occur on the project site based on current site conditions. The survey would be conducted at a time when the relevant species have the greatest potential to occur. If any special-status plants are found during the survey, opportunities to avoid and minimize impacts on these plants would be evaluated and implemented to the extent feasible. Special-status plants that cannot be avoided would be evaluated for salvage and replanting, if feasible, in an adjacent suitable area that would not be disturbed by project activities or at suitable alternative location.

If project construction would begin during the bird nesting season (February 1-August 31), a survey for active raptor~~bird~~ nests in and within 500 ~~100~~ feet of the ~~access, boat launch, and dredge area portions of the~~ project site and active nests of other protected birds in and within 300 feet of the project site would be conducted by a qualified biologist. If the qualified biologist determines that active nests could be present outside the nesting season defined above in the year(s) in which project construction occurs, nesting bird surveys would be conducted at times deemed appropriate by the biologist. The survey would be conducted no more than 3~~1~~4 days before the start of ~~project construction~~ vegetation removal or ground-disturbing activities for all phases of project construction. If any active nests are found, the biologist would identify measures to avoid and minimize impacts on nesting birds, potentially including nest-specific no-disturbance buffers, biological monitoring, rescheduling project activities around sensitive periods for the species (e.g., nest establishment), or implementing construction best practices, such as staging equipment and materials out of the line of sight from the nest. The identified measures would be implemented until the qualified biologist determines the nests are no longer active. The qualified biologist would have the authority to stop work if nesting birds exhibit signs of disturbance that could indicate project activities could result in nest failure or reduced productivity.

2.5.3 Construction Noise - Best Management Practices

The District and its construction contractor(s) would implement BMPs during construction activities, including project site access and staging to reduce construction noise within and around the project area, to the furthest extent feasible. Such BMPs include but would not be limited to the following:

- Limit construction work to the daytime hours between 7:00 am and 4:30 pm;
- House stationary equipment such as generators in sound-attenuating structures or enclosures if the equipment would be operated within a clear line-of-site of species; and
- Provide clear signage to be posted at the project site (including the stockpiling and staging area) throughout the duration of all construction activities, reminding equipment operators and construction personnel of the onsite best practices that should be followed to reduce noise such as:
    - Limiting drop heights (truck loading/unloading, material movement) to the heights necessary to achieve the task; and

- All inactive equipment shall not idle for more than five minutes.

2.6 Project Operation and Maintenance

Inspections and maintenance activities for the proposed project would be similar to current activities conducted for the West Navigation Channel and existing boat docks/slips in the project area. Annual maintenance activities would include pressure washing of the special use boat launch facility to remove organic material build-up from inundation (if needed). Long-term maintenance activities for the proposed project would be limited to troubleshooting and repair of site- and issue-specific items within the project area. Project implementation would not require new vehicle trips as the special use boat launch facility would be maintained and used by the District only, with existing staff being located adjacent to the project site.

2.7 Regulatory Requirements, Permits, and Approvals

The following permits and approvals are anticipated for the proposed project.

- **United States Army Corps of Engineers Clean Water Act Section 404 Permit**. Big Bear Lake is considered Waters of the U.S. A Section 404 permit is required for discharge of dredge or fill material into the Lake and along the Lakeshore.
- **Endangered Species Act Section 7 Consultation**. Consultation with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) is required for possible effects on Federally-listed species pursuant to Section 7 of the Federal Endangered Species Act (ESA).
- **National Historic Preservation Act Section 106 Consultation**. Consultation with the State Historic Preservation Officer and other consulting agencies, including the Advisory Council on Historic Preservation to develop an agreement that addresses the treatment of historic properties.
- **Santa Ana Regional Water Quality Control Board Clean Water Act Section 401 Water Quality Certification**. This certification is required for issuance of Federal permits including the California Water Act (CWA) Section 404 permit and discharge of dredge and fill material to waters of the state.
- **Santa Ana Regional Water Quality Control Board Clean Water Act Section 402**. The CWA regulates discharges through National Pollutant Discharge Elimination System (NPDES) and State waste discharge requirements. SWRCB and Santa Ana Regional Water Quality Control Board (SARWQCB) have adopted specific NPDES permits for a variety of activities that have the potential to discharge wastes (including sediment) to waters of the state. SWRCB's Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (2009-0009-DWQ/NPDES No. CAS000002) is applicable to all land-disturbing construction activities that would disturb 1 acre or more. Compliance with the NPDES permit requires submittal to the SARWQCB of notices of intent to discharge, and implementation of storm water pollution prevention plans that include best

management practices to minimize water quality degradation during construction activities.

- **California Department of Fish and Wildlife (CDFW), Lake and Streambed Alteration Agreement**. The District conducts long term, routine maintenance under Lake and Streambed Alteration Agreement No. 1600-2009-0104-R6. This permit authorizes the District to conduct nine types of maintenance activities within the lake and along the shoreline. Maintenance activity eight allows lake bottom dredging of up to 5 acres annually with a maximum limit of 10,000 cubic yards of material removed. The proposed project would excavate up to 14,000 yards over approximately 2.6 acres of Lake bottom, which exceeds the limitations placed on the signed permit. Consequently, the District may be required to seek an amendment or obtain a project-specific agreement.
- **Grading Permit – San Bernadino County Grading Ordinance**. A grading permit is required for any grading activity within San Bernardino County that exceeds one hundred CY (100 CY), when a building official finds it necessary to submit grading plans and obtain permits due to a threat to public health and safety, or if the activity were to occur in an environmentally sensitive area. Some uses are not subject to grading permit including cases where the grading is isolated, self-contained, and not a threat to the public welfare or in cases where other laws may apply such as aggregate mining, and soil stockpiling.

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3.0 Environmental Checklist

Project Information

#1. Project title:	Big Bear Municipal Water District Special Use Boat Launch & Deepening Project
#2. Lead agency name and address:	Big Bear Lake Municipal Water District PO Box 2863 Big Bear Lake, CA 92315
#3. Contact person and phone number:	Jared Cheek and Brittany Lamson: (909) 866-5796
#4. Project location:	At Big Bear Lake, behind the District's headquarters (40524 Lakeview Drive), San Bernardino County, California
#5. Project sponsor's name and address:	Same as lead agency
#6. General plan designation:	Bear Valley/Floodway (BV/FW) Floodway and Vacant Land Commercial
#7. Zoning:	BV/FW and Vacant Land Commercial
#8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or offsite features necessary for its implementation. Attach additional sheets if necessary.)	The project consists of dredging approximately 14,000 CY of material from Big Bear Lake within an approximately 2.6-acre area of Big Bear Lake, as well as construct and operate a special use boat launch facility.
#9. Surrounding land uses and setting: Briefly describe the project's surroundings:	The surrounding land uses consist of the Big Bear Lake, vacant land, commercial, and single family residential.
#10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)	RWQCB, CDFW, and USACE
#11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to PRC Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	The District has received interest from the Yuhaaviatam of San Manuel Nation (formerly known as the San Manuel Band of Mission Indians) to consult under AB 52 in correspondence dated July 18, 2022.

Note: Conducting consultation early in the California Environmental Quality Act (CEQA) process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. **Please also note** that PRC Section 21082.3l contains provisions specific to confidentiality.

Environmental Factors Potentially Affected

Table 3-1 identifies environmental resources where the proposed project would result in at least one potentially significant impact prior to mitigation, as indicated by the Initial Study checklist on the following pages. Significant impacts to all resources for the proposed project are reduced to a less-than-significant level with the incorporation of mitigation measures.

Table 3-1. Environmental Resources with Potentially Significant Impacts Prior to Mitigation.

Environmental Resources	Yes or No?
Aesthetics	No
Agriculture and Forestry Resources	No
Air Quality	No
Biological Resources	Yes
Cultural Resources	Yes
Energy	No
Geology/Soils	Yes
Greenhouse Gas Emissions	No
Hazards and Hazardous Materials	Yes
Hydrology/Water Quality	Yes
Land Use/Planning	No
Mineral Resources	No
Noise	No
Population/Housing	No
Public Services	No
Recreation	No
Transportation	No
Tribal Cultural Resources	Yes
Utilities/Service Systems	No
Wildfire	Yes
Mandatory Findings of Significance	Yes

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:	Yes or No?
I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	No
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	**Yes**
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	No
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.	No
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 Environmental Impact Report (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.	No

Signature

Date

Jared Cheek
Print Name

General Manager
Title

Big Bear Lake Municipal Water District
Agency

3.1 Aesthetics

#1. AESTHETICS. Except as provided in PRC Section 21099

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

3.1.1 Environmental Setting

The project area is moderately sloped toward Big Bear Lake and is visible from many waterside and landside locations along the Lake including homes along the Lakeshore and various points within the Marina. The project area is not part of a designated scenic vista or viewshed and does not contain trees, rock outcroppings or other features that are designated as scenic by the County.

Views of the staging and stockpile area are limited due to the presence of trees and shrubs along the parcel frontage of Lakeview Drive, and presence of structures including the District's Headquarters to the east, a motel to the west, the Marina to the north, and Lakeview Drive and a lodge to the south which block views of the property from most offsite locations. The staging and stockpile area is located approximately 0.1 mile north of State Route (SR) 18, which is eligible for listing as part of the State Scenic Highway System (Caltrans 2015 and 2019). SR 18 is also known as the Rim of the World Highway.

3.1.2 Discussion

#1 -a, b, and d. Have a substantial adverse effect on a scenic vista? Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Project activities would be visible from many locations on the Lake and along the shoreline including Lake-front homes immediately to the west, the Marina jetty, boat docks, Marina parking lot and boaters navigating the waterway. Dredging and installation of the access ramps would require the removal of a minimal amount of vegetation below and along the existing earth jetty. Views of equipment and crews moving earth to create access ramps, the cofferdam, sediment excavation, construction of the special use boat launch facility, and load spoils onto trucks for disposal at the staging and stockpile site would be visible during daytime hours over a period of 20 weeks. No trees, rock outcroppings or historic buildings would be permanently impacted by the project.

The staging and stockpile site would be spread-out over an approximately 0.8-acre area and stockpiles would not exceed the height of nearby buildings. Similarly, the stockpiles would not have the scale or massing to inhibit public views of the area, which is already largely obstructed by existing trees and structures. Both the District's existing buildings and the adjacent motel are over 20 feet in height. The stockpile would not impede views of Big Bear Lake from the motel and District Headquarters. Moreover, the lodge does not have a view of Big Bear Lake because it is impeded by a stand of trees.

Although SR 18 is located approximately 0.1 mile to the south, the staging and stockpile area would not be visible to motorists because of the presence of the existing lodge, which disrupts direct line of site from SR 18. During construction, equipment may create a new source of glare; however, the bulk of construction activities and use of equipment would primarily occur below-grade within the Lake bottom and would only be visible intermittently. Because work would only occur during the day, construction would not create a new source of light.

The proposed special use boat launch facility would be a permanent structure made of concrete and earthen/rock materials. Once constructed, the boat launch facility would not impede views of the Lake more so than current conditions. Furthermore, the boat launch facility would not contain lighting and would not result in glare due to the type of materials used. Therefore, this impact would be **less than significant**.

#1 -c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The proposed project would take place along the Lakeshore of the Marina on land designated as Bear Valley/Floodway (area of dredging and boat launch facility) and for commercial use (staging and stockpile site). A variety of uses are in the immediate project area including homes, commercial lodging, boat storage and the District's Headquarters. During construction activities, views of heavy equipment working along the Lakeshore may be visible from offsite locations; however, activities such as dredging of the Lake bottom is a common activity regularly conducted by the District to promote the safety of recreational boating and to address water quality of the Lake. Dredging would be limited to a period of 20 weeks and views of the Lake from most vantage points would not be degraded by the project. Because the staging and stockpile area is located south of the Marina and between two taller buildings, it would not degrade public views.

The special use boat launch facility would introduce a new structure within the viewshed of the area. However, the special use boat launch facility would include a concrete area at and below existing grade. This structure would include a continuation of paved area near the staging and stockpile area (an empty lot). Furthermore, the special use boat launch facility is a facility similar to the existing boat ramp at the Marina. The new facility would include the same use and operation as what is currently operated/seen and would not significantly alter or degrade the existing visual character and quality of the immediate area. Therefore, this impact would be considered **less than significant**.

3.2 Agriculture and Forestry Resources

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

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#2 -a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No	No	No	**Yes**	No
#2 -b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No	No	No	**Yes**	No
#2 -c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	No	No	No	**Yes**	No
#2 -d. Result in the loss of forest land or conversion of forest land to non-forest use?	No	No	No	**Yes**	No
#2 -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 forest land to non-forest use?	No	No	N	**Yes**	No

3.2.1 Environmental Setting

The project site is designated as Bear Valley/Floodway (area of dredging and boat launch facility) and for commercial use (staging and stockpile site) (County of San Bernardino 2020). Land uses in the project area include a mix of residential, recreational, lodging, open space, office, and boat storage. Areas of the project site outside of the Lake are not cultivated and soils on the site do not exhibit the physical and chemical properties meeting the definition of prime farmland (NRC 2021).

PRC Section 12220(g) defines "forestland" as land that can support 10 percent native tree cover and forest vegetation of any species, including hardwoods, under natural conditions and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Most of the project site lacks tree cover because it is within the Lake or outside of the Lake where staging and stockpiling would occur which consists of disturbed and developed lands. No portion of the project area meets the definition of forestland or timberland.

3.2.2 Discussion

#2 -a and b. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The project site does not contain agricultural land nor is any portion of the site under Williamson Act contract. The project would not convert any farmland to non-agriculture uses and would not conflict with a Williamson Act contract. There would be **no impact**.

#2 -c and d. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? Result in the loss of forest land or conversion of forest land to non-forest use?

No portion of the project site meets the definition of forestland or timberland; therefore, project implementation would not result in the conversion of such land. There would be **no impact**.

#2 -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 forest land to non-forest use?

The development pattern in Bear Valley is heavily influenced by the presence of Big Bear Lake, which is the focal point around which urban uses are concentrated. Less developed areas of the valley containing land designated as forestland are located further to the south in the San Bernadino National Forest. Project related activity involve dredging and development of a boat launch facility to improve recreational access/boating within the Lake. Therefore, the project would not develop structures or facilities resulting in conversion of forest or agricultural land. The project would have **no impact**.

3.3 Air Quality

#3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#3 -a. Conflict with or obstruct implementation of the applicable air quality plan?	No	No	**Yes**	No	No
#3 -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?	No	No	**Yes**	No	No
#3 -c. Expose sensitive receptors to substantial pollutant concentrations?	No	No	**Yes**	No	No
#3 -d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No	No.	**Yes**	No	No

3.3.1 Environmental Setting

Regulatory

The Federal Clean Air Act and California Clean Air Act required the United States Environmental Protection Agency (EPA) and California Air Resource Boards (CARB) to establish health-based air quality standards at the Federal and State levels. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) established by the EPA include the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. CAAQS and NAAQS are listed in **Table 3-2.**

Table 3-2. Federal and California Ambient Air Quality Standards and Attainment Status[1]

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Ozone (O3)	8-hour	0.070 ppm (137 micrograms per cubic meter)	0.070 ppm (137 micrograms per cubic meter)[2]
Ozone (O3)	1-hour	0.09 ppm (180 micrograms per cubic meter)	None[3]

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Respirable Particulate Matter (PM_{10})	24-hour	50 micrograms per cubic meter	150 micrograms per cubic meter
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 micrograms per cubic meter	None
Fine Particulate Matter (PM2.5)	24-hour	None	35 micrograms per cubic meter
Fine Particulate Matter (PM2.5)	Annual Average	12 micrograms per cubic meters	12 micrograms per cubic meter
Carbon Monoxide	8-hour	9 ppm. (10 milligrams per cubic meter)	9 ppm (10 milligrams per cubic meter)
Carbon Monoxide	1-hour	20 ppm. (23 milligrams per cubic meter).	35 ppm (40 micrograms per cubic meter)
Nitrogen Dioxide	Annual Average	0.03 ppm. (57 micrograms per cubic meters)	0.053 ppm (100 micrograms per cubic meters)
Nitrogen Dioxide	1-hour	0.18 ppm (339 micrograms per cubic meters)	0.100 ppm. (188 micrograms per cubic meters)
Lead	30-day Average	1.5 micrograms per cubic meters	None
Lead	Rolling 3-Month Average	None	0.15 micrograms per cubic meter
Lead	Quarterly Average	None	1.5 micrograms per cubic meter
Sulfur Dioxide	24-hour	0.04 parts per million (105 micrograms per cubic meter)	0.14 parts per million (for certain areas)
Sulfur Dioxide	3-hour	None	None
Sulfur Dioxide	1-hour	0.25 parts per million (655 micrograms per cubic meter)	0.075 parts per million (196 micrograms per cubic meter)
Sulfates	24-hour	25 micrograms per cubic meter	No Federal Standard
Hydrogen Sulfide	1-hour	0.03 parts per million (42 micrograms per cubic meter)	No Federal Standard
Vinyl Chloride	24-hour	0.01 parts per million (26 micrograms per cubic meter)	No Federal Standard

Notes: ppm = parts per million; PM = particulate matter
[1] Impacts to all resources are reduced to less-than-significant with the incorporation of mitigation measures.
[2] On October 1, 2015, the national 8-hour ozone (O_3) primary and secondary standards were lowered from 0.075 to 0.070 ppm.
[3] 1-Hour O3 standard revoked effective June 15, 2005, although some areas have continuing obligations under that standard.

Source: CARB 2016, EPA 2024a

Areas of the State are designated as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the Federal Clean Air Act and California Clean Air Act. An "attainment" designation for an area signifies that pollutant concentrations did not violate the NAAQS or CAAQS for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. A "maintenance" designation indicates that an area previously categorized as nonattainment is improving and reached attainment for the applicable pollutant; though the area must demonstrate continued attainment for a specific number of years before it can be re-designated as an attainment area. An

"unclassified" designation signifies that data does not support either an attainment or a nonattainment status.

Ambient Air Quality

The project site is in the South Coast Air Basin (SCAB) within San Bernadino County. The South Coast Air Quality Management District (SCAQMD) is responsible for obtaining and maintaining air quality conditions in the SCAB. Under the CAAQS, the SCAB is designated as nonattainment for 1–hour and 8-hour ozone, PM_{10}, and $PM_{2.5}$ (CARB 2022a through 2022c). Under NAAQS, the SCAB is designated as nonattainment for 8-hour ozone $PM_{2.5}$ and PM_{10} (EPA 2024b).

The SCAQMD has published thresholds of significance for criteria pollutant emissions during construction activities and project operation. The proposed project would not require new vehicle trips to the project area because the proposed special use boat launch facility would be private to the District, where staff are located adjacent to the site. Given that operation and maintenance activities associated with the proposed project would be similar to current conditions, operation-related emissions are not evaluated. Therefore, only SCAQMD construction-related emission thresholds are present in **Table 3-3**. A project would have a regional air quality impact if emissions from its construction and/or operational activities exceed the corresponding SCAQMD significance thresholds. The SCAQMD has also published guidance on determining the localized significance of construction activities (SCAQMD 2008). The SCAQMD has prepared lookup tables to indicate emission rates presumed to satisfy the ambient thresholds. However, the SCAQMD is currently in the process of developing an updated *Air Quality Analysis Guidance Handbook* and has stated that the lookup tables provided in the *1993 CEQA Air Quality Handbook* are obsolete. Therefore, these tables are not used as part of this analysis.

Table 3-3. SCAQMD Construction Mass Emission Thresholds

Pollutant	Construction Mass Daily Thresholds (Pounds/Day)
Nitrogen Oxides	100
Reactive Organic Gases	75
PM_{10}	150
$PM_{2.5}$	55
Sulfur Oxides	150
CO	550
Lead	3

Notes: particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), carbon monoxide (CO).

Source: SCAQMD 2023

3.3.2 Discussion

#3-a. Conflict with or obstruct implementation of the applicable air quality plan?

There are two key indicators of consistency with an Air Quality Management Plan (AQMP): (1) whether the project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and (2) whether the project would exceed the assumptions in the AQMP based on the year of project build out and phase.

Consistency with Growth Assumptions - Consistency with the South Coast AQMP is assessed through determining project compliance with the AQMP assumptions to consider whether the population density and land uses are consistent with the growth assumptions used in projections of attainment for the air basin. The existing and future pollutant emissions computed in the AQMP were based on land uses and densities obtained from adopted general plans. Therefore, a project that is consistent with the existing land use designations is included in these AQMP growth projections (SCAQMD 2022).

The project does not propose to construct occupied structures so no increase in population would occur from the project. Stockpiling soil is an allowed use under the commercial zoning and general plan land use designation. Since the project would be consistent with the commercial land use designation and would not increase population beyond current levels, the project can be found to fall within the growth rate and trip assumptions that form the basis for the growth forecasts of the AQMP. For these reasons, the project would be consistent with the AQMP.

Violation of Air Quality Standard - Project related work activities would generate short term emissions from construction equipment, haul trucks, vehicles used by workers commuting to the project site and fugitive dust generated by material transport and soil disturbance. Construction-related emissions were modeled using the California Emissions Estimator Model (CalEEMod) (see **Appendix A**, "Air Quality Modeling Output.") Emission rates were added to CalEEMod to accurately model emissions from use of a small boat during dredge activities (if required). **Table 3-4** provides estimates of unmitigated daily construction-related pollutant emissions, based on maximum anticipated material hauling, equipment usage, and numbers of workdays described in Section 2.5.1, "Construction Phase Characteristics," and are compared against the mass emissions thresholds of significance.

Table 3-4. Estimated Construction-related Criteria Pollutant Emissions

Category	Maximum Daily Emissions (lbs/day)					
	ROG	NOx	SOx	CO	PM_{10}	$PM_{2.5}$
Year 1 Emissions (2025)	2.76	24.1	0.08	35.2	8.06	4.42
SCAQMD Thresholds	75	100	150	550	150	55
Exceed Thresholds	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Year 2 Emissions (2026)	1.95	16.7	0.04	18.0	7.53	4.16
SCAQMD Thresholds	75	100	150	550	150	55
Exceed Thresholds	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Notes: lbs=pounds; ROG= reactive organic gases; NO_x=oxides of nitrogen; SO_x = sulfur oxides; CO = carbon monoxide; PM_{10}=particulate matter with aerodynamic diameter less than 10 micrometers; SCAQMD = South Coast Air Quality Management District

Source: CalEEMod Version 2022.1.1.22

As shown in Table 3-4, project construction would generate emissions of criteria air pollutants below levels SCAQMD construction significance thresholds. Therefore, project related impacts would not be considered to have a significant impact on regional air quality.

While CEQA does not require mitigation measures for impacts that are less than significant, the District is still required to comply with applicable SCAQMD rules and regulations because the SCAB is designated as non-attainment status for O_3 and suspended particulates (i.e., PM_{10}). Relevant rules that apply to the project's construction activities include Rules 4–2 - Nuisance, and 403 - Fugitive Dust, which require the contractor to implement Best Available Control Measures (BACM) for each fugitive dust source; and the AQMP, which identifies Best Available Control Technologies (BACT) for area sources and point sources, respectively.

Incorporation of these control measures during construction activity would reduce emissions of criteria pollutants from equipment exhaust by ensuring the use of low sulfur fuel, minimizing idle time for equipment, incorporating the latest technologies to reduce diesel particulates, and protecting stockpiled soil from wind driven erosion. Given the predicted emissions would fall below mass emission thresholds for construction activity and with the inclusion of control measures, the project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be **less than significant**.

3-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?

Although there would be emissions from vehicles and equipment during construction, the emissions would be temporary, of short duration, and below the established construction thresholds as shown previously in Table 3-4. The project would not generate long-term emissions of criteria pollutants that would exceed thresholds, and therefore, would not cause a cumulatively considerable increase in criteria pollutants. However, as discussed above, the District is still required to comply with applicable SCAQMD rules and regulations, including compliance with SCAQMD Rules 4–2 - Nuisance, and 403 - Fugitive Dust during construction of the proposed project. Project emissions of PM would be reduced by implementing BACMs. Implementation of SCAQMD BACMs would ensure impacts would be considered **less than significant**.

#3 -c. Expose sensitive receptors to substantial pollutant concentrations?

Certain members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during the evaluation of the project air quality impacts. These people include children, senior citizens, and persons with pre-existing respiratory or cardiovascular illnesses, and athletes and others who engage in frequent exercise, especially outdoors. SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours.

Diesel PM, which is classified as a carcinogenic toxic air contaminant by CARB, is the primary pollutant of concern regarding indirect health risks to sensitive receptors. Nearby land uses, especially residences and schools downwind of the project sites, could be exposed to diesel PM during construction activities, resulting in potential adverse health effects.

The assessment of health risks associated with exposure to diesel exhaust typically is associated with chronic exposure, in which a 30- or 70-year exposure period is often assumed. However, while cancer can result from exposure periods of less than 30 or 70 years, short-term exposure periods such as the proposed project (20 weeks) to diesel exhaust are not anticipated to result in increased health risk, as health risks associated with exposure to diesel exhaust are typically seen in exposure periods that are chronic (OEHHA 2015). Additionally, while construction activities may at times occur near air quality-sensitive receptors (i.e., 350 feet to 700 feet from sensitive receptors), most project construction activities would occur a substantial distance from any one specific sensitive receptor location. Project-related activities would not expose sensitive receptors to substantial concentrations of air emissions, and therefore, the project would have a **less-than-significant** impact on sensitive receptors.

#3 -d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Human response to odors is subjective, and sensitivity to odors varies greatly. Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiratory reactions, nausea, vomiting, headaches). The project would not create new objectionable odors. Sources that may emit odors during construction activities include exhaust from diesel construction equipment, which some individuals could consider offensive. However, odors from these sources would be localized, generally confined to the immediate area surrounding the project site, disperse rapidly, and be temporary. Haul trucks would also produce exhaust, but relatively few haul trips are necessary to import and export materials to and from the project site, and haul trucks would travel along major routes that are currently used by similar large transport vehicles. Because of the diffusive properties of diesel exhaust, the remote nature of the project area, and existing conditions along anticipated haul routes, this impact would be considered **less than significant**.

3.4 Biological Resources

#4. BIOLOGICAL RESOURCES.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#4 -a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?	No	No	**Yes**	No	No
#4 -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 United States Fish and Wildlife Service?	No	**Yes**	No	No	No
#4 -c. Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No	**Yes.**	No	No	No
#4 -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?	No	No	**Yes**	No	No
#4 -e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No	No	No	**Yes**	No
#4 -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?	No	No	No	**Yes**	No

3.1.1 Environmental Setting

Information in the environmental setting for biological resources was collected from a review of publicly available resource agency information, other data sources and publications addressing biological resources that occur in the project region, and observations of site conditions made during a biological field survey conducted by Senior Biologist Anne King on February 18, 2022.

Since then, on November 12, 2024, Senior Biologist Anne King surveyed the project area again and confirmed project site conditions remained relatively the same since the original biological field survey was conducted in February 2022.

Existing Conditions

The project site includes a small portion of the Lake and the adjacent shoreline, as well as a developed upland area immediately south of the Lake. Although the field survey was conducted in winter, snow cover was minimal. Due to below-average precipitation in recent years, water levels in the Lake were low and the Lakebed within the southern portion of the project site was visible. Habitat conditions at the time of the field survey consisted of open water areas of the Lake, low-growing herbaceous native and non-native wetland and upland vegetation on the exposed Lakebed, willow scrub along portions of the Lake perimeter, and primarily barren and paved surfaces in the developed upland areas.

The Lake and surrounding uplands support a wide variety of plant and animal species that occur in the San Bernardino mountains. However, biological diversity on the project site is limited by its location along the developed south side of the Lake. Vegetation growth from the previous season that was observed on the exposed Lakebed during the field survey included rushes (*Juncus* spp.), dock (*Rumex* spp.), tansy mustard (*Descurainia* spp.), and thistle (*Cirsium* spp.). Approximately 20 scattered Pacific willow (*Salix lasiandra*) shrubs and one cottonwood (*Populus* spp.) tree occur in the nearshore portion of the access road area; one additional cottonwood tree is immediately adjacent to this area. The staging and stockpile area is primarily barren, and a portion is paved. Several trees and shrubs, including pines (*Pinus* spp.) and willow border the south and west sides of the staging and stockpile area.

Open water of the Lake is known to support common fish such as black crappie (*Pomoxis nigromaculatus*), blue catfish (*Ictalurus furcatus*), bluegill (*Lepomis macrochirus*), bass (*Micropterus* ssp.), and rainbow trout (*Oncorhynchus mykiss*). Exposed Lakebed and Lakeshore in and adjacent to the project site likely support common amphibians and reptiles such as Baja California treefrog (*Pseudacris hypochondriaca*), California toad (*Anaxyrus boreas halophilus*), and Great Basin fence lizard (*Sceloporus occidentalis longipes*). Western gray squirrel (*Sciurus griseus*), Merriam's chipmunk (*Tamias merriami*), and raccoon (*Procyon lotor*) likely occur in adjacent developed areas, and coyote (*Canis latrans*) may occasionally pass through the site.

Birds are the most diverse wildlife in the area. Species documented on the project site or likely to occur at least seasonally on or adjacent to the site include northern shoveler (*Spatula clypeata*), bufflehead (*Bucephala albeola*), northern harrier (*Circus hudsonius*), acorn woodpecker (*Melanerpes formicivorus*), northern flicker (*Colaptes auratus*), Steller's jay (*Cyanocitta stelleri*), American robin (*Turdus migratorius*), mountain chickadee (*Poecile gambeli*), dark-eyed junco (*Junco hyemalis*), and house finch (*Haemorhous mexicanus*).

Sensitive Biological Resources

Sensitive biological resources addressed in this section include those that are afforded consideration or protection under CEQA, California Fish and Game Code (CFGC), the California ESA, Federal ESA, the CWA, and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Special-status Species

For purposes of this analysis, special-status species include plants and animals in one or more of the following categories:

- taxa (i.e., taxonomic categories or groups) officially listed by the state or federal government as endangered, threatened, or rare
- candidates for state or federal listing as endangered or threatened
- taxa that meet the criteria for listing, even if not currently included on any list, as described in state CEQA Guidelines Section 15380
- species identified by CDFW as species of special concern
- species listed as Fully Protected under the CFGC
- plants considered by CDFW to be "rare or endangered in California" (List 1B and 2B plants) or "of limited distribution" (List 4 plants)

The California Natural Diversity Database (CNDDB) (CDFW 2024) and online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2024) were reviewed for information on special-status plants and animals that have been documented in the project vicinity. These reviews included the Butler Peak, Fawnskin, Big Bear City, Moonridge, Big Bear Lake, and Keller Peak U.S. Geologic Survey 7.5-minute quadrangles. A list of resources under USFWS jurisdiction that could occur in the project vicinity was obtained from the Information for Planning and Conservation website (USFWS 2024). Database search results and the USFWS species list are provided in **Appendix B**, "Species Database Searches."

Special-status Plants

More than 130 special-status plants included in the CNDDB, online Inventory of Rare and Endangered Vascular Plants of California and/or USFWS species lists were evaluated for their potential to occur on the project site. Although many of these species are known to occur in the project region, nearly all are restricted to elevations, habitats, or microhabitat conditions that do not occur on the project site (e.g., desert scrub, sagebrush, chaparral; pinyon/juniper or Joshua tree woodland; pebble plains; rock, boulder, gravel, sandy sites; sandy, carbonate, or alkaline soils; streams, meadows, marshes, swamps, vernal pools, playas) and were therefore eliminated from further consideration.

Five taxa were determined to have limited potential to occur within the exposed Lakebed on or adjacent to the project site: San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*), little purple monkeyflower (*Erythranthe purpurea*), Bear Valley pyrrocoma (*Pyrrocoma uniflora* var. *gossypina*), bird-foot checkerbloom [pedate checker-mallow] (*Sidalcia pedata*), and small-flowered bluecurls (*Trichostema micranthum*). Bird-foot checkerbloom is state- and federally listed as endangered; the remaining taxa are CRPR 1B.2 plants (moderately threatened in California), except for small-flowered bluecurls which is a CRPR 4.3 species (limited distribution in California).

All five of these special-status plants have documented occurrences near the Lake's south shore, though recent occurrences are limited to remnant undeveloped areas, such as Eagle Point meadow CDFW 2024). The most recent 5-year review for bird-foot checkerbloom (USFWS 2021) documents 16 extant or presumed extant occurrences, the nearest of which is approximately 0.25 mile southeast of the project site but is separated from the site by urban development; a closer occurrence to the west is identified as possibly extirpated occurs. Focused surveys for sensitive species, including those determined to have potential to occur on the project site were conducted along the entire perimeter of the Lake in 2017 (Jericho Systems 2017). Bird-foot checkerbloom was found in three large meadow areas, including the western base of Eagle Point and adjacent to Metcalf and Grout Bays. None of the other three species were documented during the 2017 surveys. The project site provides relatively poor-quality habitat for all five of these special-status plants, and all are unlikely to occur on the site based on disturbed habitat conditions, fluctuating water levels, locations of known occurrences, and results of past focused surveys.

Special-status Wildlife

Nineteen special-status wildlife taxa included in the CNDDB search results and/or on the USFWS species list were evaluated for potential to occur on or adjacent to the project site. As with the special-status plants, most of these taxa were determined to have no potential to occur because of inappropriate elevation, restricted distribution, and/or lack of suitable habitat. For example, Quino checkerspot butterfly (*Euphydryas Editha quino*) and the southern California distinct population segment (DPS) of mountain yellow-legged frog (*Rana muscosa*) have been extirpated from the area (CDFW 2024); the southern California DPS of steelhead (*Oncorhynchus mykiss*) does not occur above Bear Valley Dam; the area is not within the native range of arroyo chub (*Gila orcuttii*) and the nearby Holcomb Creek population is introduced; unarmored threespine stickleback

(*Gasterosteus aculeatus williamsoni*) occurs only in small streams; soils and other microhabitat conditions are unsuitable for reptiles such as southern California legless lizard (*Anniella stebinsi*), coast horned lizard (*Phrynosoma blainvillii*), and Southern rubber boa (*Charina umbratica*); two-striped garter snake (*Thamnophis hammondii*) occurs along rocky-bottomed creeks; and yellow-breasted chat (*Icteria virens*) requires riparian thicket with dense understory. The few special-status wildlife species determined to have potential occur are limited to two invertebrates, several birds and two mammals discussed further below.

Several recent occurrences of Crotch's bumble bee (*Bombus crotchii*), a candidate for state listing as endangered, have been documented north of the Lake in recent years, including in Holcomb Valley Approximately 4 miles north of the project site and Little Pine Flat, approximately 7 miles northwest. The project site does not provide suitable nesting habitat for this species and potential foraging habitat is poor. Therefore, Crotch's bumble bee is unlikely to occur on the project site and potential presence would be limited to rare occurrence of foraging individuals.

The project site is within the summer breeding range and potential migration route of the western population of monarch butterfly (*Danaus plexippus*) (USFWS 2020), which is a candidate for federal listing as threatened or endangered. The nearest known documentation of monarch breeding is approximately 5 miles south of the project site (Western Monarch and Milkweed Occurrence Database 2024). Willow (*Salix* spp.) shrubs on the site could provide a nectar source for monarchs, but the site is unlikely to support milkweed larval host plants (primarily *Asclepias* spp.). Although the field survey was not conducted at a time of year when milkweed would be easily detectable, no milkweed plants were observed during extensive surveys conducted along the Lake perimeter, including the project site, during the 2017 blooming season (Jericho Systems 2017). Therefore, potential monarch butterfly occurrence on the project site would be limited to occasional foraging individuals.

Six special-status raptor species are known to occur or have at least moderate potential to at least occasionally occur on or near the project site: bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), osprey (*Pandion haliaetus*), white-tailed kite (*Elanus leucurus*), northern harrier, and California spotted owl (*Strix occidentalis occidentalis*). Bald eagle is state-listed as endangered, golden eagle and white-tailed kite are fully protected under the CFGC, and osprey and northern harrier are California Species of Special Concern. Bald eagle and osprey are known to nest at the Lake and golden eagle could nest in the vicinity of the Lake, but the project site does not provide suitable nest sites for these species. The project site is outside the breeding range of northern harrier (Davis and Niemla 2008), and timing of iNaturalist (2024) observations and EBird data (2024) indicate neither northern harrier nor white-tailed kite nest at the Lake. Spotted owls occur in the Lake region but are extremely unlikely to occur on the project site due to high disturbance levels; the nearest recently active nest site was in forest habitat more than 1 mile south of the project site (CDFW 2024).

An apparently non-breeding male and a possible migrant juvenile southwestern willow flycatcher (*Empidonax traillii extimus*), which is state- and federally listed as endangered, were documented along Metcalf Creek, approximately 1 mile west of the project site (CDFW 2024). However, the

project site does not provide suitable nesting habitat for southwestern willow flycatcher and extent and quality of foraging habitat is poor. Therefore, if willow flycatcher occurs on the project site, it would be rare and limited to migrant and other non-breeding individuals.

San Bernardino flying squirrel (*Glaucomys oregonensis californicus*) typically occurs in woodlands dominated by oak and fir. The CNDDB does not include any occurrence in the vicinity of the Lake since the 1970s, but iNaturalist includes several occurrences of individuals vising bird feeders near the southern Lakeshore; the nearest occurrence is approximately 0.25 mile west of the project site. Pine trees on the project site are unlikely to attract flying squirrels, but given individuals appear to at least rarely visit nearby residential areas, there is potential for them to very rarely occur onsite.

Finally, the project site and adjacent areas do not provide suitable roosting habitat for Townsend's big-eared bat (*Corynorhinus townsendii*), a California Species of Special Concern, but individuals could forage over the site if active roosts are present nearby.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, ESA, Section 1602 of the CFGC, Section 404 of the CWA, and the Porter-Cologne Act. Sensitive habitats may be of special concern for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to special-status species.

Critical Habitat

Section 3(5)A of the ESA defines "critical habitat" as the specific areas within the geographical area occupied by Federally listed species on which are found physical or biological features essential to the conservation of the species and that may require special management considerations or protection. The project site is not within critical habitat for any species. The nearest critical habitat, for ash-grey paintbrush (*Castilleja cinerea*), is approximately 0.5 mile south of the site and is separated from the area by urban development.

Waters and Wetlands

Under Section 404 of the CWA, USACE has jurisdiction over features that qualify as waters of the U.S., including some wetlands that support appropriate vegetation, soils, and hydrology. Under Section 401 of the CWA, the Santa Ana RWQCB regulates discharge of dredged or fill material into waters of the U.S., to ensure such activities do not violate State or Federal water quality standards. The RWQCB also regulates waters of the State in compliance with the Porter-Cologne Act. In addition, diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to the regulatory approval of CDFW pursuant to Section 1602 of the CFGC. The Lake is a jurisdictional water of the U.S and water of the State subject to regulation under Sections 404 and 401 of the CWA and falls under CDFW jurisdiction pursuant to Section 1602 of the CFGC.

3.1.2 Discussion

#4 -a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the United States Fish and Wildlife Service?

This impact focuses on special-status species with reasonable potential to be affected by the proposed project. Therefore, special-status plant and wildlife species that were determined to have no potential to occur on or adjacent to the project site (because of poor or unsuitable habitat conditions or known extant range of the species) are not addressed in this discussion.

Special-status Plants

San Bernardino Mountains owl's-clover, little purple monkeyflower, bird-foot checkerbloom, and Bear Valley pyrrocoma have very low potential to occur within the exposed lakebed on or adjacent to the project site. The amount of potentially suitable habitat for these species varies depending on Lake levels and the amount of exposed lakebed. However, less than 1,250 square feet of potential habitat occurs above the Lake's maximum water level on the project site (within the boat launch access footprint) and would be permanently removed by project implementation. The staging area is regularly used for equipment and material storage and does not provide suitable habitat.

Most of the dredging area is inundated even during low Lake levels and is therefore unsuitable for the special-status plants. The access and special use boat launch facility areas are more often above the Lake's low-water level and could periodically provide suitable habitat for special-status plants if these areas are exposed for long enough periods. Permanent loss of potentially suitable habitat for special-status plants would be limited to up to approximately 0.6 acre within these areas. This habitat loss would represent a small proportion of the overall habitat present within and adjacent to the affected areas. In addition, habitat on the project site is of relatively poor quality for these taxa and there is no evidence that these plants have occurred on or adjacent to the project site in the past. Therefore, loss of this potentially suitable habitat would not result in a substantial adverse effect on the local or regional distribution of these plants and impacts of implementing the proposed project would be **less than significant**.

Special-status Invertebrates

Vegetation on and adjacent to the project site provide potentially suitable nectar habitat for Crotch's bumble bee and monarch butterfly, but the site is very unlikely to support bumble bee nests or monarch larval host plants and potential for either species to reproduce onsite is extremely low. As discussed above for special-status plants, the amount of potential nectar habitat varies depending on Lake levels and vegetation extent. Permanent loss of potentially suitable nectar habitat for Crotch's bumble bee and/or monarch butterfly would be limited to up to approximately 0.6 acre, but the availability of this habitat is inconsistent and occurrence of either special-status invertebrate would likely be uncommon and temporary. Loss of this small amount of relatively poor habitat would not have a substantial adverse effect on Crotch's bumble bee or monarch butterfly and impacts of implementing the proposed project would be **less than significant**.

Special-status Birds

Although several special-status bird species occur at least seasonally at the Lake, the project site and nearby areas do not provide suitable nesting habitat for those that breed in the region and active nests are very unlikely to occur within 1 mile of the site. Therefore, implementing the project would not affect active nests or nesting behavior of special-status birds. Bald eagle and osprey could forage in portions of the site that are below the variable water line and northern harrier and white-tailed kite could forage in areas that are above the water line. Southwestern willow flycatcher has low potential to occasionally forage in onsite willows. Golden eagle is unlikely to use the project site but could occasionally pass over the site, and spotted owl is very unlikely to occur onsite. The project site does not provide key foraging habitat for any of these species, which are more likely to forage in higher-quality and/or less disturbed habitat elsewhere in and surrounding the Lake. Therefore, project implementation would have a minor effect, if any, on foraging habitat availability and foraging behavior of special-status birds. The site also is not used as a roost site by bald eagles and does not provide important roosting habitat for any other species. Because there would be no impact on nesting habitat or behavior and minor impacts on foraging habitat, the project's impacts on special-status birds would be **less than significant**.

Project-related vegetation removal and ground disturbance could remove a small number of active nests of common bird species, if conducted during the nesting season. CFGC Section 3503 prohibits take, possession, and needless destruction of nest or eggs of any bird. Although removing an active bird nest during project activities could violate the Migratory Bird Treaty Act and CFGC Section 3503, this would not in itself be a significant impact under CEQA. Potential extent of loss of active nests of common bird species would not substantially reduce their abundance or cause any species to drop below self-sustaining levels. Therefore, this impact would be **less than significant**. However, the District would implement measures to avoid violation of the Migratory Bird Treaty Act and CFGC Section 3503. In addition, a Lake and Streambed Alteration Agreement would be obtained from CDFW and is anticipated to include measures related to nesting birds; all conditions of the agreement would be met.

Special-status Mammals

Potentially suitable habitat for San Bernardino flying squirrel on the project site is limited to pine trees on the perimeter of the staging area. None of these trees would be removed by project activities. In addition, in the unlikely event San Bernardino flying squirrel is present in trees on or adjacent to the project site, project activities are unlikely to have a substantial adverse effect because the staging area and adjacent District facilities are currently subject to regular disturbance associated with ongoing District activities. Because the project site and adjacent areas do not provide suitable roost sites for Townsend's big-eared bat, there is no potential for project activities to affect active roosts, including maternity roosts. The nearest known roost site for this species is approximately 6 miles north of the project site (CDFW 2024), though additional unknown roosts may occur closer to the site. Individuals could forage over the project site, but project activities are unlikely to disrupt foraging behavior. For these reasons, potential impacts on San Bernardino flying squirrel and Townsend's big-eared bat from the project would be **less than significant**.

#4 -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 United States Fish and Wildlife Service?

Less than 0.1 acre of willows and up to two cottonwood trees would be removed from the project site. Because remnant riparian vegetation along the Lake perimeter is very scarce, particularly along the more developed south shore where the project site is located, removal of even this small extent of habitat could be considered a substantial adverse effect and would be a **significant** impact. Mitigation Measure BIO-1 has been identified to address this impact. In addition, a Lake and Streambed Alteration Agreement addressing this habitat removal would be obtained from CDFW, and all conditions of the agreement would be met.

Mitigation Measure BIO-1: Minimize and Compensate for Loss of Riparian Vegetation.

The District and its construction contractor(s) will implement the following measures to reduce impacts on riparian vegetation and compensate for unavoidable loss:

- A fenced, protective buffer will be erected and maintained during project activities to prevent accidental damage and removal of riparian vegetation adjacent to the project footprint.

- Unavoidable impacts on riparian vegetation will be compensated at a minimum 1:1 replacement ratio based on the acreage removed to ensure no net permanent loss.

- Compensatory mitigation may be fulfilled through purchase of agency-approved mitigation bank credits, payment of in-lieu fees, and/or implementation of permittee-responsible mitigation. If permittee-responsible mitigation is proposed, a mitigation plan will be prepared to identify mitigation location, mitigation actions (e.g., habitat preservation, enhancement, restoration, and/or creation), monitoring protocol, annual performance standards and final success criteria for replacement vegetation, and corrective measures to be applied if performance standards are not met. The plan also will specify long-term management responsible parties and requirements to ensure long-term habitat viability and protection.

Timing: Before, during, and after construction activities.

Responsibility: The District and its construction contractor(s).

Significance after Mitigation: The implementation of Mitigation Measure BIO-1 would reduce the potentially significant impact associated with loss of riparian vegetation because it would minimize adverse impacts and compensate for unavoidable impacts. Therefore, this impact would be **less-than-significant with mitigation incorporated**.

#4 -c. Have a substantial adverse effect on State- or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Big Bear Lake is a water of the U.S and water of the State subject to regulation under CWA Sections 404 and 401. Project implementation would include placing fill to construct the special use boat launch facility and associated access area and dredging material from the Lakebed to maintain access to the special use boat launch during low Lake levels. Approximately 2.2 acres of waters of the U.S. and State are expected to be impacted by dredging activities, which would have a permanent impact on the lakebed but would not reduce the area of Waters of the U.S./State. Constructing the boat launch facility and associated access area would require placing permanent fill in approximately 0.5 acre of Waters of the U.S./State. In addition, construction activities within this area could temporarily degrade water quality in adjacent portions of the Lake. Fill placement, dredging, and potential temporary water quality degradations would have a substantial adverse effect state and federally protected waters and result in a **significant** impact. Mitigation Measures GEO-1, HAZ-1, and BIO-2 have been identified to address this impact. In addition, appropriate permits would be obtained from USACE, RWQCB, and CDFW as needed, and all conditions of these permits would be met.

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan, if required, Implement Erosion Control Best Management Practices, and Comply with San Bernadino County Standards for Grading and Erosion Control.

Please see Mitigation Measure GEO-1 in Chapter 3.7, "Geology and Soils," for the full text of this mitigation measure.

Mitigation Measure HAZ-1: Implement Best Management Practices to Minimize the Potential Release of Hazardous Materials.

Please see Mitigation Measure HAZ-1 in Chapter 3.9, "Hazards and Hazardous Materials," for the full text of this mitigation measure.

Mitigation Measure BIO-2: Compensate for Permanent Fill of Waters of the United States and Waters of the State.

The District and its construction contractor(s) will implement the following measures to compensate for permanent fill of waters of the U.S. and waters of the State:

- Permanent fill of waters of the U.S. and waters of the State will be compensated to ensure no net permanent loss of habitat functions and values.

- Compensatory mitigation may be fulfilled through purchase of agency-approved mitigation bank credits, payment of in-lieu fees, and/or implementation of permittee-responsible mitigation. If permittee-responsible mitigation is proposed, a mitigation plan will be prepared to identify mitigation location, mitigation actions (e.g., habitat preservation, enhancement, restoration, and/or creation), monitoring protocol, annual

performance standards and final success criteria for replacement vegetation, and corrective measures to be applied if performance standards are not met. The plan also will specify long-term management responsible parties and requirements to ensure long-term habitat viability and protection.

Timing: Before, during, and after construction activities.

Responsibility: The District and its construction contractor(s).

Significance after Mitigation: Implementing Mitigation Measure GEO-1 would reduce project-related water quality impacts because measures would be implemented to minimize and control runoff, erosion, and turbidity. Implementing Mitigation Measure HAZ-1 would reduce impacts from accidental spills of hazardous materials by properly maintaining and inspecting equipment and storage and use of hazardous materials. Implementing Mitigation Measure BIO-2 would reduce the potentially significant impact associated with project activities in waters of the U.S./State because it would minimize adverse impacts and compensate for permanent fill. Therefore, this impact would be **less-than-significant with mitigation incorporated**.

#4 -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?

The project site is part of a much larger extent of open water habitat associated with the Lake, and a small portion of open water may require temporary dewatering to complete construction activities if activities cannot occur when Lake levels have adequately receded. The project site is not used as a native wildlife nursery site. Some wildlife species are likely to move through developed upland areas and the exposed portion of the Lakebed on the project site. However, because the project site is in and adjacent to existing development and subject to relatively high disturbance levels, it is unlikely to serve as a primary wildlife movement corridor. In addition, wildlife would be able to move around the project work area during daylight hours when work is occurring and through or around the area at night, when most wildlife movement is likely to occur. Therefore, the project would have a very minor impact on native fish that occur in the Lake, waterbirds, and other aquatic or semi-aquatic wildlife that use the Lake and would not interfere with fish or wildlife migration or movement or impede use of a wildlife nursery site. This impact would be **less than significant**.

#4 -e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Chapter 88.01 (Plant Protection and Management) of the San Bernardino County Development Code addresses native tree and plant preservation and includes regulations to promote healthy and abundant riparian habitats. The riparian plant conservation portion of the code applies to all riparian areas on private land in all zones of the unincorporated areas of the county and specifies that removal of vegetation within 200 feet of the bank of a stream requires approval of a tree or plant removal permit. Although the project is in and adjacent to a Lake rather than a stream, this

analysis assumes the willow scrub within the project footprint is also subject to the riparian plant conservation regulations. The District would obtain the required permit and comply with all code and permit requirements. Therefore, project implementation would not conflict with a local tree and plant preservation policy and there would be **no impact** related to this issue.

#4 -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?

The project site is not within an area covered by an adopted Habitat Conservation Plan (HCP) or Natural Community Conservation Plan. The Upper Santa River HCP planning area extends up to Bear Valley Dam, more than 3 miles west of the project site (ICF 2020). The HCP has not yet been adopted but a stakeholder draft was released in 2020 and the public draft of the associated EIR was released in 2021. Impacts of the proposed project would be localized and would not extend to the HCP planning area. Therefore, implementing the proposed project would not conflict with the provision of the draft HCP or successful implementation of the HCP after it is adopted, and **no impact** related to a potential conflict would occur.

3.2 Cultural Resources

#5. CULTURAL RESOURCES.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#5 -a. Cause a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5?	No	**Yes**	No	No	No
#5 -b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?	No	**Yes**	No	No	No
#5 -c. Disturb any human remains, including remains interred outside of dedicated cemeteries?	No	**Yes**	No	No	No

3.4.1 Environmental Setting

Precontact Setting

The project site is located along the southern edge of the Mojave Desert archaeological area. Much archaeological work has been done in the Mojave Desert, especially on military installations, Federal lands, and public work projects, though less so in the Big Bear Lake area. The remainder of this section contains a brief description of the sequence of archeological cultural complexes in the Mojave Desert taken from Sutton et al. (2007).

The Paleo-Indian Complex (terminal Pleistocene) extended from 10,000 to 8,000 calibrated (cal) B.C. It is believed to be characterized by small, highly mobile groups relying heavily on big game hunting. It is marked by fluted projectile points (Clovis points).

The Lake Mojave Complex (early Holocene) extended from 8,000 to 6,000 cal B.C. It is characterized by Lake Mojave and Silver Lake projectile points. Other artifacts characterizing the period include abundant bifaces in assemblages, steep-edged unifaces, crescents, some cobble-core tools, and ground stone tools. Groups are likely practicing a forager strategy.

The Pinto Complex (early/middle Holocene) overlapped the previous period and extended from 7,000 to 3,000 cal B.C. It is characterized by Pinto projectile points. Other noteworthy changes included a reduction in the diversity in tool stone use, likely indicating a reduction in foraging ranges. Of much importance is the increased presence of milling tools, indicating that a broader spectrum of food resources was adopted.

The Gypsum Complex (late Holocene) extended from 2,000 cal B.C. to cal A.D. 200. This period is characterized by Gypsum and Elko series projectile points. It is thought by research that settlements were focused near streams while there were increases in trade and social complexity. Other characteristic artifacts include quartz crystals, paint, and rock art; bifaces continue to be important. This complex tends to be extremely rare in the southern and eastern portions of the Mojave Desert.

The Rose Spring Complex (late Holocene) extended from cal A.D. 200 to 1,100. Characteristic of this period are Rose Spring and Eastgate series projectile points. Several important changes occurred during this period including the adoption of bow and arrow technology. Other important changes include a major population increase, changes in artifact assemblages, and well-developed middens. Common artifacts include stone knives, drills, pipes, bone awls, milling tools, marine shell ornaments, and large amounts of obsidian. Sites are usually found near springs, washes, and lake shores. The presence of wickiups, pit houses, and other structures suggest intensive occupations.

The Late Prehistoric (late Holocene) extended from cal A.D. 1,100 to Contact. Characteristic of this period are the Desert series of projectile points as well as ceramics. Populations seem to have declined from the previous period. There are actually a number of complexes that emerge during this time, likely indicative of the emergence of the various ethnographic groups encountered at contact with Europeans. Occupation sites include large villages with cemeteries as well as special purpose and seasonal camps. Artifact assemblages include the afore mentioned Desert series projectile points as well as Cottonwood points, buffware and brownware ceramics, shell and steatite beads, slate pendants, incised stones, and several types of milling tools. Faunal remains typically consist of deer, rodents, lagomorphs, and some reptiles.

Ethnographic Setting

Background information regarding California Native American Tribes affiliated with the project area is included in Chapter 3.18, "Tribal Cultural Resources," below in this IS/MND.

Methods and Findings

The cultural resources investigations carried out for the proposed project included a records search at the South-Central Coast Information Center (SCCIC), archival research, correspondence with the Native American Heritage Commission (NAHC), and archaeological and built environment field surveys of the project area.

Record Search

GEI archaeologist Amy Wolpert, MA, requested a records search at the South-Central Coastal Information Center (SCCIC) of an area surrounding Big Bear Lake, which included the project site in its entirety. A response was received from the SCCIC on May 10, 2022 (Records Search File No.: 23643.9752).

An examination of the SCCIC generated resources map showed that there are no previously identified cultural resources within the project boundary. The nearest previously reported resource is an isolated milling slab (P-36-060176) reported, but not verified, approximately 0.21-miles east of the project boundary. The next nearest site is a built environment resource (P-36-013539, Stillwell's Resort), approximately 0.51 miles to the east.

Two previous investigations encompassing or intersecting the project site have been reported to the SCCIC, SB-3297 and SB-05591; however, no resources were identified.

Field Surveys

An archaeological pedestrian survey of the project boundary was conducted by GEI archaeologist Jesse Martinez, MA, Registered Professional Archaeologist, on April 19, 2022. Intensive survey methods with 15-meter transects were employed where possible within the project area. The northern portion of the project area could not be surveyed because it was under water.

No archaeological or built environment resources were identified during the pedestrian survey. The access road portion of the project boundary is covered in asphalt. The staging and stockpile area is currently covered in asphalt and gravel and has piles of soil and rock. The temporary ramp areas contain exposed soils; the soils were closely examined but no cultural material was identified. Most of the area to be dredged and special use boat launch facility area was covered in thick vegetation which made visibility extremely poor.

3.4.2 Discussion

a, b) Cause a substantial adverse change in the significance of a historical resource pursuant to in CCR Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on "historical resources." CEQA defines a "historical resource" as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Properties, as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (California PRC Section 5024.1, 14 CCR Section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing in the CRHR if it:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. is associated with the lives of persons important in our past
3. embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual or possesses high artistic values
4. or has yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regards to

the retention of location, design, setting, materials, workmanship, feeling, and association (OHP 1999).

No previously recorded archaeological resources or built environmental resources 50-years old or older are present within the project site, and no archaeological or built environment resources were discovered during the pedestrian survey. No other archaeological resources or potential archaeological resources were identified during the pedestrian survey. Since the project is in areas covered in asphalt and an area that has been previously dredged, it is very unlikely that a previously unknown buried archaeological resource meeting CRHR significance criteria would be in this location, but there remains a small possibility that a buried resource could be encountered during project-related ground-disturbing activities. If this were to occur, then this impact would be considered **significant**.

Mitigation Measures CR-1 and CR-2 have been identified to address this impact.

Mitigation Measure CR-1: Address Previously Undiscovered Historic Resources, Archaeological Resources, and Tribal Cultural Resources.

If cultural resources are identified during project-related ground-disturbing activities, all ground disturbing work (within 60 feet) of the find should cease immediately and the District should be notified; all work outside of this area may continue. In the event of an inadvertent discovery, the District will retain a qualified archaeologist to assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for a treatment. The Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) should be contacted regarding any precontact finds and be provided with information after the archaeologist makes their initial assessment of the nature of the find, so as to provide Tribal input with regards to the significance and treatment of the find. Any treatment plan should be reviewed by the District prior to implementation. Avoidance or preservation-in-place are the preferred treatment options under CEQA, but if this is not feasible, then YSMN should be provided the opportunity to review, provide input, and comment on any Monitoring and Treatment Plan that may be developed. The archaeologist will be retained until any agreed upon monitoring and treatment is completed. Ground-disturbing activities should not resume near the find until the treatment, if any is recommended, is complete or the qualified archaeologist determines the find is not significant. Any documentation generated as a result of any finds will be provided to YSMN.

Direct tribal monitoring of dredging activities and the need for the development of a Monitoring and Treatment Plan are not anticipated; however, the District shall provide YSMN representatives with the opportunity to periodically spot check the dredged material piles within the established staging areas for the presence of tribal cultural resources. If cultural material is identified during dredge pile inspection, then the Monitoring and Treatment Plan will include provisions for more regular-scheduled inspection of dredged material piles or monitoring by YSMN, collection of identified cultural material, and final disposition of collected cultural material.

Timing: Before and during construction activities.

Responsibility: The District and its construction contractor(s).

Mitigation Measure CR-2: Implement Worker Environmental Awareness Program (WEAP) Training.

Cultural resources awareness training, as part of an overall Workers Environmental Awareness Program, should be conducted for all construction personnel by a cultural resources specialist who meets the SOI's Professional Qualifications Standards (36 CFR Part 61; 48 Federal Register 44716). The training should be conducted before any stages of physical project implementation and construction. YSMN should be given the opportunity to comment on the WEAP and participate in the presentation of the WEAP.

The WEAP training should include information on the potential kinds of pre-contact Native American and historic-era cultural materials that could be encountered, how to identify buried faunal and human remains, and how to identify anthropogenic soils (e.g., midden soils). The WEAP training should also include a summary of the relevant laws concerning cultural resources and human remains, along with a summary of the following protocols to follow if workers encounter cultural resources or human remains.

Timing: Before and during construction activities.

Responsibility: The District and its construction contractor(s).

Significance after Mitigation: Implementation of Mitigation Measures CR-1 and CR-2 would reduce this impact because it increases the likelihood that any resources will be identified and that any finds would be assessed by an archaeologist and the treatment or investigation would be conducted in accordance with CEQA guidelines regarding cultural resources. Therefore, the impact from the project would be **less-than-significant with mitigation incorporated**.

c) Disturb any human remains, including remains interred outside of dedicated cemeteries?

No human remains have been discovered at the project site and it is not anticipated that human remains, including those interred outside of dedicated cemeteries, would be discovered during project ground-disturbing activities. There is no indication from the records searches or pedestrian survey that human remains are present within the project site locations. However, if human remains, including those interred outside of formal cemeteries and including associated items and materials, are discovered during subsurface activities, the human remains, and associated items and materials could be inadvertently damaged. If this were to occur, then this impact would be considered **significant**.

Mitigation Measure CR-3 has been identified to address this impact.

Mitigation Measure CR-3: Avoid Potential Effects on Undiscovered Burials.

If human remains are found, the District shall be immediately notified. All work within 100 feet of any discovered human remains will cease. The California Health and Safety Code requires that excavation be halted in the immediate area and that the San Bernardino County coroner be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the coroner must contact the NAHC by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

Once notified by the coroner, the NAHC shall identify the person determined to be the Most Likely Descendant (MLD) of the Native American remains. With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This visit should be conducted within 24 hours of the MLD's notification by the NAHC (PRC, Section 5097.98[a]). If a satisfactory agreement between interested parties (the MLD, landowner(s), lead agency, etc.) for treatment of the remains cannot be reached, any of the parties may request mediation by the NAHC (PRC, Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must reinter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC, Section 5097.98[b]).

Timing: Before and during construction activities.

Responsibility: The District and its construction contractor(s).

Significance after Mitigation: Implementation of Mitigation Measure CR-3 would reduce this impact because the find would be assessed by an archaeologist and treated or investigated in accordance with State and Federal laws. Therefore, impacts from the project would be **less-than-significant with mitigation incorporated**.

3.5 Energy

#6. ENERGY.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	No	No	**Yes**	No	No
#6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	No	No	No	**Yes**	No

3.5.1 Environmental Setting

Electricity in the project area is provided by Bear Valley Electric Service (BVES), while the Southwest Gas provides natural gas service. In 2019, the total electricity consumption for San Bernadino County was approximately 15,969 million kilowatts per hour (kWh) (CEC 2020).

The County has prepared the Renewable Energy and Conservation Element for the General Plan. The Element is intended to ensure efficient consumption of energy and water, reduce greenhouse gas emissions, pursue the benefits of renewable energy and responsibly manage its impacts on environment, communities and economy. The goals of the County, through the Element are to (County 2017):

1. pursue energy efficiency tools and conservation practices that optimize the benefits of renewable energy;
2. be home to diverse and innovative renewable energy systems that provide reliable and affordable energy to our unique Valley, Mountain, and Desert regions;
3. prioritize and complement local values and support a high quality of life in unincorporated communities;
4. establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels;
5. locate renewable energy facilities in areas that meet County standards, local values, community needs and environmental priorities; and
6. ensure that renewable energy facilities are designed, sited, developed, operated and decommissioned in ways compatible with our communities, the natural environment, and applicable environmental laws.

3.5.2 Discussion

#6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The project would involve short-term and intermittent use of diesel-fueled vehicles during construction activities and there would not be a substantial long-term increase in energy consumption since energy consumption would cease upon completion of construction. Therefore, the proposed project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. This impact would be **less than significant**.

#6 -b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Since the proposed project is limited to dredging activities and constructing a special use boat launch facility, it would not conflict with the County's goals in the Element. Additionally, the proposed project would not interfere with the State's Climate Commitment to reduce the reliance on non-renewable energy sources by half by 2030 (CEC 2015). Therefore, there would be **no impact**.

3.6 Geology and Soils

#7. GEOLOGY AND SOILS. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#7 -a. 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 California Geological Survey Special Publication 42.)	No	No	No	**Yes**	No
#7 -a. ii. Strong seismic ground shaking?	No	No	**Yes**	No	No
#7 -a. iii. Seismic-related ground failure, including liquefaction?	No	No	**Yes**	No	No
#7 -a. iv. Landslides?	No	No	**Yes**	No	No
#7 -b. Result in substantial soil erosion or the loss of topsoil?	No.	**Yes**	No	No	No
#7 -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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	No	No	**Yes**	No	No
#7 -d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated),), creating substantial direct or indirect risks to life or property?	No	No	**Yes**	No	No
#7 -e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No	No	No	**Yes**	No
#7 -f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	No	**Yes**	No	No

3.6.1 Environmental Setting

Big Bear Valley is a bedrock-enclosed basin infilled with Quaternary sediments consisting of alluvial (stream-deposited), colluvial (sediment deposited at the base of steep slopes), and lacustrine (lake) sediments or deposits at the valley floor. The Lake bottom sediments are generally underlain by alluvial deposits to a depth of up to 50 feet (Geoscience, 2001).

There are no active faults on the valley floor and the project site is not located within an Alquist-Priolo fault zone (CGS 2020). While there are no Alquist-Priolo faults or other faults mapped directly within the project site, the general area is seismically active (City of Big Bear Lake 1999). Additionally, the project site is in an area with a low to moderate potential for landslides (County 2009).

The County of San Bernardino Geologic Hazard Overlay maps for Big Bear Lake identifies low-lying areas along the north and south shores, including the project area, as being susceptible to liquefaction due to the presence of alluvium and alluvium and shallow ground water (County 2009).

The potential for seismically induced settlement to occur is determined by the intensity and duration of ground shaking, and the relative density (the ratio between the in-place density and the maximum density) of the subsurface soils. Recently deposited alluvial sediments such as those around the lakeshore are potentially subject to seismically induced settlement (County 2009).

3.6.2 Discussion

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

#7 -a. 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 California Geological Survey Special Publication 42.)

The project involves dredging the Lake bottom near the Marina and the construction of a special use boat launch facility to maintain the ability of public, District, and first responders to navigate through the West Navigation Channel of the existing Marina area. No habitable structures are proposed as part of the project. There are no Alquist Priolo Earthquake fault zones recorded at or adjacent to the project area. Since the project site is not located near an active fault and does not include habitable structures, the proposed project would not increase the risk to human health. There would be **no impact**.

#7 -a. ii and iii. Strong seismic ground shaking, Seismic-related ground failure, including liquefaction?

During project construction activities, ground shaking could expose persons working in the project area to seismic hazards while operating heavy equipment. The District and its contractors would be required to adhere to all California Division of Occupational Safety and Health (Cal/OSHA)

requirements for working within active construction sites that would ensure the safety of all construction workers onsite.

The proposed project does not include permanent structures that would house people. However, during operation and maintenance activities, District staff and/or the public may be located around the special use boat launch facility. The proposed project components would not pose a direct risk to people during seismic activity. Further, proposed project design would comply with the California Uniform Building Code (UBC) which is based on, but more detailed and stringent than, the Federal UBC. Chapter 18 of the California UBC regulates excavation and geotechnical considerations, and Appendix J of the California UBC addresses grading, excavation, fill, drainage, and erosion control considerations (UpCodes 2024). Therefore, there would be no significant impact to people or structures from seismic-related activity as a result of the project. This impact would be **less than significant**.

#7 -a. iv. Landslides?

Project related activities are limited to an area located away from steep slopes. The project does not involve construction of habitable structures and the project would not result in substantial adverse impacts including risk of loss, injury, or death due to seismic-related landslides. Therefore, the impact from the project would be **less than significant**.

#7 -b. Result in substantial soil erosion or the loss of topsoil?

The Marina dredging and special use boat launch facility areas are generally inundated with water during times when the Lake level is high and exposed when Lake levels are low. The District intends to conduct construction in the dry when the water is low. Soils around the Lake are generally moderately erosive, and if the activity were to occur in the dry, the potential for scouring from wave action or erosion from rainfall would be low. Under dry conditions, the Lakebed to be excavated would be exposed.

If dredging occurs in the wet, a temporary, rock and earthen material cofferdam would be constructed. The cofferdam would divert water away from the work zone allowing the Lake bottom to be exposed for equipment to excavate the sediment. Soil used to construct the cofferdam would be excavated from the Lake shoreline and processed by size and soil composition to ensure suitable material is used as fill. The embankment of the cofferdam would be compacted and shaped to a slope of 2H:1V and protected from scour by application of a synthetic cover or placement of rip rap. A silt curtain, or similar, would be placed around the construction area to avoid sediment from entering the lake would be introduced.

Construction of the cofferdam and subsequent dredging of sediment could result in the temporary and short-term disturbance of soil. Introduction of the cofferdam would expose material to the potential scouring effects of wave action which could erode the embankment and result in the suspension of soil particles in the water column, thereby temporarily increasing turbidity in the Lake. Rainfall may also cause sediment laden runoff if the rain were to fall onto exposed soil stockpiled on land. Once soil particles are dislodged from the stockpile, and the storm is large enough to generate runoff, substantial localized erosion could occur. Operation of the proposed

special use boat launch facility would not create the potential for soil erosion or loss of topsoil after dredging is complete. However, since there is potential for substantial soil erosion and loss of topsoil during project construction activities, the impact from the project would be considered **significant**.

Mitigation Measure GEO-1 has been identified to address this impact.

Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan, if required, Implement Erosion Control Best Management Practices, and Comply with San Bernadino County Standards for Grading and Erosion Control.

Project related activities would be subject to SWRCB's Statewide Stormwater General Permit for Construction (2009-0009-DWQ) (General Construction Permit) The General Construction Permit will be obtained by the District before beginning ground-disturbing activities. If the project must be implemented in the wet condition, the District may be subject to Santa Ana RWQCB General Waste Discharge Requirements and NPDES Permit for Limited Threat Discharges to Surface Waters (Order R8-2015-0004/NPDES Permit No. CAG998001), which apply to various categories of construction activities including dewatering.

The District shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that identifies BMPs for erosion control and to prevent or minimize the introduction of contaminants into surface waters. These BMPs for in-channel construction may include, but are not limited to, silt fencing, straw bale barriers, fiber rolls, hydraulic mulch, silt curtains, cofferdams, the use of environmental dredges, and erosion control on all exposed earthen banks. The SWPPP will include development of site-specific structural and operational BMPs to prevent and control impacts on runoff quality, measures to be implemented before each storm event, inspection, and maintenance of BMPs, and monitoring of runoff quality by visual and/or analytical means. The SWPPP will also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. The BMPs shall be clearly identified and maintained in good working condition throughout the construction process. Turbidity shall be monitored up- and downstream of construction sites as a measure of impact. The construction contractor shall retain a copy of the approved SWPPP on the construction site and modify it as necessary to suit specific site conditions.

If required, the District would obtain and comply with all provisions of a San Bernardino County Grading Permit, which includes submittal of design plans to the County Building and Safety Department for verification of compliance with the California Building Code, San Bernardino County Development Code, and/or any required laws and regulations.

Timing: Before and during construction activities.

Responsibility: The District and its construction contractor(s).

Significance after Mitigation: Implementation of Mitigation Measure GEO-1 would minimize the potential impact from construction-related erosion because a SWPPP and/or BMPs would be implemented to prevent and control pollution and minimize and control runoff and erosion. Therefore, the impact from the project would be **less-than-significant with mitigation incorporated**.

#7. -c and d. 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 offsite landslide, lateral spreading, subsidence, liquefaction, or collapse? Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property

Refer to Impact #3-a.ii and a.iv, above for a discussion of potential hazards associated with ground shaking, ground failure, liquefaction, and landslides. During project construction activities, unstable soils could expose persons working in the project area to hazards while operating heavy equipment. The District and its contractors would be required to adhere to all Cal/OSHA requirements for working within active construction sites that would ensure the safety of all construction workers onsite.

Furthermore, in the project area, expansive soils are not considered a hazard because the soils contain little clay and are primarily derived from the regional granitic bedrock. Nonetheless, as discussed previously, the project design would comply with the California UBC, which regulates the design of projects to reduce potential hazards, including landslides, lateral spreading, subsidence, liquefaction or collapse. Therefore, relative to existing conditions, the proposed project would not expose people or structures to new potential substantial adverse effects related to unstable or expansive soils. This impact would be **less than significant**.

#7 -e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed project would not require the use of septic tanks or alternative wastewater disposal systems. During project implementation, the District or the contractor may have portable toilet facilities available onsite temporarily for use by construction workers. Once project-related construction activities are concluded, such portable facilities would be removed, and the wastewater properly handled and disposed in accordance with all applicable laws and regulations. There would be **no impact** associated with wastewater disposal.

#7 -f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

A paleontological survey completed in 2017 as part of the environmental review for the District's Grubbing and Clearing project indicates that no previously recorded fossil localities have been recorded within or near Marina. Based on the proposed depth of ground disturbance of for the project, only low paleontological sensitivity Holocene-aged younger deposits and previously

disturbed sediments are expected to be encountered and impacts to paleontological resources are not anticipated. (Paleo Solutions 2017). Project related dredging would have a low potential to disturb any unique paleontological resources. Therefore, this impact would be **less than significant**.

3.7 Greenhouse Gas Emissions

#8. GREENHOUSE GAS EMISSIONS.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	No	No	**Yes**	No	No
#8 -b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No	No	**Yes**	No	No

3.7.1 Environmental Setting

Greenhouse Gas (GHG) emissions are defined as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Senate Bill 32 (Health & Safety Code § 38566) set a Statewide emission reduction mandate of 40 percent below 1990 levels by 2030. CARB was appointed to develop policies to achieve this goal. Additionally, Executive Order B-55-18 set a target of Statewide carbon neutrality by 2045 (State of California 2018). In 2022, CARB published an updated Climate Change Scoping Plan, the 2022 Scoping Plan for Achieving Carbon Neutrality (CARB 2022).

In September 2011, San Bernardino County adopted the County of San Bernardino Greenhouse Gas Emissions Reduction Plan (GGERP), which outlines a strategy to use energy more efficiently, harness renewable energy to power buildings, enhance access to sustainable transportation modes, and recycle waste. An Update to the County of San Bernardino GGERP was prepared in 2021 and includes a new countywide GHG emissions inventory and estimated future emissions, as well as the addition of new local reduction measures and an implementation process (San Bernardino County 2021). Additionally, the San Bernardino Associated Governments has developed a Regional Greenhouse Gas Reduction Plan (San Bernardino Council of Governments 2021) which covers 23 participating agencies including land in unincorporated San Bernardino County. The Update to the San Bernardino GGERP has been incorporated into the Regional Greenhouse Gas Reduction Plan. Unincorporated San Bernardino selected a goal to reduce its community GHG emissions to a level that is 40 percent below its 2020 GHG emissions level by 2030. The area will meet and exceed this goal through a combination of State (approximately 80 percent) and local (approximately 20 percent) efforts. The Pavley vehicle standards, the State's low carbon fuel standard, the Renewable Portfolio Standard, and other state measures will reduce GHG emissions in the on-road, solid waste and building energy sectors in 2030. An additional reduction of 254,625 metric tons (MT) of carbon dioxide equivalent (CO_2e) will be achieved primarily through solar installations and waste diversion and reduction (San Bernardino Council of Governments 2021).

3.7.2 Discussion

#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Operation of heavy equipment during construction is needed for sediment removal, construction of the special use boat launch facility, transportation of spoils, and placement of material at the staging and stockpile location. The project would temporarily emit GHG from these activities. GHGs are believed to contribute to global climate change including carbon dioxide, methane, and nitrogen oxides. As described in Section 3.3, "Air Quality," the CalEEMod Version 2022.1.122 was used to estimate emissions from the project, including GHGs. SCAQMD provides guidance on the method and assumptions to be used when evaluating a project's construction and operation-related GHG emissions (SCAQMD 2008). For the purposes of determining whether GHG emissions from projects are significant, project emissions including direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation are estimated. Because the proposed project would not result in any operational emissions as compared to existing conditions, the analysis evaluates construction-related emissions over the course of the 20-week construction period. Based on SCAQMD guidance (SCAQMD 2008), the District uses a tiered approach when evaluating project emissions of GHG.

Tier 1 – consists of evaluating whether the project qualifies for any applicable exemption under CEQA. If the project does not qualify for an exemption, then it would move to the next tier.

Tier 2 – consists of determining whether the project is consistent with a GHG reduction plan that may be part of a local general plan. If the proposed project is consistent with the local GHG reduction plan, it is not significant for GHG emissions. If the project is not consistent with a local GHG reduction plan, there is no approved plan, or the GHG reduction plan does not include all of the components described in the SCAQMD guidance document, the project would move to Tier 3.

Tier 3 – requires project-related emissions are compared to thresholds for industrial use (10,000 MT CO_2e/year), and commercial/residential (3,000 MT CO_2e/year).

Project generated GHG emissions during construction in 2025 is estimated at 240 MT CO_2e. Additionally, project generated emissions during demobilization in 2026 is estimated at 15.2 MT CO_2e. (see Appendix A). Therefore, GHG emissions generated from project construction activities would be substantially below the threshold of 3,000 MT CO_2e/year. All project-related GHG emissions would cease upon completion of construction activities and no operational emissions would be generated. Because the estimated emissions are below the SCAQMD screening threshold, this impact would be l**ess than significant**.

#8 -b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The project would temporarily generate emissions of pollutants including those identified as potential sources of GHG for a period of approximately 20 weeks. No emissions of GHGs would be generated upon completion of construction of the proposed project. The project does not include occupied structures that require utility service or that influence demographic projections contained in the Regional Greenhouse Gas Reduction Plan. Additionally, the project would not inhibit the implementation of any reduction measures. Therefore, the project would not conflict with plans, policies, or regulations prepared with the purpose of reducing GHG emissions. The project's impact would be **less than significant**.

3.8 Hazards and Hazardous Materials

#9. HAZARDS AND HAZARDOUS MATERIALS.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#9 -a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No	**Yes**	No	No	No
#9 -b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No	No	**Yes**	No	No
#9 -c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No	No	No	**Yes**	No
#9 -d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No	No	No	**Yes**	No
#9 -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	No	No	**Yes**	No
#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No.	No	**Yes**	No	No
#9 -g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No	**Yes**	No.	No	No

3.8.1 Environmental Setting

A search of publicly accessible databases was conducted to identify known hazardous materials sites in the project area. The database search included all data sources included in the Cortese List (enumerated in PRC Section 65962.5). These sources include the GeoTracker database, a groundwater information management system that is maintained by the SWRCB; the Hazardous Waste and Substances Site List (i.e., the EnviroStor database), maintained by the California Department of Toxic Substances Control (DTSC); and EPA's Superfund Site database (DTSC 2021a and 2021b, SWRCB 2021a and 2021b, CalEPA 2021, EPA 2021).

The database search identified two recorded sites within a 0.25-mile radius of the project site. Wahl's Texaco located at 40553 Big Bear Blvd is listed as the source of soil and groundwater contamination from a leaking underground storage. Groundwater monitoring and remedial actions have been completed and remaining petroleum constituents from the release are considered to be a low threat to Human Health, Safety, and the Environment. (SWRQCB 2022).

The Marina contains one open site that is undergoing remediation. In May 1993, three former underground storage tanks, consisting of one 6,000-gallon tank and two 10,000-gallon tanks use for the storage of gasoline, were removed from the Big Bear Marina, along with approximately 250 cubic yards of contaminated soil (Kendall/Adams Group Inc., May 2017).

Subsequent investigations determined that both an area of vadose zone soils and the shallow groundwater regime underlying the former tanks were impacted by product discharges from the former underground storage tanks. Following that determination, a total of nine groundwater monitoring wells were installed at the project site for the acquisition of water quality samples. In the spring of 2000, a bioremediation program was initiated to accelerate site remediation efforts. Coupled with that program, quarterly groundwater monitoring was instituted to assess changes in local water quality. After four rounds of monitoring, it was evident that the presence of significant dissolved gasoline concentrations had been reduced to a localized area surrounding Wells MW-3 and MW-5. However, within that localized area, concentrations were not declining, suggesting that a zone of remnant soil contamination was continuing to leach gasoline into the water.

In 2009, the Santa Ana RWQCB assumed direct regulatory oversight of the project from the County of San Bernardino. The Santa Ana RWQCB directed that a corrective action program be developed to reduce contaminant concentrations beneath the subject peninsula. To that end, a groundwater collection and disposal system was installed in November 2010 to capture contaminated groundwater from the project area and discharge that water to the local sewer. Routine groundwater sampling is conducted from the six monitoring wells and the collection vault and analyzed for EPA Method 8015M (TPH as gasoline) and EPA Method 8021B - Aromatic Hydrocarbons. In addition, any MtBE findings detected by Method 8021B were confirmed by EPA Method 8260B. Review of the historical sampling data indicates that hydrocarbon levels have been declining over the years, with samples from wells located on the outer limits of the remnant soil contamination area returning results of either "none detected" or a trace for the sampled compounds (Kendall/Adams Group Inc., May 2017).

The project site is not in an area identified as more likely to contain asbestos by the California Department of Conservation (DOC 2000).

The project site is located within an area designated as a very high- and moderate severity- fire hazard zone (CALFIRE 2024). As part of the Big Bear Community Wildfire Protection Plan, the Big Bear Fire Department has initiated an evacuation route sign project by installing signs in the Valley which clearly identify evacuation routes on surface streets that lead to the three primary routes into the Valley. There are three main escape routes out of the Bear Valley: SR 18 north to the Lucerne Valley; SR 18 southwest to Highway 330; and connecting to SR 30, and SR 38 south to Redlands (Big Bear Fire Department 2018).

3.8.2 Discussion

#9 -a and b. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No acutely hazardous materials (as defined in Tit. 22 Cal. Code Regs. § 66260.10) are required to be used or stored for the project. Hazardous materials used during project activities include gasoline, diesel fuel, oil, solvents, and lubricants associated with construction equipment, vehicles, and activities. These materials would be transported, used, and disposed of in accordance with applicable laws, regulations, and District protocols designed to protect the environment, workers, and the public.

For all work along the shoreline and in the Lake, BMPs are designed to protect water quality and the shoreline in the event of an equipment malfunction. Use of heavy equipment along the shore or the Lake itself has the potential to impair water quality from soil and entrained contaminants entering receiving waters through stormwater, leaks involving lubricating oil, or hydraulic fluids, and accidental spills. Therefore, this potential impact would be considered **significant**.

Mitigation Measure HAZ-1 was identified to address this impact.

> **Mitigation Measure HAZ-1: Implement Best Management Practices to Minimize the Potential Release of Hazardous Materials.**
>
> Project-related vehicles and equipment will be maintained prior to site access and checked and maintained daily to prevent leaks of materials that, if introduced to the water, could be deleterious. Equipment fueling will occur outside the dredge site whenever possible. If a stationary piece of equipment cannot be readily moved out of the lake for fueling, a containment system will be used to capture any accidental spill. Onsite fueling trucks and fueling areas will contain spill kits and/or other spill protection devices. Vehicle and equipment fluid spills will be cleaned up immediately. Equipment and material staging/storage will occur outside the channel. No project-related hazardous substances will be allowed to contaminate the soil and/or enter into or be placed where it may be washed by rainfall or runoff into Big Bear Lake.
>
> **Timing:** Before and during construction activities.
>
> **Responsibility:** The District and its construction contractor(s).

Significance after Mitigation: Implementation of Mitigation Measure HAZ-1 would minimize the potential for release of hazardous materials at the project site by providing barriers to prevent fluids from entering the waterway, readily available materials to quickly clean spills or leaks, and careful selection of staging above the waterline to avoid proximity to waterways. Therefore, the impact from the project would be **less-than-significant with mitigation incorporated**.

#9 -c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no schools within 0.25 mile of the project site. There would be **no impact**.

#9 -d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The project site is not identified on lists compiled pursuant to Government Code Section 65962.5. There would be **no impact**.

#9 -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?

The project site is not within an airport land use plan area or within 2 miles of a public or public use airport. There would be **no impact**.

#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not affect emergency response or evacuation activities as the project components are minor in size and scope. The project site is within and adjacent to the Lake, and sediment not used for the special use boat launch facility would be taken to the staging and stockpile site without having to use local roads. Implementation of the proposed project would not require road closures, and therefore, the proposed project would not interfere with traffic routes or response vehicle transport.

Operation and maintenance activities for the proposed project would be substantially similar to current activities. No operation-related activities would occur within surrounding rights-of-ways that could impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. As a result, the impact from the project would be **less than significant**.

#9 -g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project site is located within a natural area containing the Lake and recreational uses, commercial uses, and some residences. Trees exists throughout and around the project area.

Furthermore, the project area is located near forestland less than a mile to the south. The project site is within State Responsibility Area (SRA), with a fire hazard severity classification of very high and moderate. The use of spark-producing construction machinery within this fire risk area could create hazardous fire conditions and expose construction workers to wildfire risks. This impact would be **significant**.

Mitigation Measures HAZ-2 and HAZ-3 have been identified to address this impact.

Mitigation Measure HAZ-2: Prepare and Implement BMPs for Wildland Fire Prevention.

As part of the SWPPP for the Construction General Permit, or otherwise, the District shall develop and implement BMPs for wildland fire prevention. As part of these BMPs, the District shall ensure that the construction contractor will clear dried vegetation or other materials that could serve as fuel for combustion from construction or building areas. To the extent feasible, the contractor shall keep these areas clear of combustible materials to maintain a firebreak. Construction contractors shall ensure that construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles and heavy equipment. Additionally, the District will provide construction workers with education regarding wildfire risk and fire prevention measures during tailgate safety meetings.

Timing: Before and during construction.

Responsibility: District and its construction contractor(s).

Mitigation Measure HAZ-3: Prepare and Implement Fire Safety Plan.

The District shall prepare and implement a Fire Safety Plan during project construction. The plan will describe the fire prevention process for construction activities, weather conditions during which fire risk is elevated and all equipment operation shall cease and other measures taken to reduce fire risk, equipment used to prevent fire and respond to a fire immediately, and responsibilities of the work crews when conducting construction activities.

Timing: Before and during construction

Responsibility: District and its construction contractor(s).

Significance after Mitigation: Implementation of Mitigation Measures HAZ-2 and HAZ-3 would reduce potentially significant impacts associated with wildfire ignition and spread by requiring use of BMPs during construction to reduce the likelihood of accidental fires and preparing and implementing a Fire Safety Plan. Additionally, the District would coordinate with the construction contractor to make sure that the requirements outlined in these measures are implemented during construction activities. Impacts would be **less-than-significant with mitigation incorporated.**

3.9 Hydrology and Water Quality

#10. HYDROLOGY AND WATER QUALITY.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	**No**	**Yes**	No	No	No
#10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No	No	No	**Yes**	No
#10 -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:					
#10 -c. i. result in substantial erosion or siltation on- or offsite;	No	**Yes**	No	No	No
#10 -c. ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No	No	**Yes**	No	No
#10 -c. 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	No	No	**Yes**	No	No
#10 -c. iv. impede or redirect flood flows?	No	No	**Yes**	No	No
#10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No	No	**Yes**	No	No
#10 -e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No	No	No	**Yes**	No

3.9.1 Environmental Setting

Hydrology

Big Bear Lake forms the headwaters of Bear Creek, which is a tributary to the Santa Ana River. The Lake receives water from several small valleys that form sub basins including Grout Creek to the northwest, Van Dusen Canyon to the northeast Sawmill Canyon to the southeast, Tathburn Creek to the southeast, Knickerbocker Creek and Metcalf Creek to the south, and North Creek to the southwest. These are all seasonal streams that are typically dry during summer months. The Lake depth is an average of 35 feet with a maximum depth (at the spillway crest) of 72 feet when the Lake is full (USACOE 2006).

Groundwater

Three distinct aquifers are contained within Bear Valley. The upper aquifer is located within the permeable alluvial sediments underlying the Lake and is approximately 50 feet thick and unconfined to semi-confined. The middle and lower aquifers are in older alluvium deposits and bedrock formations, respectively and are confined (USACOE 2006). The Bear Valley aquifer is listed as very low priority, meaning it is not critically over drafted (California Department of Water Resources 2016a).

Water Quality

The 1995 Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) identifies several beneficial uses for Big Bear Lake including cold freshwater habitat (COLD), warm freshwater habitat (WARM), water contact recreation (REC1), non- contact water recreation (REC2), wildlife habitat (WILD), municipal and domestic supply (MUN), agricultural supply (AGR), rare, threatened, or endangered species (RARE) and groundwater recharge (GWR).

CWA Section 303(d) requires that states assess the quality of their waters every two years and publish a list of those waters not meeting the water quality standards established for them. Big Bear Lake and several of its tributaries are listed on the 303(d) list of impaired water bodies for mercury, noxious aquatic plants, nutrients, and polychlorinated biphenyls (PCBs). Once a water body is placed on the 303(d) List of Water Quality Limited Segments, it remains on the list until a Total Maximum Daily Load (TMDL) is adopted and the water quality standards are attained or there are sufficient data to demonstrate that water quality standards have been met and delisting should take place. A Nutrient TMDL for Dry Hydrologic Conditions in Big Bear Lake (resolution No. RS-2006-0023) was adopted to establish the appropriate numeric targets that would indicate protection of beneficial uses, along with an implementation plan that specifies activities and a schedule to attain TMDL targets. The District manages water quality in part through a number of activities, including:

- Control and removal of aquatic plants;
- Removal of dry/dead aquatic plant matter along the dry shoreline;
- Dredging of the shoreline and stream confluences to remove shallow habitat used by invasive aquatic plants; and
- Applying alum, as necessary.

Flood Management

The project site is within a Federal Emergency Management Agency (FEMA) Zone A (Area of high risk with 1 percent chance of annual flooding and no base flood elevation), The project is not in a coastal area and is outside of a tsunami hazard zone (FEMA 2008).

3.9.2 Discussion

#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Removal of excess sediments from the Lake bottom has been identified as a key TMDL activity to meet the TMDL standards to improve water quality. Therefore, project-related dredging would ultimately serve to enhance water quality and support the District's efforts to maintain water quality standards set forth by the RWQCB. However, construction of a temporary earthen cofferdam required for dredging and special use boat launch facility construction would place fill material onto the Lakebed. During the wet season when water levels are high, wind or water driven erosion of soil could carry soil particles into the Lake, as discussed in Impact #7-b in Section 3.7, "Geology and Soils."

Furthermore, as discussed in Impact #9a and b in Section 3.9, "Hazards and Hazardous Materials," construction activities would require the use of hazardous materials such as gasoline and oil. Use of hazardous materials associated with construction activities of the project have the potential to impair water quality from soil and entrained contaminants entering receiving waters through stormwater, leaks, and accidental spills. Impacts to water quality from the construction-related erosion and hazardous material use would be considered **significant**.

Mitigation Measures GEO-1 and HAZ-1 have been identified to address this impact.

> **Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan, if required, Implement Erosion Control Best Management Practices, and Comply with San Bernardino County Standards for Grading and Erosion Control.**
>
> Please refer to Mitigation Measure GEO-1 in Chapter 3.7, "Geology and Soils," for the full text of this mitigation measure.
>
> **Mitigation Measure HAZ-1: Implement Best Management Practices to Minimize the Potential Release of Hazardous Materials.**
>
> Please refer to Mitigation Measure HAZ-1 in Chapter 3.9, "Hazards and Hazardous Materials," for the full text of this mitigation measure.

Significance after Mitigation: Implementation of Mitigation Measure GEO-1 would minimize the potential impact from construction-related erosion because a SWPPP and/or BMPs would be implemented to prevent and control pollution and minimize impacts to water quality. Additionally, the implementation of Mitigation Measure HAZ-1 would minimize the potential for release of hazardous materials at the project site by providing barriers to prevent fluids from entering the waterway, readily available materials to quickly clean spills or leaks, and careful selection of staging above the waterline to avoid proximity to waterways. Therefore, the project would be **less-than-significant with mitigation incorporated**.

#10 -b, e. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The proposed project would not use groundwater supplies during construction or operation. Additionally, the project area is not included in a high-priority basin or a basin requiring the preparation of a Groundwater Sustainability Plan under Sustainable Groundwater Management Act, and therefore, would not interfere with implementation of any sustainable groundwater management plan. Further, project related dredging would remove 14,000 CY of nutrient-laden sediments that contribute to impairment of the Lake water quality. Dredging is one of the methods identified to attain the TMDLs set by the RWQCB. Therefore, implementation of the proposed project is consistent with an adopted water quality control plan and would not conflict with plans and programs created to improve surface water quality. The proposed project would have **no impact**.

#10 -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, ii, iii, iv) Result in substantial erosion or siltation on- or offsite? Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite? 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? Impede or redirect flood flows?

The project area would introduce new impervious surfaces for the special use boat launch facility that could alter the existing drainage pattern of the project site at the Lake. The proposed project components would be designed to include retaining walls and storm drains to reroute surface runoff away from the Lake. The drainage infrastructure would enable stormwater to flow around or through the site in a manner that would prevent erosion, siltation, flooding, polluted runoff, or the exceedance of stormwater drainage systems capacities.

Dredging and special use boat launch facility construction would require temporary earth-moving activities which would alter the topography of the Lake within the project site. As discussed above #7-b in Chapter 3.7, "Geology and Soils," and #10-a above in this section, project construction activities have the potential to result in erosion or siltation, flooding, and polluted runoff into the Lake. Therefore, potential impacts to water quality from alteration of the Lake would be **significant**.

Mitigation Measure GEO-1 has been identified to address this impact.

> **Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan, if required, Implement Erosion Control Best Management Practices, and Comply with San Bernardino County Standards for Grading and Erosion Control.**
>
> Please refer to Mitigation Measure GEO-1 in Chapter 3.7, "Geology and Soils," for the full text of this mitigation measure.

Significance after Mitigation: Implementation of Mitigation Measure GEO-1 would minimize the potential impact from erosion because a SWPPP and/or BMPs would be implemented to prevent and control pollution and minimize and control runoff and erosion. Therefore, the impact from the project would be **less-than-significant with mitigation incorporated**.

#10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The project site is within the Lake, a 100-year flood plain, and near the Dam. However, due to the project area's distance away from the Pacific Ocean, the project is not located within a tsunami risk area.

A SWPPP would be prepared and implemented during construction activities to ensure proper handling of chemicals and avoid release of pollutants to the project site. As such, impacts due to potential release of pollutants in a flood hazard or dam inundation area would be less than significant.

Although highly unlikely, if a large seiche occurred, it could risk the release of pollutants due to project inundation above the Lake's water edge and into the special use boat launch facility launch area and staging and stockpile area. In the unlikely event that a seiche were to occur at the project site during construction, evacuation would need to occur to remove workers from the area and minimize risk of exposure to pollutants being used within and/or near the Lake. After construction, the proposed project would develop a new special use boat launch facility for District- and first responder-use. Similar to construction workers, District staff would need to evacuate the area if a seiche were to occur. Although the proposed project would introduce construction workers into the area and provide a new special use boat launch facility for District-use, implementation of the project would not change the potential for a seiche to occur at the project site as compared to existing conditions. Therefore, the project would not exacerbate or increase the likelihood that pollutants are released due to seiche inundation. This impact would be **less than significant**.

3.10 Land Use and Planning

#11. LAND USE AND PLANNING.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#11 -a. Physically divide an established community?	No	No	No	**Yes**	No
#11 -b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No	No	**Yes**	No.	No

3.10.1 Environmental Setting

The project area is in unincorporated San Bernadino County and surrounded by land within the incorporated City of Big Bear Lake. The Lake bottom is designated by the County of San Bernadino as Bear Valley/Floodway (BV/FW) while the staging and stockpile site is designated for commercial office use (CO).

The BV/FW land use zoning district provides sites for animal keeping, grazing, crop production, and similar compatible uses. Under Section 82.03.070 of the Development Code, structures are not allowed in the FW zone, and no land designated as floodway can be graded or improved in a manner that results in increased flood levels during the occurrence of the base flood discharge (County of San Bernardino 2022).

The Commercial Office (CO) land use zoning district provides sites for professional services, and similar and compatible uses. Table 82-11 of the County Code lists allowed land uses and permit requirements for commercial land use zoning districts. The table indicates that accessory uses related to the primary use are permitted in the CO land use zoning district.[1] The code considers exterior storage to be an accessory use that is subject to requirements for screening and sanitation (County of San Bernardino 2022).

[1] Accessory uses are defined under section 84.01.040 Commercial and Industrial Accessory Structures and Uses, as those necessarily and customarily associated with and are clearly incidental and subordinate to the primary land use.

3.10.2 Discussion

#11 -a. Physically divide an established community.

The physical division of an established community generally refers to the construction of a feature such as an interstate highway or railroad tracks, or removal of a means of access, such as a local road or bridge that would impact mobility within an existing community or between a community and outlying area. Given that the project would not construct any permanent and linear physical structures between two communities, the proposed project would result in **no impact** to the physical division of an established community.

#11 -b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project would dredge the area and construct a special use boat launch facility that is similar to the existing boat ramp within the Marina. The proposed project would provide long-term benefits to public safety, recreational opportunities in the area, and water quality benefits. Implementation of the proposed project would not have a long-term detrimental impact on the management or use of surrounding natural resources or recreation. The proposed project would develop facilities that are already existing within the project area and would not change the overall character of uses in the vicinity of the project site or result in land use inconsistencies with local and regional plans. Therefore, this impact would be l**ess than significant**.

3.11 Mineral Resources

#12. MINERAL RESOURCES.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#12 -a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	No	No	**Yes**	No	No
#12 -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?	No	No	No	**Yes**	No

3.11.1 Environmental Setting

The Big Bear Lake area has been known for historic gold mining. The project site is designated as MRZ 3a with a minor potential for gold resources. A MRZ-3 designation indicates the area is known for mineral resource occurrence, but sufficient data does not exist to determine the significance of mineral resources. However, because of the extensive exploration that this area has undergone during the last century, there is no indication that undiscovered gold deposits are available (DOC 1994).

3.11.2 Discussion

#12 -a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

The project site is in a Surface Mining and Reclamation Act of 1975 study area and has the potential to contain mineral resources. The project would construct and operate a new special use boat launch facility. However, this boat launch facility would be within an area that is sometimes inundated and would not preclude future use for resource extraction. No portion of the site or surrounding area is zoned for resource recovery and no such operations occur in the vicinity. Therefore, this impact would be **less than significant**.

#12 -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?

The project site is not located within the vicinity of a locally important mineral resource recovery site. There would be **no impact**.

3.12 Noise

#13. NOISE.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#13 -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 in other applicable standards of other agencies?	No	No	**Yes**	No	No
#13 -b. Generation of excessive groundborne vibration or groundborne noise levels?	No	No	**Yes**	No	No
#13 -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 2 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	No	No	**Yes**	No

3.12.1 Environmental Setting

Ambient noise near the Big Bear Marina is associated with motor vehicle traffic along Highway 18, Big Bear Boulevard, boats and watercraft operating on the Lake, and at the boat ramps when watercraft are entering or exiting the Lake. Mechanical equipment that serves commercial areas, such as snow-making equipment and entertainment venues, also contribute to noise in the community.

The County's Development Code (Division 3, Countywide Development Standards; Chapter 83.01, General Performance Standards, Section 83.01.080, Noise) sets interior and exterior noise standards for specific land uses by type of noise source. Noise standards for stationary noise sources at residential properties is 55 dBA Leq from 7 a.m. to 10 p.m. and 45 dBA Leq from 10 p.m. to 7 a.m. Areas exposed to noise levels exceeding these standards are considered noise-impacted areas. The County's Development Code exempts noise generated by construction activities from the ordinance, if construction is limited to the hours between 7 a.m. and 7 p.m., except on Sundays or federal holidays, when construction is not allowed (County 2020).

Development Code Section 83.01.090, Vibration, establishes standards for acceptable vibration levels. The section states that no ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.20) inches per second measured at or beyond the lot line. Temporary construction, maintenance, repair, or demolition activities between 7 a.m. and 7 p.m. are exempt from this vibration limit, except on Sundays and federal holidays, when construction is prohibited (County 2020).

3.12.2 Discussion

#13 -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 in other applicable standards of other agencies?

The proposed project would temporarily increase ambient noise levels within the vicinity of the construction area. A list of equipment typically used during construction activities along with typical noise levels generated at 50 feet from the equipment (reference levels) is shown in **Table 3-5**. As shown, noise levels at 50 feet from the source are as high as 85 dB(A). The closest sensitive receptors to the project site are single family homes located approximately 350 feet west. Noise levels experienced at these homes would vary depending on the method of dredge activity (dry or wet conditions) and the distance between the activity and the receptor.

Table 3-5. Typical Equipment Noise Levels

Type of Equipment	Typical Noise Levels (dB) Lmax at 50 Feet
Backhoe	80
Excavator	85
Loader	80
Dump Truck	80
Pick-up Truck	75

Notes: dB = decibels; Lmax = maximum instantaneous sound level

Source: Construction equipment list based on Federal Highway Administration (FHWA) 2006, adapted by GEI in 2024

Operation of equipment at the project site would be limited to the hours between 7 a.m. and 7 p.m., except on Sundays or federal holidays, when construction is not allowed, so project related noise would be exempt from the County performance standards outlined in Section 83.01.080 (Noise) of the Development Code. Due to the temporary nature of the dredging, that the activity would occur during daytime hours when people are less sensitive to noise, and that the project would comply with construction limitations outlined in the County code, noise impacts from the project would be **less than significant**.

#13 -b. Generation of excessive groundborne vibration or groundborne noise levels?

Activities associated with implementation of the proposed project have the potential to generate low levels of groundborne vibration due to the operation of equipment (i.e., haul trucks). Groundborne vibrations propagate though the ground and rapidly diminish in intensity with increasing distance from the source. No high-impact activities, such as pile driving or blasting, would be used during construction.

Sources of vibration can include excavators, dump trucks, backhoes, and other general construction equipment. According to the Federal Transportation Administration (FTA) guidelines, a vibration level of 65 decibel notation (VdB) is the threshold of perceptibility for humans (**Table 3-6**). The FTA guidelines also state that for a significant impact to occur, vibration

levels must exceed 80 VdB during infrequent events (FTA 2006). Based on the approach set forth in the FTA guidelines (Table 15). This analysis adopts a threshold of significance of 80 VdB for groundborne vibration impact.

Table 3-6. Vibration Levels for Typical Construction Equipment

Equipment	Vibration Level (25 feet)
Excavator	87 VdB
Dozer/Loader	58 VdB
Truck	86 VdB

Notes: VbB=vibration decibals
Source FTA 2006

Operation of equipment at the project site would be limited to the hours identified in the County Development Code so project related vibration would be exempt from the County performance standards outlined in Section 83.01.090 (Vibration) of the Development Code. Due to the temporary nature of construction, that the activity would occur during daytime hours when people are less sensitive to noise, and that the project would comply with construction limitations outlined in the County code, noise impacts from the project would be **less than significant**.

#13 -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 2 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?

The project site is not within an airport land use plan area or within 2 miles of a public or public use airport. Therefore, the proposed project would not expose people residing or working in the area to excessive noise levels. There would be **no impact**.

3.13 Population and Housing

#14. POPULATION AND HOUSING.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#14 -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	No	No	**Yes**	No
#14 -b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No	No	No	**Yes**	No

3.13.1 Environmental Setting

The project site is in the community of Bear Valley which is an unincorporated area of San Bernadino County. Total population within the community was estimated to be 5,206 persons for the year 2020. Population trends show a decrease of 0.2 percent between the years 2000 through 2020 (DOF 2020).

3.13.2 Discussion

#14 -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)?

The proposed project does not include construction of new homes or businesses that would result in a direct increase in population or create a substantial number of jobs. While the proposed project could result in temporary employment during construction activities, the onsite workforce for each construction phased would require a maximum of 10 people, which is nominal over the temporary construction period. The construction workers would come from the existing labor pool within San Bernardino County. As such, the proposed project would not require construction of housing to accommodate workers, since they would commute to the site. Once construction activities are complete, the proposed project would not otherwise directly induce population growth. **No impact** would occur.

The proposed project would not remove an obstacle to growth, such as a constraint on a required public service, such as roads, water supply or wastewater treatment capacity. A primary objective of the proposed project is to improve recreational and District access to the Lake. Local land use decisions are within the jurisdiction of the County, which has adopted a general plan consistent with State law. The General Plan provides an overall framework for growth and development in the County, including the project vicinity. However, improved boat access provided by the proposed project would not affect population goals outlined in the General Plan. The current use of the project site would not be changed by the proposed project. Therefore, the project would not directly or indirectly induce substantial population growth, and there would be **no impact**.

#14 -b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No residences would be condemned or displaced by the proposed project. Therefore, the proposed project would not displace people or housing necessitating the construction of replacement housing elsewhere. There would be **no impact**.

3.14 Public Services

#15. PUBLIC SERVICES. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
Fire protection?	No	No	No	**Yes**	No
Police protection?	No	No	No	**Yes**	No
Schools?	No	No	No	**Yes**	No
Parks?	No	No	No	**Yes**	No
Other public facilities?	No	No	No	**Yes**	No

3.14.1 Environmental Setting

Fire protection and emergency response services for Bear Valley are provided by the Big Bear Fire Department from their headquarter location at 41090 Big Bear Boulevard and other unmanned stations including a station at 42610 Rathbun Drive. These services are supplemented by mutual aid agreements with the State and the U.S. Forest Service under special circumstances. The Big Bear Fire Department provides Valley-wide emergency services, equipment, and personnel. The project site is approximately 0.8 miles from the headquarter location. Police service is provided by the San Bernardino Sheriff's Department through the Sheriff's Office location at 477 Summit Boulevard. The office is located less than 2 miles from the project site.

3.14.2 Discussion

#15 -a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

The proposed project involves dredging and constructing and operating a special use boat launch facility at the Marina. The project activities are consistent with other existing activities and uses within and around the project area including at the existing Marina. Implementation of the proposed project would not change existing demand for public services described above because the proposed project would not result in a permanent increase of employees or population to the project area. The proposed project would not substantially increase the need for new public services' staff or develop new facilities as compared to existing conditions. There would be **no impact**.

3.15 Recreation

#16. RECREATION.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#16 -a. 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?	No	No	**Yes**	No	No
#16 -b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	No	No	No	No	**Yes**

3.15.1 Environmental Setting

The project site is in unincorporated San Bernardino County adjacent to the boundary with the City of Big Bear Lake, which is a mountain community offering year-round recreational opportunities. Project-related activities would take place within the boundary of the Marina, which offers recreational boating opportunities including boat docks and ramps to take watercraft into and out of the Lake.

3.15.2 Discussion

#16-a. 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?

The proposed project would not directly or indirectly induce population growth (see Chapter 3.14, "Population and Housing"), and therefore, would not introduce new residents to the project area. Further, no other boat launch facilities around the Lake, including the adjacent boat ramp at the Marina would be closed during project construction. Therefore, recreational visitors would not be deterred from the area or increase the use of other recreational facilities in the area such that physical deterioration of the facility would occur or be accelerated.

The proposed project would allow for better navigation through the Marina area and provide the District easier access to the Lake; however, implementation of the special use boat launch facility would not necessarily attract more/new recreational visitors because access would be restricted to the District and first responders. Therefore, the proposed project would not increase the use of existing recreational facilities in the area or result in the physical deterioration of existing recreational facilities. This impact would be **less than significant**.

#16-b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Since the proposed project includes a recreational facility (dredging which would enhance access through the West Navigation Channel), the impacts associated with construction or a new recreational facility are analyzed throughout Chapter 3, "Environmental Checklist," of this IS/MND. The proposed project would result in significant construction-related impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and wildfire. With the implementation of mitigation measures, the significant construction impacts would be reduced to less than significant. Therefore, proposed project would not result in significant, adverse impacts to the environment. The proposed project would improve water quality by removing nutrient-laden sediment and would improvement navigation through the West Navigation Channel, which provides access to recreational users of the Lake. Therefore, implementation of the project would increase the quality and recreational value of the Marina area. Furthermore, implementation of the special use boat launch facility would allow the District more efficient access to maintain the overall quality of the Lake (i.e. removal of trash and debris in the water and along the shore). Implementation of the proposed project would result in a **beneficial impact** in regard to the environment and the recreational access it provides.

3.16 Transportation

#17. TRANSPORTATION.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#17 -a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	No	No	**Yes**	No	No
#17 -b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	No	No	**Yes**	No	No
#17 -c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No	No	**Yes**	No	No
#17 -d. Result in inadequate emergency access?	No	No	**Yes**	No	No

3.16.1 Environmental Setting

Streets and highways serve as the dominant system of transportation in the project area. State Route 18 is a two-lane highway that generally follows the alignment of Big Bear Boulevard, although segments of SR 18 also include Paine Road and Lakeview Drive. SR 18 provides regional access to the project area while Lakeview Drive serves as the point of access to the staging and stockpile site.

3.16.2 Discussion

#17-a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Direct impacts to the local circulation system would occur due to the temporary addition of project-related vehicles on local roadways during the construction period. Construction of the proposed project could temporarily increase the number of vehicles on local roads and driveways due to the transport and delivery of construction equipment and daily worker commute trips. All equipment and materials would be transported to the site on public highways and local roads, using standard transport vehicles. The construction equipment would be offloaded at the staging and stockpile area. Construction activities may temporarily slow circulation in the immediate area, but it is not expected to interfere with traffic or transit routes within the project vicinity.

The delivery of construction vehicles and equipment to the project area is only expected to occur when the equipment is delivered to/from the site (two one-way trips for all equipment). Most traffic impacts would occur from the daily arrival and departure of workers. No traffic control would be required for the proposed project. All worker parking would be accommodated at the stockpile and staging area or adjacent to the District Headquarters onsite. Existing recreational uses are already

present adjacent to the project area, and it is expected that most uses of the West Navigation channel would be existing visitors to the recreation area or users that would have visited other parts of the Lake. The project is not expected to generate new traffic, and therefore, would not result in any long-term degradation in operating conditions on local roadways used for the proposed project.

Additionally, the proposed project would not conflict with adopted policies, plans, or programs related to public transit or alternative modes of transportation because the project area does not contain these types of facilities. Impacts would be **less than significant**.

#17-b) Conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision b)?

"Vehicle miles traveled" refers to the amount and distance of automobile travel attributed to a project. A maximum of 10 workers would be required during various construction activities. These trips would be temporary over the construction period and would not result in any perceivable increase in vehicle miles traveled that would exceed the County threshold of significance. There would be no vehicle trips associated with project operation and maintenance activities, which include annual spray down maintenance and as-needed repairs because the new special use boat launch facility would be located directly adjacent to the District Headquarters. As a result, the proposed project would be consistent with CEQA Guidelines Section 15064.3 subdivision (b), and this impact would be **less than significant**.

#17-c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project does not include the construction or design of roadway infrastructure that would cause a safety risk to vehicle operations. The proposed project would not adversely alter the physical configuration of the existing roadway network serving the project vicinity and would not introduce unsafe design features associated with large equipment transport. Additionally, the proposed project would not introduce uses (types of vehicles) that are incompatible with existing uses already served by the area's road/Lake system. Therefore, the impact from the project would be **less than significant**.

#17-d) Result in inadequate emergency access?

Refer to #9-f in Chapter 3.9, "Hazards and Hazardous Materials," for a discussion on the potential for the project to impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed project would temporarily add vehicles to the local roadway and circulation system. However, no lane or road closures would be required. All project-related activities would occur onsite within the project area and would not interfere with emergency response access. Operation and maintenance activities for the proposed project would be substantially similar to current conditions respective to emergency response and evacuation. This impact would be **less than significant**.

3.3 Tribal Cultural Resources

#18. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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:

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#18 -a. Listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in PRC Section 5020.1(k), or	No	**Yes**	No	No	No
#18 -b. 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No	**Yes**	No	No	No

3.16.3 Environmental Setting

Ethnographic Setting

The project lies in the traditional territory of the Serrano. The term Serrano is Spanish in origin meaning mountaineer or highlander. Serrano territory is difficult to determine because they lived in autonomous localized lineages and were not politically united or formed supralineages and rarely claimed territory much further than their home bases (Bean and Smith 1978).

Serrano territory was primarily in the San Bernardino Mountains east of Cajon Pass from near Victorville and extending east as far as Twenty-nine Palms, and south to the Yucaipa Valley. This area varies greatly topographically and in plant-animal communities. Dominant vegetation communities at lower elevations was coastal sagebrush and chaparral. Most villages were located in Upper Sonoran vegetation communities or in forest Transition zones. Water was an important determining factor in the placement and nature of settlements (Bean and Smith 1978).

The Serrano were primarily gatherers, hunters, and sometimes fishers. Acorns and pine nuts were a staple food in the foothills, while honey mesquite, pine nuts, yucca roots, mesquite, and cacti fruits were important for groups living in or near the desert. These important food sources were supplemented by other roots, bulbs, shoots, and seeds such as chia; chia was sometimes burned to increase yields. Desert groups would travel into the foothills to gather nuts and trade (Bean and Smith 1978).

Important game animals included deer, mountain sheep, antelope, rabbits, and other small rodents. Birds that were taken included quail. Hunting tools included the bow and arrow for large game, but also curved throwing sticks, traps, snares and deadfalls for smaller game and birds. Communal deer and rabbit hunts occasionally occurred, mostly during annual mourning ceremonies. Relatively frequently communal pine, acorn, and mesquite gathering took place, with several lineages coming together for the activity (Bean and Smith 1978).

Most settlements lived in small villages near water sources. Individual family homes were generally domed, circular structures made of willow frames covered with tule thatching. Generally, a husband and wife or wives would live together with unmarried children if female and married children if male. Occasionally a man's parents or widowed aunt or uncle would also live in the household. Rarely, an individual would build a residence for personal use. Dwellings had a central fire pit but were mostly used as sleeping and storage areas; most daily activities occurred outside the home in the open or under a ramada, a wall-less structure with a thatched roof of willow poles. Some villages also had granaries, and sweathouses. Sweathouses were located near streams if possible. Sweathouses were large, circular, semisubterranean, earth-covered structures supported by willow-pole frames and thatching, usually having only one entrance. Most villages also had a larger ceremonial house which was the religious center for each lineage or lineage-set. Lineage-sets consisted of two or more lineages joined by marriage or economic reciprocity and joint participation in rituals. Lineages shared the ceremonial house and the sacred bundle (Bean and Smith 1978).

Shells, wood, bone, stone, and plant fibers were used in making a variety of tools including intricately decorated baskets. Other items in the material culture included pottery, rabbit skin blankets, awls, arrow straighteners, sinew-backed bows, arrows, fire drills, stone pipes, musical instruments, feathered costumes, mats for floor and wall coverings, bags and storage pouches, cordage, and nets (Bean and Smith 1978).

The following information was written and provided by YSMN after a request for background information on the Tribe:

High in the San Bernardino Mountains at Yuhaaviat, an area of pine trees near present-day Big Bear Lake, Kük̲tac, the Creator lay dying. When Kük̲tac died, the people began to mourn and, in their grief, turned into pine trees, which enriched the land with vegetation and animals, allowing future generations to thrive.

Since time immemorial, Native people have lived and gathered in the mountains, valleys, and foothills of the San Gabriel and San Bernardino Mountains. This area provided plentiful resources to the Native communities whose ancestral lands encompass these regions, such as the Maara'yam people.

Maara'yam, the People of Maara', describe all people known today as Serrano. Early Spanish explorers gave them the name "Serrano," which means "highlander."

Yahaaviatam, of Yahaaviatam of San Manuel Nation (formally known as the San Manuel Band of Mission Indians), refers to the Tribe's progenitor's, Santos Manuel, clan. Yahaaviatam, or People of the Pines, is the clan's name for the Serrano people from the Big Bear Lake area.

Archaeological evidence of the Serrano people has been found in and around Big Bear Lake. Grinding holes provide proof of resource processing and communal living; non-local shells and obsidian tools reflect a healthy trade and well-traveled culture. The Serrano people were renowned for their sophisticated basketry made of grasses and fibers that illustrate practical yet artistic designs.

The Serrano lived in dome-shaped structures called kiič. They were generally made of willow poles and long sticks to create a frame, then covered with brush and yucca fiber. They were often dug about two feet into the ground to combat extreme temperatures. The homes of several families, along with granaries, sweathouses, and ceremonial buildings, were clustered together, forming communities.

In 1866, a skirmish between settlers and non-Serrano Natives in the San Bernardino Mountains triggered a month-long killing spree of indigenous people across the Big Bear area by a San Bernardino militia. The surviving Yuhaaviatam clan of Serrano people—numbering only 20-30 people—fled into the San Bernardino Valley to escape the persecution. Led by their leader, Santos Manuel, the Yuhaaviatam clan ventured through the valley along Warm Creek, encountering unwelcoming settlers who reacted harshly to their presence along the creek. Over the next few decades, the Yahaaviatam clan would settle down near what is now the National Orange Show Event Center before being displaced to Meadowbrook Park and then again to the Harlem Springs area before being completely removed and placed on the San Manuel Reservation in 1891.

Despite these hardships, the Serrano people, including the Yahaaviatam of San Manuel Nation, maintained their identity as a sovereign nation. The Tribe maintains a connection to its ancestral lands by stewarding cultural and natural resources.

Methods

GEI archaeologist Amy Wolpert, MA, sent a request to the NAHC for a search of their Sacred Lands Files to determine if there were any previously reported tribal cultural resources within the perimeter of Big Bear Lake, which includes the project area. The NAHC responded on April 19, 2022, with a list of potentially affiliated tribes, and a letter stating the search of the Sacred Lands Files had yielded positive results concluding that tribal cultural resources associated with the Yuhaaviatam of San Manuel Nation (YSMN) are located in the project vicinity.

On May 27, 2022, GEI senior archaeologist Jesse Martinez sent an email to Ryan Nordness, Cultural Resource Analyst for the YSMN, who had been informed by the NAHC that a Sacred Lands File search had been completed and a resource found in associated with that Tribe. The email briefly described the wide nature of the Sacred Lands File search around the entire perimeter of Big Bear Lake as well as the much more restricted in-extent project boundary. The email also contained maps showing the project in context to the broader area and a map indicating project

components. The email ended by asking if the YSMN cultural resource was within the boundary of the project area. Mr. Nordness responded to the email sent by Mr. Martinez on June 13, 2022, stating that according to his records there is a Serrano Native American village site near the project area. Mr. Nordness noted that cultural resources are often found in the vicinity of larger sites and requested implementation of a mitigation measure in case there are such resources within the project area.

On June 16, 2022, invitations for Tribal consultation letters were send to three Tribes. On July 18, 2022, Ryan Nordness with the YSMN formally expressed interest to consult under AB 52.

On August 27, 2024, Senior Archaeologist, Jesse Martinez, and Project Manager, Katelyn Matroni, met with YSMN Tribal Archaeologist Kristen Tuosto to discuss Tribal Cultural Resources in regard to the project. During the meeting, Ms. Tuosto noted that a Tribal Cultural Resource was located in the vicinity of the project area, though its exact location could not be known because of the presence of Bear Lake itself, a man-made lake constructed in the 19th century. During the meeting and subsequent email communication, YSMN provided suggestions for mitigation measures and provided contemporary background information on the YSMN, which is presented above.

3.16.4 Discussion

#18 -a and b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)? 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

During consultation, the YSMN shared that there is a known Tribal Cultural Resource located within the vicinity of the project area. Big Bear Lake is an artificial lake made in 1884, and it covers land that was once utilized by YSMN ancestors. The exact location of this resource is not known at this time; however, it is possible that project components could impact this known Tribal Cultural Resource. This impact would be considered **significant**.

Mitigation Measures CR-1 and CR-2 have been identified to address this impact.

Mitigation Measure CR-1: Address Previously Undiscovered Historic Resources, Archaeological Resources, and Tribal Cultural Resources.

Please refer to Mitigation Measure CR-1 in Chapter 3.5, "Cultural Resources," for the full text of this mitigation measure.

Mitigation Measure CR-2: Implement Worker Environmental Awareness Program (WEAP) Training.

Please refer to Mitigation Measure CR-2 in Chapter 3.5, "Cultural Resources," for the full text of this mitigation measure.

Significance after Mitigation: Implementation of Mitigation Measures CR-1 and CR-2 would reduce this impact because it increases the likelihood that any tribal cultural resources will be identified and that any finds would be assessed by an archaeologist and the treatment or investigation would be conducted in accordance with CEQA guidelines regarding tribal cultural resources. Therefore, the impact from the project would be **less-than-significant with mitigation incorporated**.

3.17 Utilities and Service Systems

#19. UTILITIES AND SERVICE SYSTEMS.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#19 -a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No	No	No	**Yes**	No
#19 -b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	No	No	**Yes**	Yes	No
#19 -c. Result in a determination by the wastewater treatment provider that 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	No	No	**Yes**	No
#19 -d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No	No	**Yes**	No	No
#19 -e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?	No	No	**Yes**	No	No

3.17.1 Environmental Setting

As described previously, electrical power and water service for the project area are supplied by BVES and the City of Big Bear Lake, Department of Water & Power, respectively. Southwest Gas provides natural gas to both residential and commercial properties within the project area. The Big Bear Area Regional Wastewater Agency provides wastewater treatment services.

3.17.2 Discussion

#19 -a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No utility services would need to be constructed or expanded as a result of the proposed project. There would be **no impact**.

#19 -b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The proposed project consists of dredging and implementation of a special use boat launch facility. The proposed project may require a limited use of water during construction activities for dust suppression purposes. No permanent water supply would be required to serve the proposed project. This impact would be l**ess than significant**.

#19 -c. Result in a determination by the wastewater treatment provider that 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?

The proposed project would generate wastewater associated with temporary use of portable toilets. During project construction, the District or its contractor may have portable toilet facilities available onsite temporarily for use by construction workers. Given the small construction workforce of a maximum of 10 workers onsite daily for the construction period, this amount of waste would be minimal. Once construction is concluded, such portable facilities would be removed, and the wastewater properly handled and disposed in accordance with all applicable laws and regulations. Therefore, the proposed project does not require a wastewater treatment provider to serve the project. There would be **no impact**.

#19 -d and e) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Comply with federal, state, and local management and reduction statues and regulations related to solid waste?

The proposed project would generate solid waste in the form of trash and construction-related materials. All material dredged from the Lake would either be reused as fill for the proposed special use boat launch facility or taken to the staging and stockpile area immediately adjacent to the Lake; therefore, no sediment or rock would be disposed of at a landfill. For the minor amount of solid waste anticipated to be produced by the proposed project, the District would be required to comply with all laws and regulations related to the disposal and recycling of waste. Therefore, the project would not impair attainment of solid waste reduction goals, and the impact from the project would be **less than significant**.

3.20 Wildfire

#20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones**.**

would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#20 -a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	No	No	**Yes**	No	No
#20 -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?	No	**Yes**	No	No	No
#20 -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?	No	No	**Yes**	No	No
#20 -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?	No	**Yes.**	No	No	No

3.20.1 Environmental Setting

The project site is within areas designated as very high and moderate fire hazard zones (CALFIRE 2024). Fire protection and emergency response services for Bear Valley are provided by the Big Bear Fire Department from their headquarter location at 41090 Big Bear Boulevard and other unmanned stations including a station at 42610 Rathbun Drive.

3.20.2 Discussion

#20-a Substantially impair an adopted emergency response plan or emergency evacuation plan?

As described in Impact #9-f in Chapter 3.9, "Hazards and Hazardous Materials," implementation of the proposed project is not anticipated to substantially impair an adopted emergency response plan or evacuation plan as the project components are minor in size and scope. Implementation of the proposed project would not require road closures, and therefore, the proposed project would not interfere with traffic routes or response vehicle transport in the event of a wildfire.

Project operation and maintenance activities would be substantially similar to current activities respective to emergency response and evacuation in the event of a wildfire. No operation-related activities would occur within surrounding rights-of-ways that could impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. As a result, the impact from the project would be **less than significant**.

#20-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?

As discussed, the project area is located within an SRA with a very high and moderate fire hazard classification. The presence of vegetated slopes of the forestland less than 1 mile south of the project site and trees/vegetation present in the area increases fire risk in the project area. The project area supports a variety of habitats and unvegetated land cover types. Vegetation present in the project area is highly flammable. The project site is located adjacent to a residential area and is within close proximately to a city center where people could be exposed to pollutants from fire.

The project does not involve operation of facilities that would exacerbate wildfire risk in the area during operation. However, during construction, equipment and onsite diesel fuel could pose a risk to wildfire with possible ignition sources such as internal combustion engines, gasoline-powered tools, and equipment that could produce a spark, fire, or flame. The use of spark-producing construction machinery within fire risk areas such as the project area could expose temporary project workers and contractors to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. Contractors would have to comply with Public Resource Code (PRC) Sections 4427, 4428, 4431, and 4442. During construction, strict adherence to these PRC sections would ensure that contractors are responsible for all monitoring and safety measures ensuring that any risk to exacerbate wildfire. Nonetheless, given the proximity to forestland, impacts related to the exposure of workers to pollutant concentration from a wildfire would be considered **significant**.

The following mitigation measures have been identified to address this impact.

> **Mitigation Measure HAZ-2: Prepare and Implement BMPs for Wildland Fire Prevention.**
>
> Please refer to Mitigation Measure HAZ-2 in Chapter 3.9, "Hazards and Hazardous Materials," for the full text of this mitigation measure.
>
> **Mitigation Measure HAZ-3: Prepare and Implement Fire Safety Plan.**
>
> Please refer to Mitigation Measure HAZ-3 in Chapter 3.9, "Hazards and Hazardous Materials," for the full text of this mitigation measure.

Significance after Mitigation: Implementation of Mitigation Measures HAZ-2 and HAZ-3, along with compliance with PRC sections, would reduce potentially significant impacts associated with wildfire ignition and spread by requiring the implementation of fire-related BMPs and preparing a Fire Safety Plan. The District would coordinate with the construction contractor to make sure that the requirements outlined in these mitigation measures are implemented during construction activities. Impacts would be **less-than-significant with mitigation incorporated**.

#20-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?

Implementation of the proposed project would not result in the installation of permanent roads, fuel breaks, emergency water sources or new power lines and other utilities, which are facilities known to exacerbate fire risk. All construction must comply with fire protection and prevention requirements specified by the CCR and Cal/OSHA. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. With adherence to applicable laws and regulations, impacts from the project would be **less than significant**.

#20-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?

Refer to #7-a.iv and #7-c in Chapter 3.7, "Geology and Soils," and #10- c.i and #10-c.ii in Chapter 3.10, "Hydrology and Water Quality," for discussions of the project's potential to result in significant impacts regarding flooding, landslides, erosion, and drainage. Approximately 14,000 CY of material would be dredged from the project area and 7,480 CY of the dredged material would be use as fill to construct the special use boat launch facility. The remaining 6,296 CY of dredge material would be hauled to the staging and stockpile area. Site alteration through movement of substantial quantities of soil and earth materials could cause landslides as a result of runoff or drainage changes during construction. If a wildland fire is followed by a rain event, it could result in flooding or landslides as a result of post-fire runoff. This impact would be **significant**.

The following mitigation measures have been identified to address this impact.

> **Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan, if required, Implement Erosion Control Best Management Practices, and Comply with San Bernadino County Standards for Grading and Erosion Control.**
>
> Please refer to Mitigation Measure GEO-1 in Chapter 3.7, "Geology and Soils," for the full text of this mitigation measure.
>
> **Mitigation Measure HAZ-1: Implement Best Management Practices to Minimize the Potential Release of Hazardous Materials.**
>
> Please refer to Mitigation Measure HAZ-1 in Chapter 3.9, "Hazards and Hazardous Materials," for the full text of this mitigation measure.

Significance after Mitigation: Mitigation Measures GEO-1 and HAZ-1 would require the implementation of a SWPPP along with other measures specifically designed to prevent erosion and siltation during construction, and BMPs to reduce the risk of accidental spills. By applying the measures described above, the proposed project would reduce potential impacts regarding post-fire flooding, runoff, landslide, and drainage hazards. Therefore, impacts would be **less-than-significant with mitigation incorporated**.

3.21 Mandatory Findings of Significance

#21. MANDATORY FINDINGS OF SIGNIFICANCE.

Would the project:	Have Potentially Significant Impact?	Have Less-than-Significant Impact with Mitigation Incorporated?	Have Less-than-Significant Impact?	Have No Impact?	Have Beneficial Impact?
#21 -a. 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	No	**Yes**	No	No	No
#21 -b. 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)?	No	**Yes**	No	No	No
#21 -c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No	No	**Yes**	No	No

3.21.1 Discussion

#21 -a. Would 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

The analysis conducted in this IS/MND concludes that implementation of the proposed project would not have a significant impact on the environment. As evaluated in Chapter 3.4, "Biological Resources," impacts on biological resources would be less-than-significant or less-than-significant with mitigation incorporated. The proposed project would not 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; or reduce the number or restrict the range of an endangered, rare, or threatened species. As discussed in Chapter 3.5, "Cultural Resources," the proposed project would not eliminate important examples of the major periods of California history or prehistory. This impact would be **less-than-significant with mitigation incorporated**.

#21 -b. Would 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.)

The project would result in less-than-significant impacts with mitigation incorporated, less-than-significant impacts, or no impacts on aesthetics, agriculture and forestry, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire. The temporary nature of the project construction, minimal impacts of project operations, and activities/ application of mitigation measures would ensure the project does not result in a cumulatively considerable contribution to a significant cumulative impact. This impact would be **less-than-significant with mitigation incorporated**.

#21 -c. Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The project would result in less-than-significant impacts and would not cause substantial adverse effects on human beings, either directly or indirectly. This impact would be **less than significant**.

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5.0 Report Preparers

GEI Consultants, Inc.

Ryan Jolley.....Project Director

Katelyn Matroni.....Project Manager

Chrissy Burns.....Environmental Planner

Anne King.....Biologist

Nicholas Tomera.....Senior Regulatory Specialist

Jesse Martinez, RPA.....Senior Archaeologist

Amy Wolpert .....Archeologist

Madeline Bowen .....Senior Architectural Historian

Ryan Snyder.....Geographic Information Specialist

Tod Woodson.....Construction Project Manager

Big Bear Lake Municipal Water District

Jared Cheek.....General Manager

Brittany Lamson.....Assistant General Manager

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Appendix A Air Quality Modeling Output

Big Bear Marina Deepening Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Big Bear Marina Deepening
Construction Start Date	8/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	1.80
Location	34.24562848759949, -116.91925304400355
County	San Bernardino-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5153
EDFZ	10
Electric Utility	Bear Valley Electric Service
Gas Utility	Southwest Gas Corp.
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Recreational	1.00	User Defined Unit	2.60	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.96	2.76	24.0	35.4	0.08	1.00	7.06	8.06	0.92	3.50	4.42	—	8,637	8,637	0.44	0.29	3.41	8,737
Mit.	3.96	2.76	24.0	35.4	0.08	1.00	3.05	4.06	0.92	1.44	2.37	—	8,637	8,637	0.44	0.29	3.41	8,737
% Reduced	—	—	—	—	—	—	57%	50%	—	59%	46%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.96	2.76	24.1	35.2	0.08	1.00	7.06	8.06	0.92	3.50	4.42	—	8,626	8,626	0.44	0.29	0.09	8,723
Mit.	3.96	2.76	24.1	35.2	0.08	1.00	3.05	4.06	0.92	1.44	2.37	—	8,626	8,626	0.44	0.29	0.09	8,723
% Reduced	—	—	—	—	—	—	57%	50%	—	59%	46%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.87	0.66	5.89	7.15	0.01	0.26	2.05	2.31	0.24	1.03	1.27	—	1,621	1,621	0.08	0.04	0.23	1,636
Mit.	0.87	0.66	5.89	7.15	0.01	0.26	0.85	1.12	0.24	0.42	0.66	—	1,621	1,621	0.08	0.04	0.23	1,636
% Reduced	—	—	—	—	—	—	58%	52%	—	60%	48%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.12	1.08	1.31	< 0.005	0.05	0.37	0.42	0.04	0.19	0.23	—	268	268	0.01	0.01	0.04	271
Mit.	0.16	0.12	1.08	1.31	< 0.005	0.05	0.16	0.20	0.04	0.08	0.12	—	268	268	0.01	0.01	0.04	271
% Reduced	—	—	—	—	—	—	58%	52%	—	60%	48%	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	100	550	150	—	—	149	—	—	55.0	—	0.00	—	—	—	—	—
Unmit.	—	—	No	No	No	Yes	—	No	Yes	—	No	—	Yes	—	—	—	—	—
Mit.	—	—	No	No	No	Yes	—	No	Yes	—	No	—	Yes	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	100	550	150	—	—	149	—	—	55.0	—	0.00	—	—	—	—	—
Unmit.	—	—	No	No	No	Yes	—	No	Yes	—	No	—	Yes	—	—	—	—	—
Mit.	—	—	No	No	No	Yes	—	No	Yes	—	No	—	Yes	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,000
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No
Mit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.96	2.76	24.0	35.4	0.08	1.00	7.06	8.06	0.92	3.50	4.42	—	8,637	8,637	0.44	0.29	3.41	8,737
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.96	2.76	24.1	35.2	0.08	1.00	7.06	8.06	0.92	3.50	4.42	—	8,626	8,626	0.44	0.29	0.09	8,723
2026	2.35	1.95	16.7	18.0	0.04	0.85	6.77	7.53	0.78	3.42	4.16	—	4,154	4,154	0.18	0.09	0.03	4,184
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.87	0.66	5.89	7.15	0.01	0.26	2.05	2.31	0.24	1.03	1.27	—	1,621	1,621	0.08	0.04	0.23	1,636
2026	0.06	0.05	0.49	0.53	< 0.005	0.02	0.19	0.22	0.02	0.10	0.12	—	91.6	91.6	< 0.005	< 0.005	< 0.005	91.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.16	0.12	1.08	1.31	< 0.005	0.05	0.37	0.42	0.04	0.19	0.23	—	268	268	0.01	0.01	0.04	271
2026	0.01	0.01	0.09	0.10	< 0.005	< 0.005	0.04	0.04	< 0.005	0.02	0.02	—	15.2	15.2	< 0.005	< 0.005	< 0.005	15.2

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.96	2.76	24.0	35.4	0.08	1.00	3.05	4.06	0.92	1.44	2.37	—	8,637	8,637	0.44	0.29	3.41	8,737
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	3.96	2.76	24.1	35.2	0.08	1.00	3.05	4.06	0.92	1.44	2.37	—	8,626	8,626	0.44	0.29	0.09	8,723
2026	2.35	1.95	16.7	18.0	0.04	0.85	2.77	3.53	0.78	1.37	2.11	—	4,154	4,154	0.18	0.09	0.03	4,184
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.87	0.66	5.89	7.15	0.01	0.26	0.85	1.12	0.24	0.42	0.66	—	1,621	1,621	0.08	0.04	0.23	1,636
2026	0.06	0.05	0.49	0.53	< 0.005	0.02	0.08	0.10	0.02	0.04	0.06	—	91.6	91.6	< 0.005	< 0.005	< 0.005	91.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.16	0.12	1.08	1.31	< 0.005	0.05	0.16	0.20	0.04	0.08	0.12	—	268	268	0.01	0.01	0.04	271
2026	0.01	0.01	0.09	0.10	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	—	15.2	15.2	< 0.005	< 0.005	< 0.005	15.2

3. Construction Emissions Details

3.1. Mobilization and Staging (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.22	1.86	17.9	18.2	0.03	0.92	—	0.92	0.85	—	0.85	—	2,981	2,981	0.12	0.02	—	2,991
Dust From Material Movement	—	—	—	—	—	—	6.55	6.55	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.49	0.50	< 0.005	0.03	—	0.03	0.02	—	0.02	—	81.7	81.7	< 0.005	< 0.005	—	81.9
Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5	13.5	< 0.005	< 0.005	—	13.6
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.39	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	70.5	70.5	< 0.005	< 0.005	0.26	71.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Mobilization and Staging (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.22	1.86	17.9	18.2	0.03	0.92	—	0.92	0.85	—	0.85	—	2,981	2,981	0.12	0.02	—	2,991
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.49	0.50	< 0.005	0.03	—	0.03	0.02	—	0.02	—	81.7	81.7	< 0.005	< 0.005	—	81.9
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5	13.5	< 0.005	< 0.005	—	13.6
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.39	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	70.5	70.5	< 0.005	< 0.005	0.26	71.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Boat Launch Facility Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.36	1.98	17.3	17.1	0.03	0.82	—	0.82	0.75	—	0.75	—	3,706	3,706	0.15	0.03	—	3,719
Dust From Material Movement	—	—	—	—	—	—	6.55	6.55	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.87	1.84	< 0.005	0.09	—	0.09	0.08	—	0.08	—	399	399	0.02	< 0.005	—	400
Dust From Material Movement	—	—	—	—	—	—	0.71	0.71	—	0.36	0.36	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.34	0.34	< 0.005	0.02	—	0.02	0.01	—	0.01	—	66.0	66.0	< 0.005	< 0.005	—	66.3

Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	< 0.005	0.01	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.41	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	325	325	0.03	0.05	0.02	342
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.1	14.1	< 0.005	< 0.005	0.02	14.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.0	35.0	< 0.005	0.01	0.03	36.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.33	2.33	< 0.005	< 0.005	< 0.005	2.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.79	5.79	< 0.005	< 0.005	0.01	6.10

3.4. Boat Launch Facility Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.36	1.98	17.3	17.1	0.03	0.82	—	0.82	0.75	—	0.75	—	3,706	3,706	0.15	0.03	—	3,719
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.87	1.84	< 0.005	0.09	—	0.09	0.08	—	0.08	—	399	399	0.02	< 0.005	—	400
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.34	0.34	< 0.005	0.02	—	0.02	0.01	—	0.01	—	66.0	66.0	< 0.005	< 0.005	—	66.3
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	< 0.005	0.01	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.41	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	325	325	0.03	0.05	0.02	342
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.1	14.1	< 0.005	< 0.005	0.02	14.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.0	35.0	< 0.005	0.01	0.03	36.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.33	2.33	< 0.005	< 0.005	< 0.005	2.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.79	5.79	< 0.005	< 0.005	0.01	6.10

3.5. Boat Launch Facility Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.27	1.90	16.1	16.6	0.03	0.76	—	0.76	0.70	—	0.70	—	3,708	3,708	0.15	0.03	—	3,721

Dust From Material Movement	—	—	—	—	—	—	6.55	6.55	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.26	7.26	< 0.005	< 0.005	—	7.28
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.20	1.20	< 0.005	< 0.005	—	1.21
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.54	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	127	127	< 0.005	< 0.005	0.01	128
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	< 0.005	0.39	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	319	319	0.03	0.05	0.02	335

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11

3.6. Boat Launch Facility Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.27	1.90	16.1	16.6	0.03	0.76	—	0.76	0.70	—	0.70	—	3,708	3,708	0.15	0.03	—	3,721
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.26	7.26	< 0.005	< 0.005	—	7.28

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.20	1.20	< 0.005	< 0.005	—	1.21
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.54	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	127	127	< 0.005	< 0.005	0.01	128
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	< 0.005	0.39	0.22	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	319	319	0.03	0.05	0.02	335
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11

3.7. Demobilization and Site Cleanup (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.10	1.77	16.6	17.7	0.03	0.85	—	0.85	0.78	—	0.78	—	2,981	2,981	0.12	0.02	—	2,991
Dust From Material Movement	—	—	—	—	—	—	6.55	6.55	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.48	< 0.005	0.02	—	0.02	0.02	—	0.02	—	81.7	81.7	< 0.005	< 0.005	—	82.0
Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5	13.5	< 0.005	< 0.005	—	13.6

Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.27	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.3	63.3	< 0.005	< 0.005	0.01	64.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.76	1.76	< 0.005	< 0.005	< 0.005	1.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Demobilization and Site Cleanup (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.10	1.77	16.6	17.7	0.03	0.85	—	0.85	0.78	—	0.78	—	2,981	2,981	0.12	0.02	—	2,991
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.48	< 0.005	0.02	—	0.02	0.02	—	0.02	—	81.7	81.7	< 0.005	< 0.005	—	82.0
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5	13.5	< 0.005	< 0.005	—	13.6
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.27	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	63.3	63.3	< 0.005	< 0.005	0.01	64.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.76	1.76	< 0.005	< 0.005	< 0.005	1.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Dredging/Excavation and Stockpiling (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	2.69	22.3	33.7	0.07	0.98	—	0.98	0.91	—	0.91	—	7,136	7,136	0.29	0.06	—	7,161

Dust From Material Movement	—	—	—	—	—	—	6.56	6.56	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	2.69	22.3	33.7	0.07	0.98	—	0.98	0.91	—	0.91	—	7,136	7,136	0.29	0.06	—	7,161
Dust From Material Movement	—	—	—	—	—	—	6.56	6.56	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.29	2.45	3.69	0.01	0.11	—	0.11	0.10	—	0.10	—	782	782	0.03	0.01	—	785
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.37	0.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.45	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	129	129	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.78	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	141	141	0.01	< 0.005	0.52	143
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	0.03	1.63	0.92	0.01	0.02	0.36	0.38	0.02	0.10	0.12	—	1,360	1,360	0.14	0.22	2.89	1,433
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	< 0.005	0.01	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	0.03	1.70	0.92	0.01	0.02	0.36	0.38	0.02	0.10	0.12	—	1,361	1,361	0.14	0.22	0.07	1,431
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.4	14.4	< 0.005	< 0.005	0.02	14.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.19	0.10	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	149	149	0.02	0.02	0.14	157
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.38	2.38	< 0.005	< 0.005	< 0.005	2.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.7	24.7	< 0.005	< 0.005	0.02	26.0

3.10. Dredging/Excavation and Stockpiling (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.74	2.69	22.3	33.7	0.07	0.98	—	0.98	0.91	—	0.91	—	7,136	7,136	0.29	0.06	—	7,161
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	2.69	22.3	33.7	0.07	0.98	—	0.98	0.91	—	0.91	—	7,136	7,136	0.29	0.06	—	7,161
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.29	2.45	3.69	0.01	0.11	—	0.11	0.10	—	0.10	—	782	782	0.03	0.01	—	785
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.45	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	129	129	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.78	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	141	141	0.01	< 0.005	0.52	143
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	0.03	1.63	0.92	0.01	0.02	0.36	0.38	0.02	0.10	0.12	—	1,360	1,360	0.14	0.22	2.89	1,433
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.59	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	< 0.005	0.01	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.17	0.03	1.70	0.92	0.01	0.02	0.36	0.38	0.02	0.10	0.12	—	1,361	1,361	0.14	0.22	0.07	1,431
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.4	14.4	< 0.005	< 0.005	0.02	14.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.19	0.10	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	149	149	0.02	0.02	0.14	157
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.38	2.38	< 0.005	< 0.005	< 0.005	2.41
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.7	24.7	< 0.005	< 0.005	0.02	26.0

3.11. Material Fill (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.94	1.63	15.4	15.1	0.02	0.75	—	0.75	0.69	—	0.69	—	2,516	2,516	0.10	0.02	—	2,524
Dust From Material Movement	—	—	—	—	—	—	6.55	6.55	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.83	< 0.005	0.04	—	0.04	0.04	—	0.04	—	138	138	0.01	< 0.005	—	138
Dust From Material Movement	—	—	—	—	—	—	0.36	0.36	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.8	22.8	< 0.005	< 0.005	—	22.9
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.01	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	5.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Material Fill (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.94	1.63	15.4	15.1	0.02	0.75	—	0.75	0.69	—	0.69	—	2,516	2,516	0.10	0.02	—	2,524

Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.83	< 0.005	0.04	—	0.04	0.04	—	0.04	—	138	138	0.01	< 0.005	—	138
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	22.8	22.8	< 0.005	< 0.005	—	22.9
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.47	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.01	105
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.74	5.74	< 0.005	< 0.005	0.01	5.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Mobilization and Staging	Site Preparation	8/1/2025	8/14/2025	5.00	10.0	—
Boat Launch Facility Construction	Building Construction	11/7/2025	1/1/2026	5.00	40.0	—
Demobilization and Site Cleanup	Building Construction	1/2/2026	1/15/2026	5.00	10.0	—
Dredging/Excavation and Stockpiling	Trenching	8/15/2025	10/9/2025	5.00	40.0	—
Material Fill	Trenching	10/10/2025	11/6/2025	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Mobilization and Staging	Other Construction Equipment	Diesel	Average	4.00	8.00	82.0	0.42
Mobilization and Staging	Other Construction Equipment	Diesel	Average	1.00	8.00	82.0	0.42
Mobilization and Staging	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Boat Launch Facility Construction	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Boat Launch Facility Construction	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Boat Launch Facility Construction	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

Boat Launch Facility Construction	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42
Demobilization and Site Cleanup	Other Construction Equipment	Diesel	Average	4.00	8.00	82.0	0.42
Demobilization and Site Cleanup	Other Construction Equipment	Diesel	Average	1.00	8.00	82.0	0.42
Demobilization and Site Cleanup	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Dredging/Excavation and Stockpiling	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Dredging/Excavation and Stockpiling	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Dredging/Excavation and Stockpiling	Off-Highway Trucks	Diesel	Average	2.00	8.00	376	0.38
Dredging/Excavation and Stockpiling	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42
Dredging/Excavation and Stockpiling	Other Construction Equipment	Diesel	Average	1.00	8.00	364	0.45
Material Fill	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Material Fill	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Material Fill	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Material Fill	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Mobilization and Staging	Other Construction Equipment	Diesel	Average	4.00	8.00	82.0	0.42
Mobilization and Staging	Other Construction Equipment	Diesel	Average	1.00	8.00	82.0	0.42
Mobilization and Staging	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Boat Launch Facility Construction	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Boat Launch Facility Construction	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Boat Launch Facility Construction	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Boat Launch Facility Construction	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42
Demobilization and Site Cleanup	Other Construction Equipment	Diesel	Average	4.00	8.00	82.0	0.42
Demobilization and Site Cleanup	Other Construction Equipment	Diesel	Average	1.00	8.00	82.0	0.42
Demobilization and Site Cleanup	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Dredging/Excavation and Stockpiling	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Dredging/Excavation and Stockpiling	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Dredging/Excavation and Stockpiling	Off-Highway Trucks	Diesel	Average	2.00	8.00	376	0.38
Dredging/Excavation and Stockpiling	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42
Dredging/Excavation and Stockpiling	Other Construction Equipment	Diesel	Average	1.00	8.00	364	0.45
Material Fill	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Material Fill	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Material Fill	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Material Fill	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Mobilization and Staging	—	—	—	—
Mobilization and Staging	Worker	5.00	18.5	LDA,LDT1,LDT2
Mobilization and Staging	Vendor	0.00	10.2	HHDT,MHDT
Mobilization and Staging	Hauling	0.00	20.0	HHDT
Mobilization and Staging	Onsite truck	0.00	0.00	HHDT
Dredging/Excavation and Stockpiling	—	—	—	—
Dredging/Excavation and Stockpiling	Worker	10.0	18.5	LDA,LDT1,LDT2
Dredging/Excavation and Stockpiling	Vendor	—	10.2	HHDT,MHDT
Dredging/Excavation and Stockpiling	Hauling	19.7	20.0	HHDT
Dredging/Excavation and Stockpiling	Onsite truck	—	—	HHDT
Boat Launch Facility Construction	—	—	—	—
Boat Launch Facility Construction	Worker	10.0	18.5	LDA,LDT1,LDT2
Boat Launch Facility Construction	Vendor	0.00	10.2	HHDT,MHDT
Boat Launch Facility Construction	Hauling	4.70	20.0	HHDT
Boat Launch Facility Construction	Onsite truck	0.00	0.00	HHDT
Demobilization and Site Cleanup	—	—	—	—
Demobilization and Site Cleanup	Worker	5.00	18.5	LDA,LDT1,LDT2
Demobilization and Site Cleanup	Vendor	0.00	10.2	HHDT,MHDT
Demobilization and Site Cleanup	Hauling	0.00	20.0	HHDT
Demobilization and Site Cleanup	Onsite truck	0.00	0.00	HHDT
Material Fill	—	—	—	—
Material Fill	Worker	8.00	18.5	LDA,LDT1,LDT2
Material Fill	Vendor	—	10.2	HHDT,MHDT
Material Fill	Hauling	0.00	20.0	HHDT
Material Fill	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Mobilization and Staging	—	—	—	—
Mobilization and Staging	Worker	5.00	18.5	LDA,LDT1,LDT2
Mobilization and Staging	Vendor	0.00	10.2	HHDT,MHDT
Mobilization and Staging	Hauling	0.00	20.0	HHDT
Mobilization and Staging	Onsite truck	0.00	0.00	HHDT
Dredging/Excavation and Stockpiling	—	—	—	—
Dredging/Excavation and Stockpiling	Worker	10.0	18.5	LDA,LDT1,LDT2
Dredging/Excavation and Stockpiling	Vendor	—	10.2	HHDT,MHDT
Dredging/Excavation and Stockpiling	Hauling	19.7	20.0	HHDT
Dredging/Excavation and Stockpiling	Onsite truck	—	—	HHDT
Boat Launch Facility Construction	—	—	—	—
Boat Launch Facility Construction	Worker	10.0	18.5	LDA,LDT1,LDT2
Boat Launch Facility Construction	Vendor	0.00	10.2	HHDT,MHDT
Boat Launch Facility Construction	Hauling	4.70	20.0	HHDT
Boat Launch Facility Construction	Onsite truck	0.00	0.00	HHDT
Demobilization and Site Cleanup	—	—	—	—
Demobilization and Site Cleanup	Worker	5.00	18.5	LDA,LDT1,LDT2
Demobilization and Site Cleanup	Vendor	0.00	10.2	HHDT,MHDT
Demobilization and Site Cleanup	Hauling	0.00	20.0	HHDT
Demobilization and Site Cleanup	Onsite truck	0.00	0.00	HHDT
Material Fill	—	—	—	—
Material Fill	Worker	8.00	18.5	LDA,LDT1,LDT2
Material Fill	Vendor	—	10.2	HHDT,MHDT
Material Fill	Hauling	0.00	20.0	HHDT
Material Fill	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Mobilization and Staging	0.00	0.00	5.00	0.00	—
Boat Launch Facility Construction	1,500	0.00	20.0	0.00	—
Demobilization and Site Cleanup	0.00	0.00	5.00	0.00	—
Dredging/Excavation and Stockpiling	0.00	6,296	20.0	0.00	—
Material Fill	0.00	0.00	10.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Recreational	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	912	0.03	< 0.005
2026	0.00	912	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	37.3	annual days of extreme heat
Extreme Precipitation	8.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	37.0	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	98.7
AQ-PM	4.46
AQ-DPM	4.18
Drinking Water	58.1
Lead Risk Housing	33.6
Pesticides	0.00
Toxic Releases	16.3
Traffic	3.34
Effect Indicators	—
CleanUp Sites	37.6
Groundwater	14.3
Haz Waste Facilities/Generators	3.64
Impaired Water Bodies	93.4
Solid Waste	98.1
Sensitive Population	—
Asthma	59.0
Cardio-vascular	82.4
Low Birth Weights	20.3
Socioeconomic Factor Indicators	—

Education	45.6
Housing	74.0
Linguistic	—
Poverty	56.2
Unemployment	81.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—

Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	54.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	78.9
Physically Disabled	5.6
Heart Attack ER Admissions	18.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0

Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	85.0
SLR Inundation Area	0.0
Children	99.4
Elderly	2.7
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	18.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	93.3
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	51.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Construction details provided by Big Bear Municipal Water District.
Land Use	Construction detailed provided by the District.
Construction: Construction Phases	Construction details provided by the District.
Construction: Off-Road Equipment	Construction Details provided by the District.
Construction: Dust From Material Movement	Construction details provided by the District.
Construction: Trips and VMT	Construction details provided by the District.
Construction: Off-Road Equipment EF	Dredging/Excavation and Stockpiling - Other Construction Equipment with a HP of 364 represents a small boat. Emission rates were pulled from the SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator.

Appendix B Species Database Searches

CNPS Rare Plant Inventory

Search Results

122 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3411731:3411638:3411637:3411721:3411628:3411627**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)
Abronia nana var. *covillei*	Coville's dwarf abronia	Nyctaginaceae	May-Aug	None	None	4.2	5000	10170
Acanthoscyphus parishii var. *cienegensis*	Cienega Seca oxytheca	Polygonaceae	(May)Jun-Sep	None	None	1B.3	6905	8040
Acanthoscyphus parishii var. *goodmaniana*	Cushenbury oxytheca	Polygonaceae	May-Oct	FE	None	1B.1	4000	7800
Acanthoscyphus parishii var. *parishii*	Parish's oxytheca	Polygonaceae	Jun-Sep	None	None	4.2	4005	8530
Allium parishii	Parish's onion	Alliaceae	Apr-May	None	None	4.3	2955	5695
Androsace elongata ssp. *acuta*	California androsace	Primulaceae	Mar-Jun	None	None	4.2	490	4280
Antennaria marginata	white-margined everlasting	Asteraceae	May-Aug	None	None	2B.3	6955	11000
Arctostaphylos parryana ssp. *tumescens*	interior manzanita	Ericaceae	Feb-Apr	None	None	4.3	6890	7580
Arenaria lanuginosa var. *saxosa*	rock sandwort	Caryophyllaceae	Jul-Aug	None	None	2B.3	4775	8530
Astragalus albens	Cushenbury milk-vetch	Fabaceae	Mar-Jun	FE	None	1B.1	3595	6560
Astragalus bernardinus	San Bernardino milk-vetch	Fabaceae	Apr-Jun	None	None	1B.2	2955	6560
Astragalus bicristatus	crested milk-vetch	Fabaceae	May-Aug	None	None	4.3	5580	9005
Astragalus lentiginosus var. *sierrae*	Big Bear Valley milk-vetch	Fabaceae	Apr-Aug	None	None	1B.2	5905	8530
Astragalus leucolobus	Big Bear Valley woollypod	Fabaceae	May-Jul	None	None	1B.2	3610	9465
Astragalus tidestromii	Tidestrom's milk-vetch	Fabaceae	(Jan)Apr-Jul	None	None	2B.2	1970	5855
Atriplex parishii	Parish's brittlescale	Chenopodiaceae	Jun-Oct	None	None	1B.1	80	6235
Berberis fremontii	Fremont barberry	Berberidaceae	Mar-May	None	None	2B.3	3755	5645
Boechera dispar	pinyon rockcress	Brassicaceae	Mar-Jun	None	None	2B.3	3935	8335
Boechera lincolnensis	Lincoln rockcress	Brassicaceae	Mar-May	None	None	2B.3	3610	8875
Boechera parishii	Parish's rockcress	Brassicaceae	Apr-May	None	None	1B.2	5805	9810
Boechera peirsonii	San Bernardino rockcress	Brassicaceae	Mar-Aug	None	None	1B.2	8860	10500
Boechera shockleyi	Shockley's rockcress	Brassicaceae	May-Jun	None	None	2B.2	2870	7580

Botrychium crenulatum	scalloped moonwort	Ophioglossaceae	Jun-Sep	None	None	2B.2	4160	10760
Calochortus palmeri var. *palmeri*	Palmer's mariposa-lily	Liliaceae	Apr-Jul	None	None	1B.2	2330	7840
Calochortus plummerae	Plummer's mariposa-lily	Liliaceae	May-Jul	None	None	4.2	330	5580
Calochortus striatus	alkali mariposa-lily	Liliaceae	Apr-Jun	None	None	1B.2	230	5235
Calyptridium pygmaeum	pygmy pussypaws	Montiaceae	Jun-Aug	None	None	1B.2	6495	10205
Carex occidentalis	western sedge	Cyperaceae	Jun-Aug	None	None	2B.3	5395	10285
Carex scirpoidea ssp. *pseudoscirpoidea*	western single-spiked sedge	Cyperaceae	Jul-Sep	None	None	2B.2	9810	12140
Castilleja cinerea	ash-gray paintbrush	Orobanchaceae	Jun-Aug	FT	None	1B.2	5905	9710
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	Orobanchaceae	May-Aug	None	None	1B.2	4265	7840
Castilleja montigena	Heckard's paintbrush	Orobanchaceae	May-Aug	None	None	4.3	6400	9185
Castilleja plagiotoma	Mojave paintbrush	Orobanchaceae	Apr-Jun	None	None	4.3	985	8205
Claytonia peirsonii ssp. *bernardinus*	San Bernardino spring beauty	Montiaceae	Mar-Apr	None	None	1B.1	7745	8090
Claytonia peirsonii ssp. *californacis*	Furnace spring beauty	Montiaceae	Mar-May	None	None	1B.1	7545	7545
Cleomella brevipes	short-pedicelled cleomella	Cleomaceae	May-Oct	None	None	4.2	1295	7200
Cordylanthus eremicus ssp. *eremicus*	desert bird's-beak	Orobanchaceae	Jul-Oct	None	None	4.3	3280	9845
Cymopterus multinervatus	purple-nerve cymopterus	Apiaceae	Mar-Apr	None	None	2B.2	2590	5905
Delphinium parryi ssp. *purpureum*	Mt. Pinos larkspur	Ranunculaceae	May-Jun	None	None	4.3	3280	8530
Diplacus johnstonii	Johnston's monkeyflower	Phrymaceae	May-Aug	None	None	4.3	3200	9580
Drymocallis cuneifolia var. *cuneifolia*	wedgeleaf woodbeauty	Rosaceae	Jun-Aug	None	None	1B.1	5905	7925
Dryopteris filix-mas	male fern	Dryopteridaceae	Jul-Sep	None	None	2B.3	7875	10170
Dudleya abramsii ssp. *affinis*	San Bernardino Mountains dudleya	Crassulaceae	Apr-Jul	None	None	1B.2	4100	8530
Eremogone ursina	Big Bear Valley sandwort	Caryophyllaceae	May-Aug	FT	None	1B.2	5905	9515
Eremothera boothii ssp. *boothii*	Booth's evening-primrose	Onagraceae	Apr-Sep	None	None	2B.3	2675	7875
Eriastrum densifolium ssp. *sanctorum*	Santa Ana River woollystar	Polemoniaceae	Apr-Sep	FE	CE	1B.1	300	2000
Erigeron breweri var. *jacinteus*	San Jacinto Mountains daisy	Asteraceae	Jun-Sep	None	None	4.3	8860	9515
Erigeron parishii	Parish's daisy	Asteraceae	May-Aug	FT	None	1B.1	2625	6560
Eriogonum evanidum	vanishing wild buckwheat	Polygonaceae	Jul-Oct	None	None	1B.1	3610	7300
Eriogonum kennedyi var. *alpigenum*	southern alpine buckwheat	Polygonaceae	Jul-Sep	None	None	1B.3	8530	11485

Eriogonum kennedyi var. *austromontanum*	southern mountain buckwheat	Polygonaceae	Jun-Sep	FT	None	1B.2	5805	9480
Eriogonum microthecum var. *johnstonii*	Johnston's buckwheat	Polygonaceae	Jul-Sep	None	None	1B.3	6000	9600
Eriogonum microthecum var. *lacus-ursi*	Bear Lake buckwheat	Polygonaceae	Jul-Aug	None	None	1B.1	6560	6890
Eriogonum microthecum var. *lapidicola*	Inyo Mountains buckwheat	Polygonaceae	Jul-Sep	None	None	4.3	8530	10170
Eriogonum ovalifolium var. *vineum*	Cushenbury buckwheat	Polygonaceae	May-Aug	FE	None	1B.1	4595	8005
Eriogonum umbellatum var. *minus*	alpine sulfur-flowered buckwheat	Polygonaceae	Jun-Sep	None	None	4.3	5905	10065
Eriophyllum lanatum var. *obovatum*	southern Sierra woolly sunflower	Asteraceae	Jun-Jul	None	None	4.3	3655	8205
Erythranthe exigua	San Bernardino Mountains monkeyflower	Phrymaceae	May-Jul	None	None	1B.2	5905	7595
Erythranthe purpurea	little purple monkeyflower	Phrymaceae	May-Jun	None	None	1B.2	6235	7545
Frasera neglecta	pine green-gentian	Gentianaceae	May-Jul	None	None	4.3	4595	8205
Fritillaria pinetorum	pine fritillary	Liliaceae	May-Jul(Sep)	None	None	4.3	5695	10825
Funastrum utahense	Utah vine milkweed	Apocynaceae	(Mar)Apr-Jun(Sep-Oct)	None	None	4.2	330	4710
Galium angustifolium ssp. *gabrielense*	San Antonio Canyon bedstraw	Rubiaceae	Apr-Aug	None	None	4.3	3935	8695
Galium angustifolium ssp. *gracillimum*	slender bedstraw	Rubiaceae	Apr-Jun(Jul)	None	None	4.2	425	5085
Galium jepsonii	Jepson's bedstraw	Rubiaceae	Jul-Aug	None	None	4.3	5055	8205
Galium johnstonii	Johnston's bedstraw	Rubiaceae	Jun-Jul	None	None	4.3	4005	7545
Gentiana fremontii	Fremont's gentian	Gentianaceae	Jun-Aug	None	None	2B.3	7875	8860
Gilia leptantha ssp. *leptantha*	San Bernardino gilia	Polemoniaceae	Jun-Aug	None	None	1B.3	4920	8400
Gilia leptantha ssp. *pinetorum*	pine gilia	Polemoniaceae	May-Jul	None	None	4.3	4920	9185
Heuchera abramsii	Abrams' alumroot	Saxifragaceae	Jul-Aug	None	None	4.3	9185	11485
Heuchera caespitosa	urn-flowered alumroot	Saxifragaceae	May-Aug	None	None	4.3	3790	8695
Heuchera parishii	Parish's alumroot	Saxifragaceae	Jun-Aug	None	None	1B.3	4920	12470
Horkelia wilderae	Barton Flats horkelia	Rosaceae	May-Sep	None	None	1B.1	5495	9595
Hulsea vestita ssp. *parryi*	Parry's sunflower	Asteraceae	Apr-Aug	None	None	4.3	4495	9500
Hulsea vestita ssp. *pygmaea*	pygmy hulsea	Asteraceae	Jun-Oct	None	None	1B.3	9300	12795
Imperata brevifolia	California satintail	Poaceae	Sep-May	None	None	2B.1	0	3985
Ivesia argyrocoma var. *argyrocoma*	silver-haired ivesia	Rosaceae	Jun-Aug	None	None	1B.2	4800	9710
Johnstonella holoptera	winged cryptantha	Boraginaceae	Mar-Apr	None	None	4.3	330	5545

Juncus duranii	Duran's rush	Juncaceae	Jul-Aug	None	None	4.3	5800	9200
Lewisia brachycalyx	short-sepaled lewisia	Montiaceae	(Feb)Apr-Jun(Jul)	None	None	2B.2	4495	7545
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	Liliaceae	Mar-Jul(Aug)	None	None	4.2	100	5905
Lilium parryi	lemon lily	Liliaceae	Jul-Aug	None	None	1B.2	4005	9005
Linanthus killipii	Baldwin Lake linanthus	Polemoniaceae	May-Jul	None	None	1B.2	5580	7875
Lupinus elatus	silky lupine	Fabaceae	Jun-Aug	None	None	4.3	4920	9845
Malaxis monophyllos var. *brachypoda*	white bog adder's-mouth	Orchidaceae	Jun-Aug	None	None	2B.1	7220	9000
Muhlenbergia californica	California muhly	Poaceae	Jun-Sep	None	None	4.3	330	6560
Muilla coronata	crowned muilla	Themidaceae	Mar-Apr(May)	None	None	4.2	2200	6430
Navarretia peninsularis	Baja navarretia	Polemoniaceae	(May)Jun-Aug	None	None	1B.2	4920	7545
Nemacladus gracilis	slender nemacladus	Campanulaceae	Mar-May	None	None	4.3	395	6235
Oreonana vestita	woolly mountain-parsley	Apiaceae	Mar-Sep	None	None	1B.3	5300	11485
Oxytropis oreophila var. *oreophila*	rock-loving oxytrope	Fabaceae	Jun-Sep	None	None	2B.3	11155	12470
Packera bernardina	San Bernardino ragwort	Asteraceae	May-Jul	None	None	1B.2	5905	7545
Packera ionophylla	Tehachapi ragwort	Asteraceae	Jun-Jul	None	None	4.3	4920	8860
Perideridia parishii ssp. *parishii*	Parish's yampah	Apiaceae	Jun-Aug	None	None	2B.2	4805	9845
Phacelia exilis	Transverse Range phacelia	Hydrophyllaceae	May-Aug	None	None	4.3	3610	8860
Phacelia mohavensis	Mojave phacelia	Hydrophyllaceae	Apr-Aug	None	None	4.3	4595	8205
Phlox dolichantha	Big Bear Valley phlox	Polemoniaceae	May-Jul	None	None	1B.2	6005	9745
Physaria kingii ssp. *bernardina*	San Bernardino Mountains bladderpod	Brassicaceae	May-Jun	FE	None	1B.1	6070	8860
Poa atropurpurea	San Bernardino blue grass	Poaceae	(Apr)May-Jul(Aug)	FE	None	1B.2	4460	8055
Podistera nevadensis	Sierra podistera	Apiaceae	Jul-Sep	None	None	4.3	9845	13125
Poliomintha incana	frosted mint	Lamiaceae	Jun-Jul	None	None	2A	5250	5580
Pyrrocoma uniflora var. *gossypina*	Bear Valley pyrrocoma	Asteraceae	Jul-Sep	None	None	1B.2	5250	7545
Rosa woodsii var. *glabrata*	Cushenbury rose	Rosaceae	(Apr)May-Aug	None	None	1B.1	2985	4710
Rupertia rigida	Parish's rupertia	Fabaceae	Jun-Aug	None	None	4.3	2295	8205
Saltugilia latimeri	Latimer's woodland-gilia	Polemoniaceae	Mar-Jun	None	None	1B.2	1310	6235
Sedum niveum	Davidson's stonecrop	Crassulaceae	Jun-Aug	None	None	4.2	6810	9845
Sidalcea hickmanii ssp. *parishii*	Parish's checkerbloom	Malvaceae	(May)Jun-Aug	None	CR	1B.2	3280	8200
Sidalcea malviflora ssp. *dolosa*	Bear Valley checkerbloom	Malvaceae	May-Aug	None	None	1B.2	4905	8810
Sidalcea pedata	bird-foot checkerbloom	Malvaceae	May-Aug	FE	CE	1B.1	5250	8205

Sidotheca caryophylloides	chickweed oxytheca	Polygonaceae	Jul-Sep(Oct)	None	None	4.3	3655	8530
Sisyrinchium longipes	timberland blue-eyed grass	Iridaceae	Jun-Aug	None	None	2B.2	6760	6760
Sphenopholis obtusata	prairie wedge grass	Poaceae	Apr-Jul	None	None	2B.2	985	6560
Streptanthus bernardinus	Laguna Mountains jewelflower	Brassicaceae	May-Aug	None	None	4.3	2200	8205
Streptanthus campestris	southern jewelflower	Brassicaceae	(Apr)May-Jul	None	None	1B.3	2955	7545
Streptanthus juneae	June's jewelflower	Brassicaceae	Jun-Aug	None	None	1B.2	7070	7775
Symphyotrichum defoliatum	San Bernardino aster	Asteraceae	Jul-Nov	None	None	1B.2	5	6695
Syntrichopappus lemmonii	Lemmon's syntrichopappus	Asteraceae	Apr-May(Jun)	None	None	4.3	1640	6005
Taraxacum californicum	California dandelion	Asteraceae	May-Aug	FE	None	1B.1	5315	9185
Thelypodium stenopetalum	slender-petaled thelypodium	Brassicaceae	May-Sep	FE	CE	1B.1	5250	8205
Trichostema micranthum	small-flowered bluecurls	Lamiaceae	Jun-Sep	None	None	4.3	5005	7545
Viola pinetorum ssp. *grisea*	grey-leaved violet	Violaceae	Apr-Jul	None	None	1B.2	4920	11155
Yucca brevifolia					CC	CBR		

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Suggested Citation:

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 18 April 2024].

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Big Bear City (3411637) OR Big Bear Lake (3411628) OR Keller Peak (3411721) OR Butler Peak (3411731) OR Fawnskin (3411638) OR Moonridge (3411627))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Acanthoscyphus parishii var. cienegensis Cienega Seca oxytheca	G4?T2 S2	None None	Rare Plant Rank - 1B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,650 8,000	23 S:10	1	2	1	0	0	6	0	10	10	0	0
Acanthoscyphus parishii var. goodmaniana Cushenbury oxytheca	G4?T1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,660 7,700	21 S:20	5	4	3	1	0	7	9	11	20	0	0
Antennaria marginata white-margined everlasting	G4G5 S1	None None	Rare Plant Rank - 2B.3 USFS_S-Sensitive	7,400 7,400	2 S:1	0	1	0	0	0	0	0	1	1	0	0
Arenaria lanuginosa var. saxosa rock sandwort	G5T5 S2	None None	Rare Plant Rank - 2B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,300 9,625	15 S:12	0	0	5	0	0	7	1	11	12	0	0
Astragalus albens Cushenbury milk-vetch	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	3,900 6,400	23 S:21	2	8	5	0	0	6	14	7	21	0	0
Astragalus bernardinus San Bernardino milk-vetch	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,233 7,500	42 S:6	0	0	0	0	0	6	4	2	6	0	0
Astragalus lentiginosus var. sierrae Big Bear Valley milk-vetch	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,620 10,600	68 S:56	2	5	9	3	0	37	27	29	56	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Astragalus leucolobus Big Bear Valley woollypod	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive IUCN_VU-Vulnerable SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,892 9,500	118 S:82	1	19	11	2	0	49	29	53	82	0	0
Astragalus tidestromii Tidestrom's milk-vetch	G4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	4,100 5,160	72 S:3	0	0	0	0	0	3	1	2	3	0	0
Atriplex parishii Parish's brittlescale	G1G2 S1	None None	Rare Plant Rank - 1B.1 SB_CRES-San Diego Zoo CRES Native Gene Seed Bank USFS_S-Sensitive	4,100 4,100	15 S:1	0	0	0	0	0	1	1	0	1	0	0
Berberis fremontii Fremont barberry	G5 S3	None None	Rare Plant Rank - 2B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,100 4,100	17 S:1	0	0	0	0	0	1	1	0	1	0	0
Boechera dispar pinyon rockcress	G3 S3	None None	Rare Plant Rank - 2B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,100 7,450	97 S:23	1	0	0	0	0	22	4	19	23	0	0
Boechera lincolnensis Lincoln rockcress	G4G5 S3	None None	Rare Plant Rank - 2B.3 BLM_S-Sensitive	4,060 4,060	14 S:1	0	0	0	0	0	1	1	0	1	0	0
Boechera parishii Parish's rockcress	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,000 9,200	44 S:36	2	8	3	1	1	21	18	18	35	0	1
Boechera shockleyi Shockley's rockcress	G3 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	4,100 7,865	61 S:31	2	11	1	0	0	17	22	9	31	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Botrychium crenulatum scalloped moonwort	G4 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,800 8,500	155 S:6	0	0	0	0	0	6	4	2	6	0	0
Calochortus palmeri var. palmeri Palmer's mariposa-lily	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	5,200 7,580	111 S:26	2	3	2	0	0	19	6	20	26	0	0
Calochortus plummerae Plummer's mariposa-lily	G4 S4	None None	Rare Plant Rank - 4.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	3,200 8,200	230 S:5	0	1	1	0	0	3	3	2	5	0	0
Calochortus striatus alkali mariposa-lily	G3 S2S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	4,100 5,240	113 S:2	0	0	0	0	1	1	1	1	1	0	1
Calyptridium pygmaeum pygmy pussypaws	G1G2 S1S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	7,490 7,500	11 S:2	0	0	0	0	0	2	2	0	2	0	0
Carex occidentalis western sedge	G4 S3	None None	Rare Plant Rank - 2B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5,400 6,660	8 S:3	0	0	0	0	0	3	3	0	3	0	0
Castilleja cinerea ash-gray paintbrush	G1G2 S1S2	Threatened None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5,900 9,375	53 S:45	5	7	6	2	1	24	17	28	44	1	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Castilleja lasiorhyncha San Bernardino Mountains owl's-clover	G2? S2?	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,350 7,600	46 S:30	2	6	3	3	0	16	11	19	30	0	0
Claytonia peirsonii ssp. bernardinus San Bernardino spring beauty	G2G3T1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	7,775 7,775	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Claytonia peirsonii ssp. californacis Furnace spring beauty	G2G3T1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	7,515 7,515	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Cymopterus multinervatus purple-nerve cymopterus	G4G5 S2	None None	Rare Plant Rank - 2B.2	4,400 4,815	49 S:2	0	0	0	0	0	2	1	1	2	0	0
Drymocallis cuneifolia var. cuneifolia wedgeleaf woodbeauty	G2T1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	5,000 7,274	3 S:3	0	0	0	0	0	3	1	2	3	0	0
Dryopteris filix-mas male fern	G5 S2	None None	Rare Plant Rank - 2B.3	8,000 8,000	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Dudleya abramsii ssp. affinis San Bernardino Mountains dudleya	G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	4,800 7,950	54 S:38	0	6	0	0	0	32	12	26	38	0	0
Eremogone ursina Big Bear Valley sandwort	G1 S1	Threatened None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5,900 9,500	37 S:33	0	13	3	1	3	13	18	15	30	3	0

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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	G4T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	2,300 2,300	31 S:1	0	0	0	0	0	1	1	0	1	0	0
Erigeron parishii Parish's daisy	G2 S2	Threatened None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,080 6,400	52 S:22	2	12	1	3	0	4	11	11	22	0	0
Eriogonum evanidum vanishing wild buckwheat	G2 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	7,000 7,350	9 S:4	0	2	1	0	0	1	1	3	4	0	0
Eriogonum kennedyi var. alpigenum southern alpine buckwheat	G4T3 S3	None None	Rare Plant Rank - 1B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	9,900 9,900	9 S:1	0	0	0	0	0	1	0	1	1	0	0
Eriogonum kennedyi var. austromontanum southern mountain buckwheat	G4T2 S2	Threatened None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	6,200 9,900	38 S:34	2	10	3	3	0	16	13	21	34	0	0
Eriogonum microthecum var. johnstonii Johnston's buckwheat	G5T2 S2	None None	Rare Plant Rank - 1B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,900 7,650	7 S:2	0	0	0	0	0	2	2	0	2	0	0
Eriogonum microthecum var. lacus-ursi Bear Lake buckwheat	G5T1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,746 6,746	1 S:1	0	0	1	0	0	0	1	0	1	0	0
Eriogonum ovalifolium var. vineum Cushenbury buckwheat	G5T1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,700 8,000	34 S:26	3	5	5	0	0	13	17	9	26	0	0

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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Erythranthe exigua San Bernardino Mountains monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,760 8,620	22 S:22	0	5	4	1	0	12	15	7	22	0	0
Erythranthe purpurea little purple monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,720 7,500	22 S:22	0	6	2	0	3	11	14	8	19	1	2
Gentiana fremontii Fremont's gentian	G4 S2	None None	Rare Plant Rank - 2B.3 USFS_S-Sensitive	6,300 9,340	5 S:5	1	0	0	0	0	4	1	4	5	0	0
Gilia leptantha ssp. leptantha San Bernardino gilia	G4T2 S2	None None	Rare Plant Rank - 1B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,000 8,512	16 S:12	2	2	2	0	1	5	7	5	11	1	0
Heuchera parishii Parish's alumroot	G3 S3	None None	Rare Plant Rank - 1B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	4,500 9,500	70 S:48	4	10	1	0	0	33	22	26	48	0	0
Horkelia wilderae Barton Flats horkelia	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,500 9,500	8 S:8	2	1	2	0	0	3	2	6	8	0	0
Hulsea vestita ssp. pygmaea pygmy hulsea	G5T1 S1	None None	Rare Plant Rank - 1B.3 USFS_S-Sensitive	9,385 9,385	4 S:1	0	0	0	0	0	1	0	1	1	0	0
Imperata brevifolia California satintail	G3 S3	None None	Rare Plant Rank - 2B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	3,800 3,800	32 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Ivesia argyrocoma var. argyrocoma silver-haired ivesia	G2T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,600 9,700	41 S:34	1	12	7	1	0	13	18	16	34	0	0
Lewisia brachycalyx short-sepaled lewisia	G4 S2	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,735 7,500	15 S:9	0	1	0	0	0	8	6	3	9	0	0
Lilium parryi lemon lily	G3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank USFS_S-Sensitive	4,375 9,259	160 S:80	4	13	2	3	0	58	24	56	80	0	0
Linanthus killipii Baldwin Lake linanthus	G1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,880 7,400	30 S:20	1	4	5	2	0	8	3	17	20	0	0
Malaxis monophyllos var. brachypoda white bog adder's-mouth	G5T4T5 S1	None None	Rare Plant Rank - 2B.1 USFS_S-Sensitive	7,800 8,400	4 S:3	1	1	0	0	0	1	2	1	3	0	0
Navarretia peninsularis Baja navarretia	G3 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,360 7,755	35 S:16	2	2	0	0	0	12	6	10	16	0	0
Oreonana vestita woolly mountain-parsley	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	8,700 8,700	55 S:1	1	0	0	0	0	0	0	1	1	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Oxytropis oreophila var. oreophila rock-loving oxytrope	G5T4T5 S2	None None	Rare Plant Rank - 2B.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	8,590 9,000	6 S:3	0	0	0	0	0	3	2	1	3	0	0
Packera bernardina San Bernardino ragwort	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,300 8,100	35 S:35	1	5	6	1	1	21	24	11	34	0	1
Perideridia parishii ssp. parishii Parish's yampah	G4T3T4 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	6,000 8,300	37 S:26	0	1	1	0	0	24	10	16	26	0	0
Phlox dolichantha Big Bear Valley phlox	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,500 9,200	45 S:44	0	10	0	0	0	34	24	20	44	0	0
Physaria kingii ssp. bernardina San Bernardino Mountains bladderpod	G5T1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	6,500 8,400	11 S:9	0	1	0	0	0	8	4	5	9	0	0
Poa atropurpurea San Bernardino blue grass	G2 S2	Endangered None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	6,700 8,700	27 S:17	0	3	1	2	0	11	11	6	17	0	0
Poliomintha incana frosted mint	G5 SH	None None	Rare Plant Rank - 2A	5,400 5,400	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Pyrrocoma uniflora var. gossypina Bear Valley pyrrocoma	G5T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,700 7,480	17 S:16	0	3	3	4	2	4	12	4	14	2	0

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California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Rosa woodsii var. glabrata Cushenbury rose	G5T1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	4,000 4,000	2 S:1	0	0	0	0	0	1	1	0	1	0	0
Saltugilia latimeri Latimer's woodland-gilia	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive	5,100 6,475	60 S:7	0	0	0	0	0	7	3	4	7	0	0
Sidalcea hickmanii ssp. parishii Parish's checkerbloom	G2T1 S1	None Rare	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	5,170 7,000	24 S:10	0	0	1	0	0	9	6	4	10	0	0
Sidalcea malviflora ssp. dolosa Bear Valley checkerbloom	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	5,170 8,485	18 S:17	0	0	0	0	0	17	3	14	17	0	0
Sidalcea pedata bird-foot checkerbloom	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	6,040 7,595	24 S:24	1	5	2	2	10	4	16	8	14	2	8
Sisyrinchium longipes timberland blue-eyed grass	G3 S1	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,750 6,750	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Sphenopholis obtusata prairie wedge grass	G5 S2	None None	Rare Plant Rank - 2B.2	6,400 6,400	19 S:1	0	0	0	0	0	1	1	0	1	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Streptanthus bernardinus Laguna Mountains jewelflower	G3G4 S3S4	None None	Rare Plant Rank - 4.3 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	6,000 7,800	22 S:8	0	2	1	0	0	5	8	0	8	0	0
Streptanthus campestris southern jewelflower	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_CRES-San Diego Zoo CRES Native Gene Seed Bank USFS_S-Sensitive	7,345 7,345	73 S:2	0	0	0	0	0	2	1	1	2	0	0
Streptanthus juneae June's jewelflower	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	7,000 7,821	7 S:7	0	1	0	0	0	6	2	5	7	0	0
Symphyotrichum defoliatum San Bernardino aster	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank USFS_S-Sensitive	4,000 6,700	102 S:4	0	0	0	0	0	4	2	2	4	0	0
Taraxacum californicum California dandelion	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5,320 8,600	45 S:41	0	11	11	1	5	13	26	15	36	1	4
Thelypodium stenopetalum slender-petaled thelypodium	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	6,700 7,350	10 S:10	0	4	1	1	4	0	5	5	6	1	3
Viola pinetorum ssp. grisea grey-leaved violet	G4G5T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		90 S:1	0	0	0	0	0	1	1	0	1	0	0

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California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Big Bear City (3411637) OR Big Bear Lake (3411628) OR Keller Peak (3411721) OR Butler Peak (3411731) OR Fawnskin (3411638) OR Moonridge (3411627))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Accipiter cooperii Cooper's hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	5,000 5,000	118 S:1	0	0	0	0	0	1	1	0	1	0	0
Anniella stebbinsi Southern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	5,000 6,777	427 S:2	0	0	0	0	0	2	2	0	2	0	0
Aquila chrysaetos golden eagle	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern	5,800 6,270	332 S:3	0	0	0	0	0	3	2	1	3	0	0
Bombus caliginosus obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	7,600 7,600	181 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus crotchii Crotch's bumble bee	G2 S2	None Candidate Endangered	IUCN_EN-Endangered	4,000 7,359	437 S:3	0	0	0	0	0	3	2	1	3	0	0
Bombus morrisoni Morrison bumble bee	G3 S1S2	None None	IUCN_VU-Vulnerable	7,300 7,300	86 S:1	0	0	0	0	0	1	1	0	1	0	0
Chaetodipus fallax pallidus pallid San Diego pocket mouse	G5T3T4 S3S4	None None		4,250 5,840	79 S:2	0	0	0	0	0	2	2	0	2	0	0
Charina umbratica southern rubber boa	G2G3 S2	None Threatened	IUCN_VU-Vulnerable USFS_S-Sensitive	6,000 7,847	94 S:36	1	3	0	0	0	32	16	20	36	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	5,050 6,800	635 S:2	0	1	0	0	0	1	1	1	2	0	0
Empidonax traillii extimus southwestern willow flycatcher	G5T2 S3	Endangered Endangered		6,760 6,760	70 S:1	0	0	0	0	0	1	1	0	1	0	0

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California Department of Fish and Wildlife

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Ensatina eschscholtzii klauberi large-blotched salamander	G5T2? S3	None None	CDFW_WL-Watch List USFS_S-Sensitive	5,601 5,730	21 S:2	0	0	2	0	0	0	0	2	2	0	0
Euchloe hyantis andrewsi Andrew's marble butterfly	G3G4T2 S2	None None		6,000 8,000	6 S:3	0	0	0	0	0	3	3	0	3	0	0
Euphydryas editha quino quino checkerspot butterfly	G4G5T1T2 S1S2	Endangered None		7,500 7,500	186 S:1	0	0	0	0	1	0	1	0	0	0	1
Gasterosteus aculeatus williamsoni unarmored threespine stickleback	G5T1 S1	Endangered Endangered	AFS_EN-Endangered CDFW_FP-Fully Protected	6,720 6,720	16 S:1	0	0	0	0	0	1	1	0	1	0	0
Gila orcuttii arroyo chub	G2 S2	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	5,460 5,460	49 S:1	0	1	0	0	0	0	1	0	1	0	0
Glaucomys oregonensis californicus San Bernardino flying squirrel	G5T1T2 S1S2	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	7,000 7,550	12 S:4	1	0	0	0	0	3	4	0	4	0	0
Haliaeetus leucocephalus bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive	6,740 6,800	333 S:3	0	0	0	0	0	3	2	1	3	0	0
Hydroporus simplex simple hydroporus diving beetle	G3G4 S3S4	None None		7,400 7,400	2 S:1	0	0	0	0	0	1	1	0	1	0	0
Icteria virens yellow-breasted chat	G5 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	4,080 4,080	101 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis evotis long-eared myotis	G5 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern	6,800 7,480	139 S:2	1	1	0	0	0	0	2	0	2	0	0
Myotis thysanodes fringed myotis	G4 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern USFS_S-Sensitive	7,480 7,480	86 S:1	0	1	0	0	0	0	1	0	1	0	0
Myotis volans long-legged myotis	G4G5 S3	None None	IUCN_LC-Least Concern	6,800 6,800	117 S:1	1	0	0	0	0	0	1	0	1	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern	7,390 7,390	265 S:1	0	0	0	0	0	1	1	0	1	0	0
Neotamias speciosus speciosus lodgepole chipmunk	G4T3T4 S2	None None		6,300 10,350	24 S:12	0	0	0	0	0	12	12	0	12	0	0
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	G5T1Q S1	Endangered Candidate Endangered	AFS_EN-Endangered	108 108	19 S:1	0	0	0	0	1	0	1	0	0	1	0
Phrynosoma blainvillii coast horned lizard	G4 S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,500 6,240	841 S:7	1	1	0	0	0	5	6	1	7	0	0
Piranga rubra summer tanager	G5 S1	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	4,080 4,080	21 S:1	0	0	0	0	0	1	1	0	1	0	0
Psychomastax deserticola desert monkey grasshopper	G2G3 S1	None None	IUCN_VU-Vulnerable	4,100 5,900	2 S:2	0	0	0	0	0	2	2	0	2	0	0
Rana muscosa southern mountain yellow-legged frog	G1 S2	Endangered Endangered	CDFW_WL-Watch List IUCN_EN-Endangered USFS_S-Sensitive	4,500 7,500	186 S:8	0	0	0	0	7	1	8	0	1	1	6
Thamnophis hammondii two-striped gartersnake	G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	3,000 6,900	184 S:2	1	0	0	0	0	1	2	0	2	0	0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901

In Reply Refer To: 04/18/2024 23:20:53 UTC
Project Code: 2022-0021765
Project Name: Big Bear Lake Marina Deepening and Boat launch Facility Project

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

PROJECT SUMMARY

Project Code: 2022-0021765

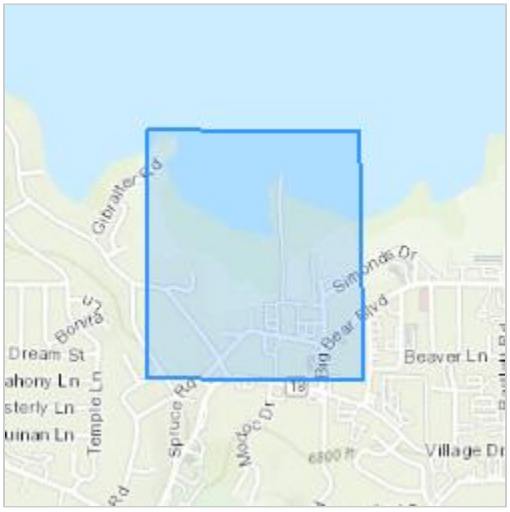
Project Name: Big Bear Lake Marina Deepening and Boat launch Facility Project

Project Type: Marina - Maintenance/Modification

Project Description: The Big Bear Municipal Water District proposes to conduct the dredging effort to deepen the West Navigation Channel at the Big Bear Lake Marina, located on the south shore of Big Bear Lake in the Big Bear Valley in the San Bernardino Mountains, San Bernardino County, California. After dredging is complete, a new boat launch facility would be constructed within the Marina area, extending into the West Navigation Channel to allow for more efficient and safe access to the Lake in the event of emergency or during regular maintenance.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.2443397,-116.91892876187677,14z



Counties: San Bernardino County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 13 threatened, endangered, or candidate species on this species list.

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

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

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

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

BIRDS

NAME	STATUS
California Spotted Owl *Strix occidentalis occidentalis* Population: Coastal-Southern California No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7266	Proposed Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

AMPHIBIANS

NAME	STATUS
Mountain Yellow-legged Frog *Rana muscosa* Population: Southern California DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8037	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Ash-grey Paintbrush *Castilleja cinerea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3702	Threatened
Bear Valley Sandwort *Arenaria ursina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7317	Threatened
California Taraxacum *Taraxacum californicum* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7421	Endangered
Parish's Daisy *Erigeron parishii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8446	Threatened
Pedate Checker-mallow *Sidalcea pedata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1340	Endangered

NAME	STATUS
San Bernardino Bluegrass *Poa atropurpurea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4641	Endangered
San Bernardino Mountains Bladderpod *Lesquerella kingii ssp. bernardina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/809	Endangered
Slender-petaled Mustard *Thelypodium stenopetalum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1658	Endangered
Southern Mountain Wild-buckwheat *Eriogonum kennedyi var. austromontanum* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7201	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: GEI Consultants, Inc.
Name: Anne King
Address: 5901 Priestly Drive, Suite 301
City: Carlsbad
State: CA
Zip: 92008
Email aking@geiconsultants.com
Phone: 6195172753

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

Appendix C Cultural Resources

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 19, 2022

Amy Wolpert
GEI Consultants, Inc.

Via Email to: awolpert@geiconsultants.com

Re: Big Bear Lake Project, San Bernardino County

Dear Ms. Wolpert:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the San Manuel Band of Mission Indians on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
4/19/2022

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Morongo Band of Mission Indians
Ann Brierty, THPO
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

San Manuel Band of Mission Indians
Jessica Mauck, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

Serrano Nation of Mission Indians
Mark Cochrane, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Big Bear Lake Project, San Bernardino County.