San Lorenzo Valley Water District

Blue Ridge Tank Replacement Project
Initial Study/Mitigated Negative Declaration

October 2022

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PANORAMA ENVIRONMENTAL, INC.

San Lorenzo Valley Water District

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Initial Study/Mitigated Negative Declaration

October 2022

Prepared for:

San Lorenzo Valley Water District

13060 Highway 9

Boulder Creek, California 95006

Prepared by:

Panorama Environmental, Inc.

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Mitigated Negative Declaration

Project Summary

1. **Project Title**
   Blue Ridge Tank Replacement Project (proposed project)
2. **Lead Agency Name and Address**
   San Lorenzo Valley Water District
   13060 Highway 9
   Boulder Creek, California 95006
3. **Contact Person and Phone Number**
   Carly Blanchard
   Environmental Programs Manager
   831-338-2153 ext 639
4. **Location**
   The proposed project is located in a rural residential neighborhood in the unincorporated community of Boulder Creek in Santa Cruz County, California. The proposed project is located south and east of Blue Ridge Drive and north of Short Street. The Blue Ridge Tank site is located on APN 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively.
5. **Project Sponsor's Name and Address**
   San Lorenzo Valley Water District
   13060 Highway 9
   Boulder Creek, California 95006
6. **General Plan Designation and Zoning**
   The proposed project site has a land use designation of Rural Residential (RR) and zoning designation of Single-Family Residential, 15,000 square feet to one-acre lot size (R-1-15). The parcels adjacent to the proposed project site are also designated RR and zoned R-1-15.
7. **Description of the proposed project**
   The SLVWD would be replacing the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (proposed project) located in the community of Boulder Creek. The existing tank is currently undersized and leaking. The proposed project would involve demolition and removal of the existing Blue Ridge Tank and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The new 160,000-gallon tank would be craned into location.

The utility and Supervisory Control and Data Acquisition (SCADA) system would be connected to the new tank, after which the tank would be placed into service.

8. **Surrounding Land Uses and Setting**
   The lands surrounding the proposed project site are developed with single family residences. The proposed project site is developed with the existing water tank and associated utilities and infrastructure.
9. **Other Public Agencies Whose Approval is Required**
   Regional Water Quality Control Board - National Pollutant Discharge Elimination System Construction General Permit
   Calfire Conversion Exemption – To be determined
10. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code 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.?**
    No Native American tribes have requested consultation (see Appendix E).

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the project, but impacts would be mitigated to a less-than-significant level as indicated in the Initial Study.

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

Environmental Determination

On the basis of this initial evaluation:

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

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

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

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

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

Pursuant to Section 21082.1 of the California Environmental Quality Act, the San Lorenzo Valley Water District (SLVWD) has independently reviewed and analyzed the Initial Study and Mitigated Negative Declaration for the proposed project and finds that the Initial Study and Mitigated Negative Declaration reflect the independent judgement of SLVWD. The SLVWD further finds that the project mitigation measures shall be implemented as stated in this Mitigated Negative Declaration.

I hereby approve this project:

Signature	Carly Blanchard/Environmental Programs Manager Name/Title	10/14/2022 Date

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1 Project Description

1.1 Overview

The San Lorenzo Valley Water District (SLVWD or District) was established in 1941 and serves several communities within the 136 square-mile San Lorenzo River watershed. SLVWD owns, operates, and maintains two water systems from separate water sources. These sources are derived solely from rainfall within the San Lorenzo River watershed.

The Blue Ridge Tank Replacement Project (proposed project) would involve replacement of the existing 40,000-gallon redwood Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage, located in the community of Boulder Creek. The proposed project is located in the North/South Service Area, which includes the unincorporated community of Boulder Creek. The existing tank, installed in the mid 1980's, is currently undersized and leaking. The proposed project would involve demolition and removal of the existing Blue Ridge Tank and utility connections. Site preparation would involve grading and removal of removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank, development of an access road, staging areas and temporary tank placement. The new 160,000-gallon tank would be craned into place. The utility and Supervisory Control and Data Acquisition (SCADA) system would be connected to the new tank, after which the tank would be placed into service.

1.2 Project Location and Site Description

The proposed project is located in the community of Boulder Creek in Santa Cruz County, California. Regional access is provided to the proposed project site via State Highway 9 and Kings Creek Road (Figure 1). The properties to the north, west and east of the proposed project are developed with single family residences, as shown on Figure 2. The proposed project site has a land use designation of Rural Residential (RR) and zoning designation of Single-Family Residential, 15,000 square feet to one-acre lot size (R-1-15). The parcels adjacent to the proposed project site are also designated RR and zoned R-1-15. Refer to Figure 2.

The Blue Ridge Tank site is located on APN 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively. The site is on the top of a bedrock ridge spur with undisturbed natural slopes descending to the west, north and south of the ridge spur at gradients of between 3:1 and 2:1 (Horizontal: Vertical). From the proposed tank location, slopes continue for approximate horizontal distances of 60 to 120 feet, putting the tank site at 30 to 40 feet above Blue Ridge Road. The slopes are vegetated with scattered trees and brush. Existing structures and improvements on the tank site parcel include the existing redwood

water storage tank to be replaced, SCADA control panel and wiring, large water pipes and valves, buried water lines and an existing chain link fence.

1.3 Project Elements

The SLVWD is proposing to install one (1) 160,000-gallon steel bolted water storage tank to replace the existing redwood water storage tank. The new steel tank would be 29.5 feet in diameter and 32 feet high. Plans for the proposed water tanks are shown in Figure 4. The new tank would include a concrete ringwall footing. However, the new tank would be larger than the existing tank and ultimately would be a larger footprint in the same location. The existing perimeter chain link fencing would also be replaced with a six (6)-foot-tall chain link fence with a single swing gate. Approximately six (6) feet of compacted gravel would be placed within the perimeter fencing around the new water tank.

The following discussion provides a more detailed description of key project elements, including site preparation, demolition, new tank placement and schedule.

1.3.1 Existing Redwood Tank Demolition and Removal

The existing redwood tank would be demolished and removed from the site for reuse of some or all of the tank components (such as re-milling of the redwood staves) or for placement in a suitable landfill. The existing SCADA system and utility connections would also be removed. Two temporary 10,000-gallon water tanks will be in place and connections re-routed as necessary to service the downstream properties during work periods until the new tank is in place.

1.3.2 Site Preparation

Before commencement of construction, vegetation would be cleared and trees would be removed in order to accommodate the larger tank, as well as the access road for equipment.

The new access road would be approximately 8-10 feet wide and 75 feet long, sloped axially at 25% or less, cross slope at 5% or less, surfaced with compacted native or possible aggregate base and provided with erosion controls.

Construction activities for the new tank would include soil excavation for ring footings and site grading, which would include minor excavation to create a slightly larger level site for the new tank, as well as for the new tank's foundation and associated piping. It is anticipated that the majority of the existing native soil and bedrock will be used as engineering fill onsite. Therefore, there would be no need to remove large amounts of excavated material from the site for off-site disposal. If necessary, up to 80 cubic yards of excavated soil maybe hauled off-site. The new water pipeline and electricity would be located entirely underground along the new access road to connect to Short Street.

The proposed project would require the removal of existing vegetation, including up to 19 trees, as described in Table 1 below and in Figure 5.

Table 1 Proposed Project Tree Removal

Tree Number	Species	Diameter at Breast Height (inches)
1	Oak	15
2	Oak	12
3	Fir	26
4	Fir	16
5	Fir	22
6	Fir	36
7	Fir	20
8	Fir	18
9	Fir	18
10	Madrone	18
11	Redwood	16
12	Redwood	40
13	Redwood	20
14	Redwood	28
15	Redwood	42
16	Redwood	28
17	Redwood	24
18	Redwood	28
19	Redwood	28

Source: Butler 2022; Appendix D

1.3.3 New Water Tank Construction

The existing redwood tank would be replaced with a new 160,000-gallon bolted steel tank. The new tank would be set in place with a crane. The new water tank will be situated on a new ring spread footing foundation situated in the approximate location of the existing tank. Grading for the new tank would consist of "cut" or "cut and fill" grading to construct a level pad for the tank and ring footings.

A new SCADA system and utility connections would be installed and would connect below grade to Short Avenue along the new access road. The tank outlet and overflow will connect to the existing line at the intersection of Blue Ridge Road & Short Avenue. The SCADA system and electrical connections, along with tank inlet from pump station, will run down the back side of the site to Blue Ridge Road (matching the existing condition).

1.4 Project Construction

Project construction is proposed within existing disturbed areas of the site; new disturbed area will be required for the grading of a new access road as shown in Figure 4. Construction would include demolition, site preparation and grading (including grading for the access road), temporary tank placement, new tank placement via crane, gravel placement and fence installation.

Construction staging of smaller equipment and materials would occur primarily within the boundaries of the proposed project site. Larger equipment (e.g., water tank) would be brought in and craned into place so no storage would be necessary. During project construction, construction equipment that would be used on the proposed project site includes a crane, excavators, dozers, trucks, and air compressors.

Operation and maintenance activities would be conducted by SLVWD employees and would require approximately one trip per month to the proposed project site.

Typical construction activities would occur between 8:00 a.m. to 5:00 p.m. Monday through Friday. No noise-generating work would occur on Saturdays, Sundays, or federal holidays.

An average of 8 construction workers are expected to be on site daily during construction, with a maximum crew size of 12 workers on site at any one time. Project construction is anticipated to begin in 2023. Construction of the project would take approximately 3 months to complete.

1.5 Project Design Features

The following recommendations from the Cultural Resources Assessment (Appendix B) and SLVWD contractor specifications have also been incorporated into the project as Project Design Features:

- **Worker Awareness Training (WAT).** For all activities with the potential for ground disturbance (excluding vegetation and tree trimming, and hand pulling smaller vegetation) all contractors and workers will receive training prepared by and/or conducted by a Professional Archaeologist (who meets the U.S. Secretary of Interior's professional standards set forth in 48 CFR Parts 44738-44739 and Appendix A to 36 CFR 61) prior to beginning work. The training will address the potential for exposing subsurface resources, recognizing basic signs of a potential resource, understanding required procedures if a potential resource is exposed, including protecting the resource and reporting the resource to a Professional Archaeologist, and, understanding all procedures required under Health and Safety Code § 7050.5 and PRC §§ 5097.94, 5097.98, and 5097.99 for the discovery of human remains.

- **Unanticipated Discovery.** In the event that a previously unidentified cultural resource is discovered during implementation of an activity, all work within a minimum of 50 feet of the discovery will stop. The boundaries around the resource with a suitable buffer will be temporarily marked with visible protective fencing or visible flagging. A Professional Archaeologist will review the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, the resource will be documented on California State Department of Parks and Recreation cultural resource record forms (DPR 523) and a Primary Resources Number obtained from the California Historical Resources Information System, Northwest Information Center (CHRIS/NWIC). In addition, the resource will be located, identified, and recorded in the SLVWD cultural resources GIS database. No further effort will be required.

  Data regarding archaeological and Tribal Cultural Resources will be kept confidential in accordance with state law, but may be shared with Native American tribes identified by the Native American Heritage Commission (NAHC) to be traditionally and culturally affiliated with the geographic area of the project site, if archaeological in nature and if the tribe has requested that such information be shared with them.

  If the project proponent wishes to continue work in the discovery area and no additional finds are anticipated, the Professional Archaeologist will review the proposed work activity and develop appropriate measures to ensure avoidance of impacts to the resource. Measures may include monitoring by a Professional Archaeologist of any potential subsurface impacts; use of small hand or powered hand tools only; no parking,

turning or entry of vehicles of any kind within the discovery area; no piling or burning slash within the discovery area; and, any trees or vegetation removed within 100 feet of the discovery will be fallen away and supervised by the RPF on site.

Alternatively, the Professional Archaeologist will evaluate the resource and determine if it is:

- Eligible for the California Register of Historical Resources (CRHR) (and a historical resource for purposes of CEQA),
- A unique archaeological resource as defined by CEQA, and/or,
- A potential Tribal Cultural Resource (all archaeological resources could be a Tribal Cultural Resource).

If the resource is determined to be neither a unique archaeological resource; an historical resource; or, a potential Tribal Cultural Resource, work may commence in the area without further management. After work is completed, all cultural resource delineators (e.g., flags or fencing) will be removed in order to avoid potential vandalism, unauthorized excavation(s), etc.

If the resource meets the criteria for either a historical resource, a unique archaeological resource, and/or may be a potential Tribal Cultural Resource, work will remain halted in the buffered area around the resource. If the Professional Archaeologist determines that discovery may be a Tribal Cultural Resource, he or she will, within 48 hours of the discovery, notify and consult with each Native American tribe identified by the NAHC to be traditionally and culturally affiliated with the geographic area of the discovery. Tribal members will be invited to consult on the discovery and permitted to inspect the resource to determine if it constitutes a Tribal Cultural Resource. If no responses are received within 48 hours of the requests to the tribes, the Professional Archaeologist will continue the archaeological review.

If the Professional Archaeologist determines that the resource is eligible for the CRHR work will only be allowed within 100 feet of the discovery if it can be performed without affecting the resource.

- **Human Remains.** In the event of an unanticipated discovery of human remains during project implementation, the SLVWD shall ensure that construction crews stop all work within 100 feet of the discovery. The SLVWD shall treat any human remains and associated or unassociated funerary objects discovered during soil-disturbing activities according to applicable State laws. Such treatment includes work stoppage and immediate notification of the SLVWD coroner, requisition of a qualified archaeologist, and, in the event that the coroner determines that the human remains are Native American, notification of the Native American Heritage Commission (NAHC) according to the requirements in Public Resources Code (PRC) Section 5097.98. The NAHC would

appoint a Most Likely Descendant (MLD). A qualified archaeologist, the SLVWD, and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement would take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 48 hours to reach agreement on these matters. Work may recommence in the area of discovery following treatment of remains and any associated funerary objects.

- **Tribal Cultural Resources Inadvertent Discovery.** In the event that an archaeological resource is discovered, ground-disturbing work shall be halted within 50 feet of the find and a qualified Tribal Cultural Monitor shall be brought to the site. The qualified Tribal Cultural Monitor shall evaluate the resource and determine whether it is of special importance to a California Native American tribe. If the resource is determined not to be of importance to the tribe, work may commence in the area.

  If the resource meets the criteria for an important tribal resource, work shall remain halted within 50 feet of the find, and the qualified Tribal Cultural Monitor shall evaluate the resource and determine whether it is an important resource to the local Native American Tribe. If the resource is important to the tribe, work shall remain halted within 100 feet of the area of the find and the qualified Tribal Cultural Monitor shall consult with SLVWD staff regarding methods to ensure that no substantial adverse change would occur to the significance of the tribal cultural resource pursuant to PRC Section 21084.3. Methods may include the following:

  - Preservation-in-place (i.e., avoidance) is the preferred method of mitigation for impacts on tribal cultural resources.
  - Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protecting the cultural character and integrity of the resource
    - Protecting the traditional use of the resource
    - Protecting the confidentiality of the resource
    - Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places
    - Protecting the resource.

  Work in the area may commence upon completion of treatment, as approved by the SLVWD.

In addition, the following construction noise control measures have been incorporated into the project as Project Design Features:

- **Construction Hours Limits.** Construction shall be limited to Monday through Friday from 8:00 a.m. to 6:00 5:00 p.m., and Saturday from 9:00 a.m. to 6:00 p.m. No noise-generating work shall occur on Saturdays, Sundays, or federal holidays.
- **Construction Staging Areas and Stationary Equipment Locations.** The contractor shall select equipment staging areas and stationary noise-generating construction equipment locations as far as practicable from sensitive receivers.
- **Equipment Maintenance**. All contractors, as a condition of contract, shall be required to maintain and tune-up all construction equipment to minimize noise emissions.
- **Idling Prohibition and Enforcement.** Unnecessary idling of internal combustion engines shall be prohibited. In practice, this would mean turning off equipment if it would not be used for five or more minutes.
- **Equipment Shielding.** Stationary equipment areas with appropriate acoustic shielding shall be designated on building and grading plans. Equipment and shielding shall be installed prior to construction and remain in designated location throughout construction activities. Impact noise producing equipment (i.e., jackhammers and pavement breaker[s]) shall be equipped with noise attenuating shields, shrouds, or portable barriers or enclosures to reduce operating noise.
- **Mufflers.** All diesel equipment shall be operated with closed engine doors and shall be equipped with properly operating and maintained residential grade mufflers. Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers.
- **Electrically-Powered Tools and Facilities.** Whenever feasible, electrical power shall be used to run air compressors and similar power tools rather than diesel equipment.
- **Pre-Construction Notification.** Prior to construction, written notification that identifies the type, duration, and frequency of construction activities shall be provided to residents within 100 feet of the project site.

Figure 1 Regional Location

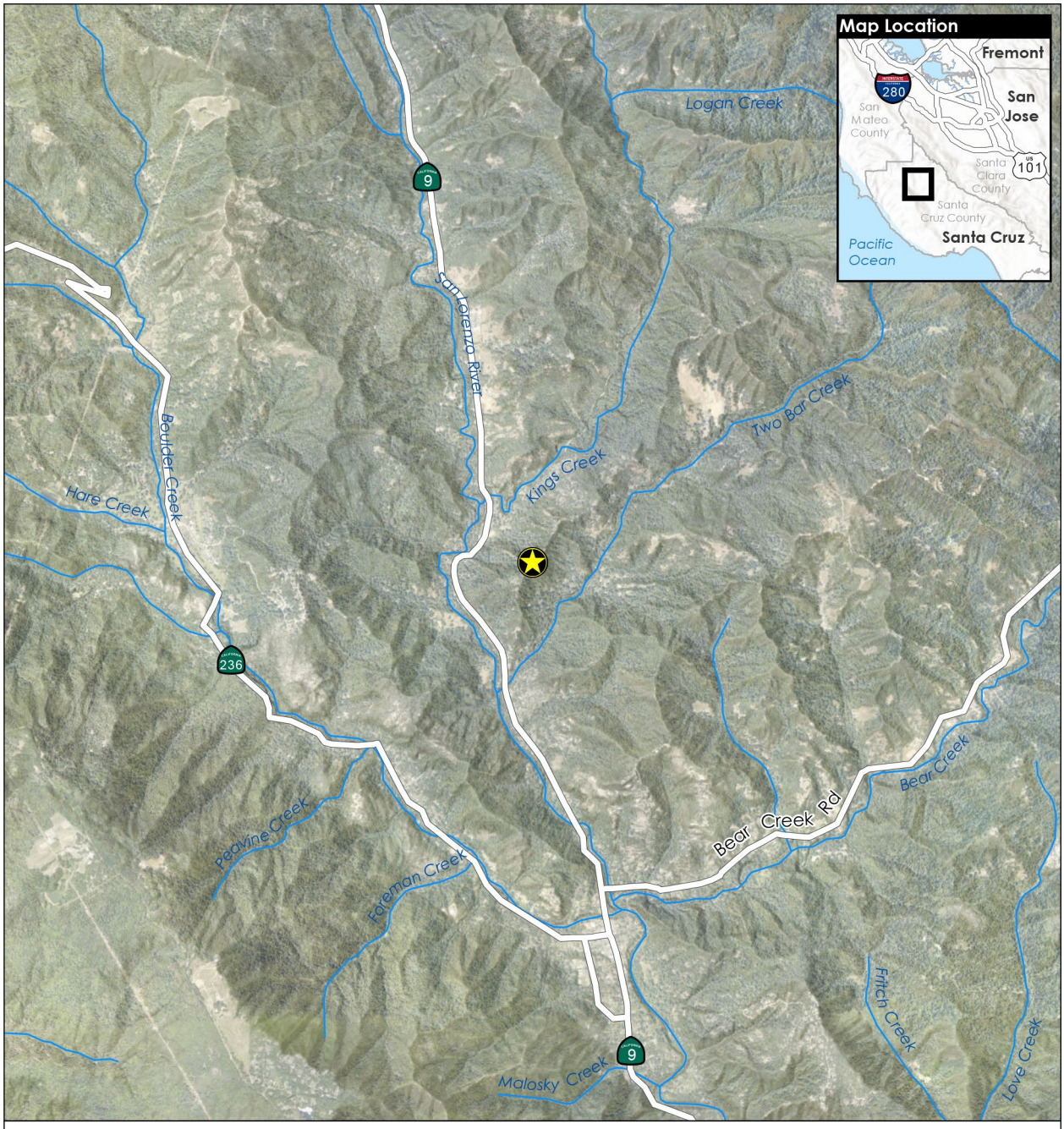

Figure 2 Project Location

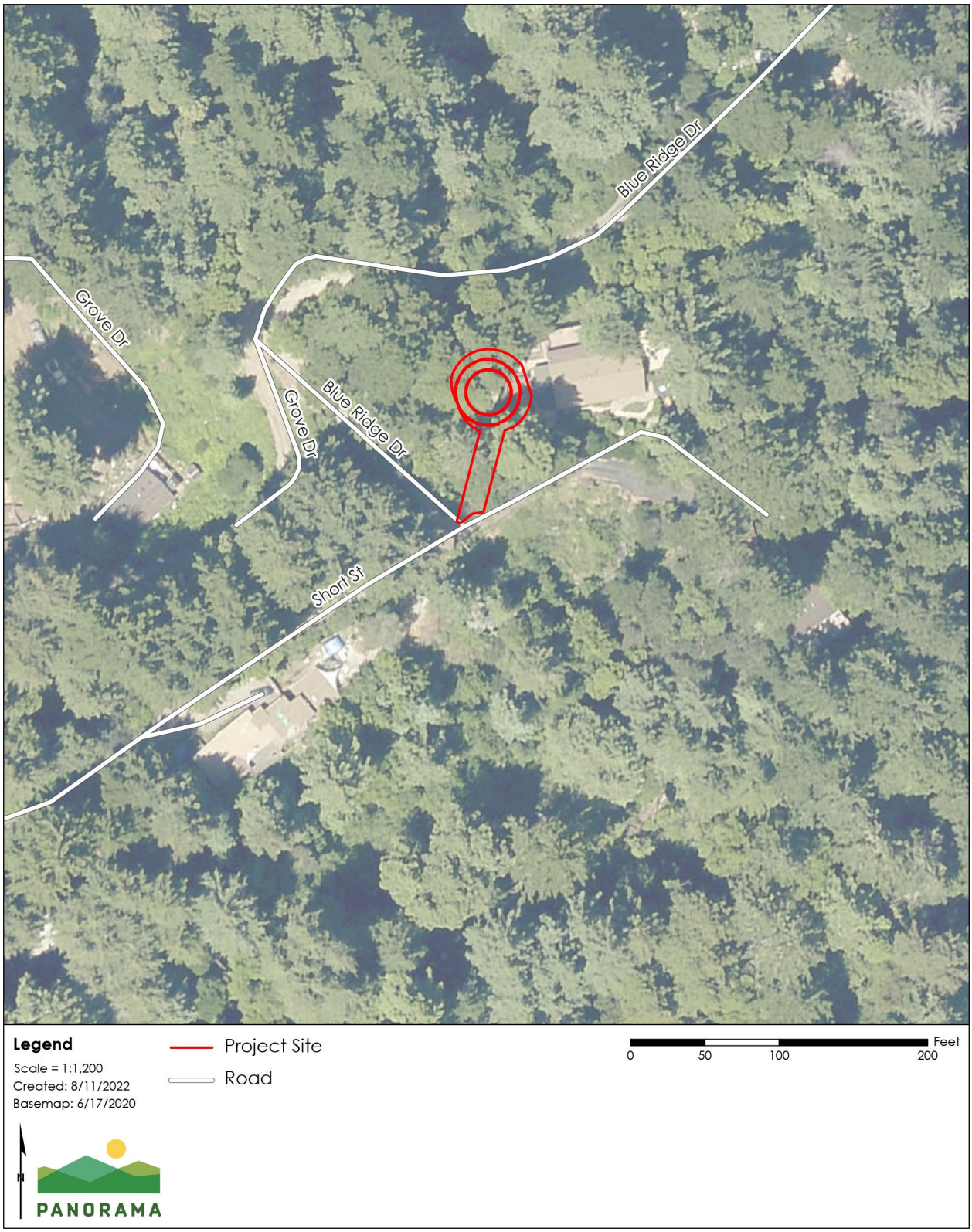

Figure 3 Site Photos

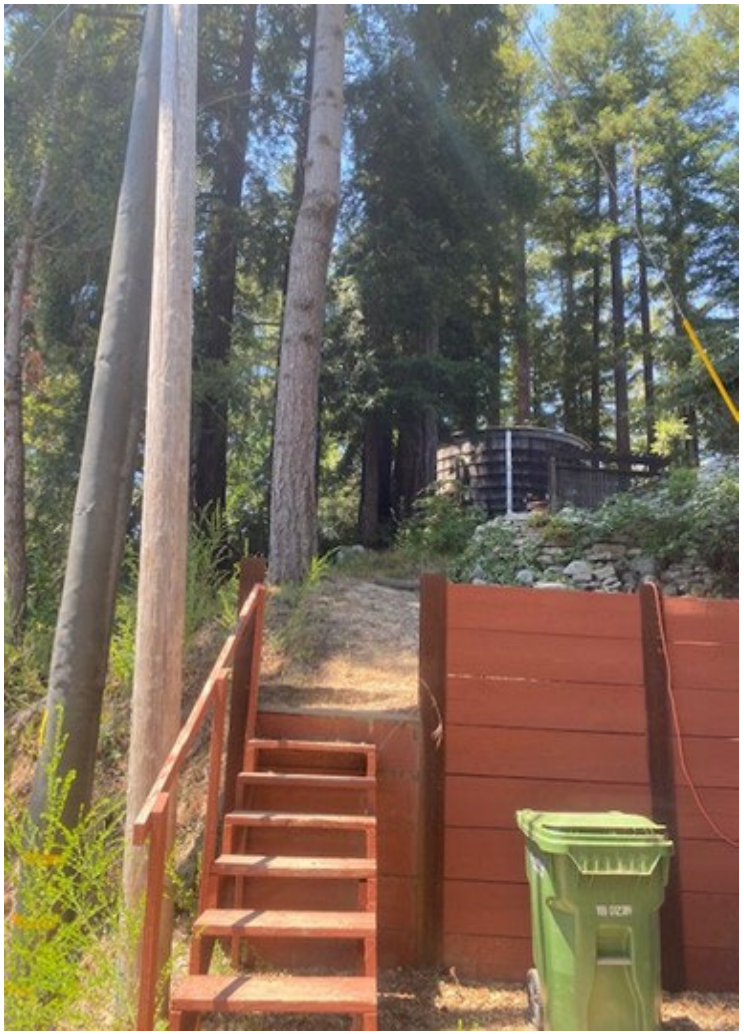

Figure 4 New Water Tank Design Plans

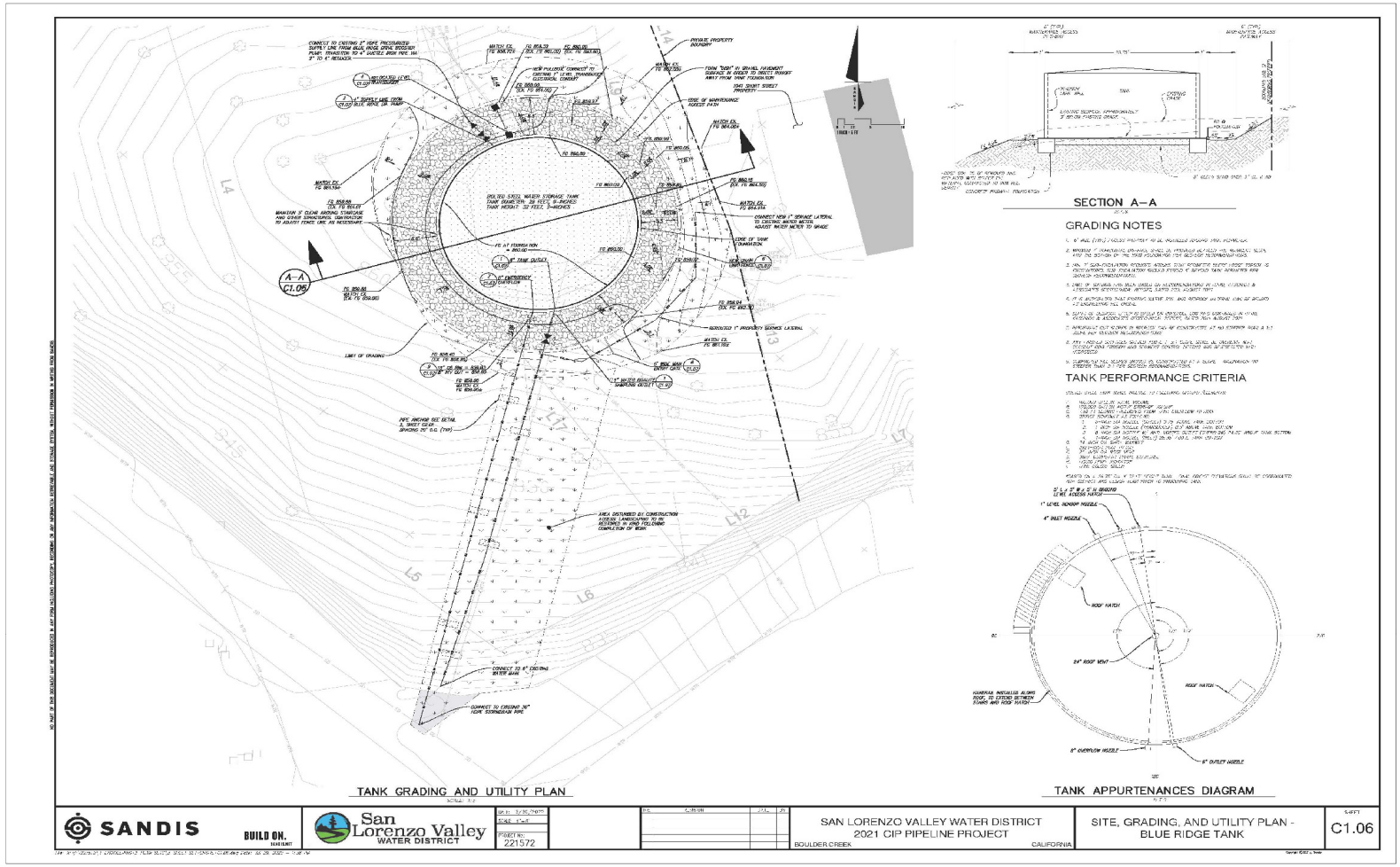

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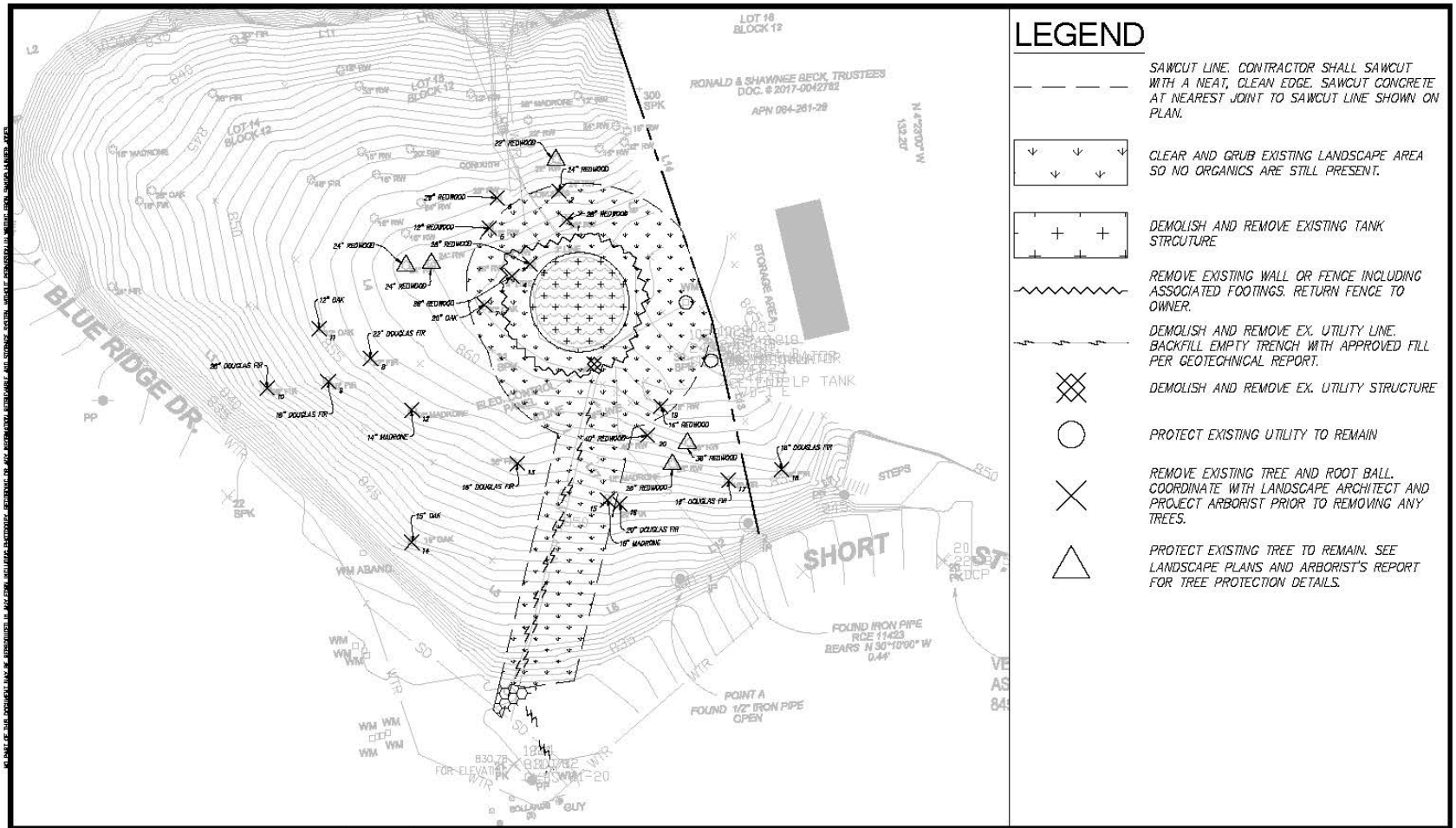
Figure 5 Tree Removal Map



2 Environmental Checklist

2.1 Approach to Environmental Analysis

This IS checklist evaluates the potential environmental impacts of the project. The level of significance for each resource topic is determined by considering the predicted magnitude of the impact. Four levels of impact significance are evaluated in this IS checklist:

No Impact. The project would not have the impact described. The project may have a beneficial effect, but there is no potential for the project to create or compound the impact described.

Less Than Significant Impact. The project would have the impact described, but the impact would not be significant. Mitigation is not required; however, the project applicant may choose to modify the project to avoid the impacts.

Less Than Significant with Mitigation. The project would have the impact described, and the impact could be significant. One or more mitigation measures have been identified that will reduce the impact to a less-than-significant level.

Potentially Significant Impact. The project would have the impact described, and the impact could be significant. The impact cannot be reduced to a less-than-significant level by incorporating mitigation measures. An environmental impact report must be prepared for this project.

Resource topics that would have no impact as a result of the project are not discussed beyond the resource checklist.

2.2 Environmental Analysis

2.2.1 Aesthetics

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

Environmental Setting

The proposed tank site is developed with the existing water supply infrastructure. and surrounded by residential uses. The nearest residence is located at the proposed project site boundary, approximately 1-foot away from the proposed project site. There are 53 residences within 0.25 miles of the proposed project site. The area surrounding the existing tank site is forested, however, the proposed project would likely be visible from adjacent public roads, including Short Street and Blue Ridge Drive.

Discussion

A and B) No Impact

The proposed project site is located in unincorporated Santa Cruz County in a rural, forested area surrounded by residential uses. The proposed project site is not located within a scenic vista or state scenic highway. State Route (SR) 9 is identified as a designated scenic road in the Santa Cruz County General Plan and considered an "eligible" California state scenic highway (Caltrans 2022; Santa Cruz County, 1994). SR-9 is located approximately 0.25 miles west of the proposed project site.

The proposed project site is mostly screened by vegetation and topographical changes and would not be visible from SR-9. Smaller equipment and vehicles would be staged at the proposed project site during construction. Larger equipment (e.g., water tank) would be craned into place and may be visible from SR-9 during construction. The visual impacts to SR-9 from equipment staging would be temporary and would not substantially damage scenic resources within a state scenic highway. The proposed project would not have a substantial effect on a scenic vista or substantially damage scenic resources. No impact would occur.

C) Less than Significant Impact

The proposed project site is currently developed with the existing tank and is located in a rural residential area within Santa Cruz County. The proposed project site is character by second growth redwood forest with an over story of redwood and Douglas fir (Coastal Coniferous Forest). There are Live oaks and Madrones in a shorter over story. The visual character of the proposed project site is characterized by mountainous terrain, redwoods, and single-family homes.

The proposed project would require the removal of 19 trees over 12 inches diameter at breast height (DBH) to construct the replacement tank, access road, and water pipeline connections. The proposed project site would be revegetated after construction to minimize the risk of erosion and maintain the natural character of the site.

The proposed project would replace the existing tank with a new steel water storage tank. The new storage tank would be larger than the existing tank, and the existing chain-link fence would be replaced with a six-foot-tall chain link fence. An 8 to 10-foot-wide unpaved access road would be constructed from the tank site and connect to Blue Ridge Drive. The access road and some facility components would be visible from adjacent roadways, including Blue Ridge Drive and Short Street. A majority of the site would be shielded by existing mature trees at the proposed project site. Water storage facilities are part of the water system infrastructure and visual character of the area. The steel replacement tank would be painted with natural colors that blend in with the surrounding forest. Furthermore, views of the tank site during project operation would be consistent with current views of the area. The impact would be less than significant. No mitigation is required.

D) No Impact

The proposed project does not include any lighting. The replacement tank would be painted with natural colors that blend in with the surrounding redwood forest. The proposed project would not create new sources of light or glare. No impact would occur.

2.2.2 Agriculture and Forestry

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

Discussion

A and B) No Impact

The proposed project site is located in a forested rural area and is not in agricultural production or located adjacent to or near agricultural lands. The proposed project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Department of Conservation (2022). In addition, the proposed project does not contain Farmland of Local Importance or Grazing Land that would be converted to a non-agricultural use. The proposed project site is designated "Urban and Built-Up Land,"

which is not an agricultural designation (California Department of Conservation, 2022). There are no Williamson Act contracts on the property. Thus, the proposed project would not result in or lead to the conversion of agricultural lands. No impact would occur.

C, D and E) Less than Significant Impact No land within the proposed project area is zoned as forest land, Timberland, or a Timberland Production Zone within the proposed project site. Thus, the proposed project would not conflict with zoning of lands that have a Timberland Preserve designation. The site is not identified as having timber resources in the County's GIS mapping system (Santa Cruz County Planning Department, 2022). In addition, the proposed project would not involve changes that would result in conversion of Farmland to non-agricultural use.

However, the proposed project would result in timber harvest from the removal of up to 19 trees. The trees to be removed are not considered to be forest resources or forest land under state definitions; the site and surrounding forestland are not managed for the production of forest products or traditional forest uses but are comprised of residential uses within a wooded setting. However, since the project would include removing the trees and milling, coordination with Calfire would occur prior to construction for the preparation of an exemption (per Section 1104.1 of the California Forest Practice Rules). Impacts would be less than significant.

2.2.3 Air Quality

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

Overview

Air Basin

Santa Cruz County is within the North Central Coast Air Basin (NCCAB). The Monterey Bay Air Resources District (MBARD) is responsible for air quality management and regulates activities that may affect air quality within the NCCAB.

Air Quality

Federal Standards

The U.S. Environmental Protection Agency (USEPA) is responsible for setting National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA). National primary standards "provide public health protection, including protecting the health of 'sensitive' populations such as asthmatics, children, and the elderly." National secondary standards "provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings." (United States Environmental Protection Agency, 2017)

State Standards

CARB is the State agency responsible for regulating mobile-source (vehicle) emissions and overseeing the activities of local air pollution control districts. CARB has established California Ambient Air Quality Standards (CAAQS) for all federally regulated pollutants, in addition to sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The State standards generally are more stringent than the federal standards. Areas have been designated as being in attainment, nonattainment, or unclassified, with respect to State ambient air quality standards under the California Clean Air Act (CCAA).

NCCAB Attainment

The status of NCCAB with regards to State and federal air quality standards is shown in Table 2. The MBARD 2017 Air Quality Management Plan (2017) assesses the attainment status of the NCCAB. As shown in Table 2-1, the NCCAB is in nonattainment for the CAAQS for eight-hour ozone (O_3), and particulate matter 10 microns in diameter or less (PM_{10}). The NCCAB is in attainment or unclassified for federal air quality standards.

Table 2 NCCAB Attainment Status

Pollutant	California Attainment Status	Federal Attainment Status
Ozone 1-hour	Attainment	Attainment
Ozone 8-hour	Nonattainment	Attainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Attainment	Attainment
Carbon monoxide	Attainment/Unclassified	Attainment
Nitrogen Oxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment

PM_{10} = particulate matter less than 10 microns in aerodynamic diameter; $PM_{2.5}$ = particulate matter less than 2.5 microns in aerodynamic diameter

Monterey County is classified as in Attainment and San Benito and Santa Cruz counties are listed as Unclassified.

Source MBARD 2017

Sensitive Receptors

USEPA defines sensitive receptors as locations where the occupants are susceptible to exposure from air pollutants, toxic chemicals, pesticides, and other pollutants. Such locations include hospitals, schools, daycare facilities, elderly housing, and convalescent facilities (United States Environmental Protection Agency, 2017). CARB guidance recommends a buffer of 500 feet around sensitive receptors and emissions sources (California Air Resources Board, 2005). The closest sensitive receptor to the proposed project site is a residence approximately 25 feet to the northeast.

Air Quality Emission Thresholds

The MBARD CEQA Quality Thresholds provides air quality significance thresholds to determine where air emissions generated during project construction and operation would be significant, as shown in Table 3 (MBARD, 2008). Construction activities (e.g., excavation, grading, on-site vehicles) which directly generate 82 pounds per day or more of PM_{10} would have a significant impact on local air quality when they are located nearby and upwind of sensitive receptors. Construction of the proposed infrastructure would occur upwind of nearby residential sensitive receptors. Therefore, the PM_{10} threshold of 82 pounds per day would apply to the proposed project's construction activities.

MBARD's *CEQA Air Quality Guidelines* also identify screening thresholds for the evaluation of PM_{10} emissions. Construction projects with less than 8.1 acres per day of minimal earthmoving or 2.2 acres per day of earthmoving (grading, excavation) are assumed to be below the PM_{10} threshold of 82 pounds per day (MBARD, 2008).

MBARD's CEQA Air Quality Guidelines identifies operational thresholds for volatile organic compounds (VOCs), carbon monoxide (CO), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), and PM_{10}, as shown in Table 3.

Table 3 Criteria Pollutant Thresholds of Significance

Pollutant/Precursor	Maximum Construction Emissions (lbs/day)	Maximum Operation Emissions (lbs/day)
VOC/NO_x	N/A	137
CO	N/A	550
SO_x	N/A	150
PM_{10}	82[a]	82

lbs/day = pounds per day; CO = carbon monoxide; NO_x = oxides of nitrogen; SO_x = oxides of sulfur; PM_{10} = particulate matter less than 10 microns in aerodynamic diameter; VOC = volatile organic compounds

Sources (MBARD, 2008)

Discussion

A) Less than Significant Impact

The California Clean Air Act (CCAA) was adopted by State Legislature in 1988, and required each nonattainment district to adopt an Air Quality Management Plan (AQMP) beginning in 1991. AQMPs are updated every three years. The MBARD developed the most recent 2012-2015 AQMP to address exceedance of State air quality standards. The MBARD 2012-2015 AQMP projects growth in emissions based on population forecasts prepared by the Association of Monterey Bay Area Governments (AMBAD) and other indicators. The proposed project would not include new housing or businesses that would directly result in population growth. The proposed project would replace the existing tank with a new steel tank with increase water storage capacity, to accommodate existing population growth. The MBARD CEQA Air Quality Guidelines (2008) states indirect emissions from a proposed non-residential project intended to meet the needs of the population are consistent with the AQMP if the current population of the county does not exceed the AQMP population forecasts. The current population estimate for the Santa Cruz County is 267,792 persons (U.S. Census Bureau, 2022). The California Department of Finance (2022) estimates that the Santa Cruz County population would be 288,195 by 2035, and does not exceed the AQMP population forecasts. The proposed project would not conflict with or obstruct implementation of the AQMP. The impact would be less than significant.

B) Less than Significant Impact

Construction

The proposed project would require the temporary use of equipment for grading, excavation, construction, and vehicle transport which would generate air emissions. As discussed above, the MBARD CEQA Air Quality Guidelines (2008) states that construction projects with less than 8.1 acres per day of minimal earthmoving or 2.2 acres per day of earthmoving (grading, excavation) are assumed to be below the PM_{10} threshold of 82 pounds per day. The proposed project is less than 0.3 acres and would not exceed the MBARD threshold. The proposed project site would be water twice daily during construction activities to control fugitive dust emissions, which would reduce PM_{10} and $PM_{2.5}$ emissions. Construction-related air quality impacts would be less than significant.

Operation

The proposed project would not generate air quality emissions in connection with the operation of the water tanks. SLVWD employees would maintain the water tank approximately once per month. The proposed project would replace the existing water storage tank, and would not increase the number of maintenance vehicle trips or generate air quality emissions. Emissions would not exceed the MBARD thresholds for any criteria pollutant. The impact would be less than significant.

C) Less than Significant Impact

Sensitive receptors in the vicinity of proposed project site are residences. The nearest sensitive receptor is a residence located approximately 25 feet from the proposed project site and could be exposed to construction-related diesel emissions. MBARD's CEQA Air Quality Guidelines (2008) states that a project would have a significant impact to sensitive receptors if it would cause a violation of any CO, PM_{10}, or toxic air contaminant standards at an existing or reasonably foreseeable sensitive receptor. As discussed under Impact B, the proposed project would not exceed MBARD thresholds. Construction activities that would utilize diesel-generating equipment would last approximately 3 months. Construction activities would be temporary and cease after the completion of construction. In addition, Title 13 of the California Code of Regulations (section 2485(c)(1)) prohibits idling of a diesel engine for more than five minutes in any location. The proposed project would not expose sensitive receptors to substantial diesel pollutant concentrations. The impact would be less than significant.

D) Less than Significant Impact

The MBARD CEQA Air Quality Guidelines (2008) identifies typical sources of objectionable odors including landfills, rendering plants, chemical plants, agricultural uses, wastewater treatment plants, and refineries. During construction of the proposed project, the use of diesel-powered vehicles and equipment would generate temporary odors. The use of diesel-powered vehicles and equipment would be temporary and would cease after the completion of construction. The proposed project would replace the existing water storage tank and would not create any new objectionable odors. The impact would be less than significant.

2.2.4 Biological Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	■	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	■	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	■	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Environmental Setting

Regional Setting

Boulder Creek sits at the north end of the San Lorenzo Valley at the confluence of San Lorenzo River and Boulder Creek within the Santa Cruz Mountains. The Santa Cruz Mountains are a region of great biological diversity, comprising of cool, moist coastal forests as well as warm, dry chaparral. Much of the area in the Santa Cruz Mountains is temperate rainforest. Forests of this region are ecologically and genetically distinct from those of the redwood ecoregions

farther north. Clear-cut logging was typical from the late 1800s to about the 1960s. Most logging now uses smaller selective cuts. Climate varies from the west to the east, as the high mountain ridges reduce the penetration of maritime air. Winters are cool and wet and on the western side, summers are cool and fog or low overcast is typical.

The proposed project is located on parcels owned by SLVWD in the Redwood Grove Subdivision, a rural mountain subdivision consisting of mostly quarter acre lots.

Plant and Wildlife Habitats

The proposed project site consists of a steeply sloped area consisting of north coast coniferous forest habitat. Tree cover is dominated by an overstory of second-growth coast redwood (*Sequoia sempervirens*) and Douglas fir (*Pseudotsuga menziesii*), with other tree species in the shorter overstory including California live oak (*Quercus agrifolia*) and Pacific madrone (*Arbutus menziesii*). The under story is comprised of young saplings of overstory species as well as California hazelnut (*Corylus cornuta var. californica*), poison oak (*Toxicodendron diversilobum*), Pacific blackberry (*Rubus ursinus*), tan oak (*Notholithocarpus densiflorus*), coffeeberry (*Frangula californica*), and California bay (*Umbellularia californica*). Non-native species are also common in the understory, including English ivy (*Hedera helix*), big leaf periwinkle (*Vinca major*), French broom (*Genista monspessulana*), and thistles (*Carduus* and *Cirsium spp*.). The disturbed area immediately surrounding the existing tank is mostly lacking vegetation, with sparse non-native grasses growing in the clearing.

The areas surrounding the proposed project provide suitable habitat for a number of special status plant and animal species that are known to occur in the region. A total of 40 special status species (7 plants and 33 animals) were evaluated for their potential to occur in the proposed project area. Of these, 23 were excluded based on the lack of suitable habitat or because the proposed project area is outside of current geographic distributions. Additionally, those species that are sensitive to human disturbance and not known to occur in areas of residential development could be eliminated based on the location of the site within a residential development. The remaining 17 species were evaluated for potential impacts as a result of project development.

Special-Status Plant Species

Table 4 Special-Status Plant Species with Potential to Occur in the Proposed Project Area

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
Dudley's lousewort	*Pedicularis dudleyi*	CRPR 1B.2 S2 State Rare	Maritime chaparral, cismontane woodlands, north coast coniferous forests, and valley and foothill grasslands. Specifically, they are often found in forests with sparse understory dominated by coast redwood, Douglas fir, and tan oak. Elevation range is 195 to 2955 feet.	Low. Suitable habitat is present at project site and CNDDB occurrence data overlaps project; however, this data is historic (1893) and unreliable. Closest known occurrence is over 5 miles away in Portola Redwoods State Park.
White-flowered rein orchid	*Piperia candida*	CRPR 1B.2 S3	Broadleaf upland forests, lower montane and north coast coniferous forests, sometimes associated with serpentine soils. Generally found in boggy areas. Elevation range is 100 to 4300 feet.	Low. Suitable habitat is present. Closest CNDDB documented occurrence is near the town of Boulder Creek.

Notes:

CRPR = California Rare Plant Rank; CRPR ranges from presumed extinct species (1A) to limited distribution species now (4). Ranks at each level also include a threat rank (e.g., CRPR 4.3) from seriously threatened (0.1) to not very threatened (0.3).

S = Subnational Conservation Status; critically imperiled (S1) to secure (S5)

Special-Status Animal Species

Table 5 Special-Status Animal Species with Potential to Occur in the Proposed Project Area

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
Western bumble bee	*Bombus occidentalis*	S1	Nests occur primarily in underground cavities such as old squirrel or other animal nests and in open west-southwest slopes bordered by trees. Feeds on a variety of flowering plants. Ranges along western North America.	Low to none. Individuals could be found on flowering plants within the project site; however, CNDDB did not map exact locations in the vicinity and no nesting colonies have been reported.

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
Monarch butterfly	*Danaus plexippus*	FC	Use a wide variety of habitats but rely on milkweed as a larval host plant. Adults migrate from Mexico to the California coast to overwinter. Prefers eucalyptus and Monterey cypress groves for colonies.	Low to none. Individuals could be found on flowering plants within the project site; however, CNDDB did not report occurrences within the project vicinity. Closest overwintering populations are along the coast.
Unsilvered fritillary	*Speyeria adiaste adiaste*	S1	Openings in redwood and coniferous forests, oak woodlands, chaparral. Very local, restricted range from California County north to San Mateo County and east to Los Angeles and Kern counties.	Low to none. Individuals could be found on flowering plants within the project site; however, CNDDB did not have location data and observation date is 30 years old.
California giant salamander	*Dicamptodon ensatus*	SSC	Endemic to Northern California. Ranges up to 6,500 feet primarily in damp, coastal forests including Douglas fir and California coast redwood in both montane and valley-foothill riparian habitats.	Low. Suitable habitat is present, and closest observation was within 1 mile of the project site (found along Two Bar Rd).
Pallid bat	*Antrozous pallidus*	SSC	Grasslands, shrub-steppe, desert and forests such as oak or ponderosa forest, although sometimes in mixed conifer. Most commonly found in open, dry habitats with rocky areas for roosting.	Low. Associated habitat is present for possible foraging bats; however, no roosting sites are present in the project area.

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Occurs throughout California in a wide variety habitat, most commonly in mesic sites. Roosts in the open, hanging from walls and ceilings in caves, mines, or buildings. Identified in the regional vicinity in association with second growth redwood, Douglas fir, madrone, tan oak, live oak and manzanita.	Low. Associated habitat is present for possible foraging bats; however, no roosting sites are present in the project area.
Oak titmouse	*Baeolophus inornatus*	BCC	Along Pacific coast, occurs most commonly in oak woodland, including areas where oaks meet streamside trees or pines. Also found in well-wooded suburbs, and rarely in coniferous forest in mountains.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Marbled murrelet	*Brachyramphus marmoratus*	FT State Endangered	Forages along coastline and offshore, nests in older stands of coastal redwood and Douglas fir forest within approximately 30 miles of the coast.	Low. Individuals have been observed in the vicinity, but only marginal nesting habitat is present at the project site.
Wrentit	*Chamaea fasciata*	BCC	Within its range, inhabits most kinds of dense low growth. Most common in chaparral, thickets of poison oak, and coastal sage scrub. Also found in streamside thickets and in shrubby areas in suburbs and city parks.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Olive-sided flycatcher	*Contopus cooperi*	BCC	Breeds mostly in late successional coniferous forests with open canopies at mid to high elevations, especially around the edges of open areas including bogs, ponds, burns and clearings.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
Black swift	*Cypseloides niger*	BCC	Forages widely over any kind of terrain but is still very local in its occurrence, probably limited to regions with suitable nesting sites. Nests on ledges or in crevices in steep cliffs, either along coast or near streams or waterfalls in mountains.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Peregrine falcon	*Falco peregrinus anatum*	CDFW FP	Open country, cliffs (mountains to coast); sometimes cities. Often near water, especially along coast, and migrants may fly far out to sea. Limited by availability of nest sites (often cliff ledges) and prey. Often moves into cities, nesting on building ledges and feeding on pigeons.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting or foraging habitat is present at the project site.
Osprey	*Pandion haliaetus*	CDFW WL	Found near water, either fresh or salt, where large numbers of fish are present. May be most common around major coastal estuaries and salt marshes, but also regular around large lakes, reservoirs, rivers.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting or foraging habitat is present at the project site.
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Wooded canyons and foothills, river woods. In much of range almost always around oaks, especially where oaks meet other trees along rivers, also in pine-oak woods in foothills.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Allen's hummingbird	*Selasphorus sasin*	BCC	Breeds in a variety of semi-open habitats, including open oak woods, streamside groves, well-wooded suburbs, city parks. Winters mostly in foothills and mountain forests in Mexico.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.

Common Name	Scientific Name	Regulatory Status	Habitat	Potential to Occur
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Breeds in a variety of habitat including streamside trees, oak woodland, open pine woods, pinyon-juniper woods, and chaparral. Often found close to water in fairly dry climates.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
California thrasher	*Toxostoma redivivum*	BCC	Most common in chaparral, also occurs in streamside thickets and in suburban neighborhoods that have enough vegetation. Extends into edges of desert regions, and in chaparral in mountains up to about 6,000 feet.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.

Notes:
S = Subnational Conservation Status; critically imperiled (S1) to secure (S5)
FC= Federal Candidate for Listing
FT=Federally Threatened
FE=Federally Endangered
SSC = CDFW Species of Special Concern
BCC = USFWS Bird of Conservation Concern
CDFW FP = Fully Protected
CDFW WL = Watch List

Sensitive Vegetation and Riparian Communities

Plant communities are considered sensitive biological resources if they have limited distributions, high wildlife value, include sensitive species, or are particularly susceptible to disturbance. Natural communities with ranks of S1-S3 are considered sensitive natural communities to be addressed in the environmental review processes of CEQA. For alliances with State ranks of S1-S3, all associations within them are also considered sensitive. Redwood forest is considered a sensitive natural community by CDFW with a rank of S3.

The USFWS National Wetlands Inventory (NWI) was reviewed to identify and sensitive riparian or wetland communities within the proposed project vicinity (USFWS, 2018). NWI aquatic resources were identified within one mile of the proposed project site along the San Lorenzo River, Kings Creek, Spring Creek, and Two Bar Creek, all classified as riverine. None of these aquatic resources are closer than ¼ mile to the proposed project site and would not be impacted by proposed project actions. There are no mapped wetland resources within the proposed project site.

Discussion

A) Less than Significant with Mitigation Incorporated

Impacts to Special Status Plants

Two special status plant species have potential to occur within the proposed project area: Dudley's lousewort and white-flowered rein orchid. Dudley's lousewort is listed as rare under the CESA. White-flowered rein orchid is considered a special status species due to its rare occurrence, but it is not state or federally listed. Impacts to non-listed species would only be considered significant under CEQA if those impacts were to result in an adverse effect (i.e., jeopardize the long-term viability) of a local or regional population.

Dudley's lousewort requires closed-canopy forests with a low-density of understory plants and bare mineral soil with minimal leaf litter. It is often found in areas with infrequent natural or human disturbance, such as wildfires or light foot traffic. The only areas of the proposed project site with sparse vegetation and litter are immediately adjacent to the existing tank. The only source of information for the CNDDB occurrence data that overlaps the proposed project site is from an 1893 collection. The closest known occurrence of Dudley's lousewort is in Portola Redwoods State Park, over 5 miles away from the proposed project location.

White-flowered rein orchid has been documented by CNDDB within one mile of the proposed project, although its exact location is unknown and the information is based on collections from 1940, 1956, and 1966. CDFW indicates that fieldwork is needed to verify these populations. Generally found in boggy areas, this species is also known to inhabit drier areas within coniferous and mixed forests within 30 miles of the coast.

While it is possible that individuals of either of these species could be present within the proposed project site and potentially impacted by ground disturbance, it is unlikely they represent a significant portion of the regional or local population and impacts would not affect long-term viability. Implementation of Avoidance/Minimization Measure BIO-1 in areas of potential habitat that will be cleared and grubbed for tank replacement would ensure impacts would be less than significant.

Impacts to Special Status Animals

Several special status animal species have potential to occur within the project work areas (Table 5). Of these, one is the federally threatened and state endangered marbled murrelet and one is the federal candidate Monarch butterfly. Other species that could occur include two other invertebrates (western bumble bee and unsilvered fritillary), one amphibian (California giant salamander), and two mammals (pallid bat and Townsend's big-eared bat). Ten species of migratory birds have the potential to occur.

Marbled murrelet is not expected to nest within the proposed project area due to a predominance of second growth redwood forest and a lack of suitable old-growth breeding/nesting habitat. However, vegetation removed from the proposed project site would include the removal of large trees, including up to 9 redwood trees and 7 Douglas fir trees, ranging in size from 13 to 45 inches in diameter and over 100 feet tall. Preconstruction nesting

surveys (Avoidance/Minimization Measures BIO-2) would be needed to verify there are no nesting birds present prior to tree removal to ensure impacts would be less than significant.

Potential impacts to Monarch butterfly, western bumble bee, or unsilvered fritillary include injury or mortality if individuals or colonies are present within the proposed project area during construction. Potential impacts to western bumble bee include injury or mortality if individuals or colonies are present within the proposed project area during construction. With implementation of Avoidance/Minimization Measure BIO-3, impacts would be mitigated to a less than significant level.

California giant salamander may occur in leaf litter or under rocks in moist upland habitat and has a low potential to occur on paved roadways during dispersal. This species could be injured or killed by construction activity within natural areas, especially during clearing vegetation. Implementation of Avoidance/Minimization Measure BIO-4 would ensure impacts are less than significant.

Pallid bat and Townsend's big-eared bat have a low potential to occur on site for foraging. No known or likely roosting habitat is present, although some of the larger trees could have cavities that may provide roosting sites. Project work would take place during daylight hours; however, impacts to individuals may occur through direct mortality if bats are roosting in trees when removed. Implementation of Avoidance/Minimization Measure BIO-5 would ensure impacts to special status bats are less than significant.

Although no suitable nesting habitat has been identified for any MBTA species, some species could occur within proposed work areas during foraging or migration or could be utilizing marginal habitat for nesting. Construction that occurs between February 1 and August 31, the common breeding season for most migratory birds, could cause direct impacts to breeding activities if nests occur within areas of vegetation removal or where equipment would be operated. Indirect impacts, such as elevated noise levels in the proposed project vicinity, could also affect nests. Demolition of the existing tank, construction of the larger replacement tank, vegetation clearing for an access road and tree removal could result in the destruction or abandonment of eggs or nests. Nest abandonment and loss of nestlings would be considered a significant impact under CEQA but could be mitigated to a less than significant level through implementation of Avoidance/Minimization Measure BIO-2.

Mitigation Measures

Bio-1 Threatened, Endangered, Rare and Native Plants.

A qualified biologist shall conduct a survey during the appropriate blooming period for all special-status plants that have the potential to occur within the project site prior to the start of construction. Surveys should be conducted following the Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities, prepared by CDFW, dated March 20, 2018. If special status plants are found, the project will be redesigned to avoid impacts to special status

plants to the greatest extent feasible. If impacts to special-status plants cannot be avoided completely during construction, compensatory mitigation and on-site restoration will be implemented and the plan provided for CDFW review and approval.

- A qualified biologist in this context should be knowledgeable about plant taxonomy, familiar with plants of the region, and have experience conducting botanical field surveys according to established protocols. If take of any species listed under CESA cannot be avoided either during project activities, a CESA Incidental Take Permit is warranted (pursuant to Fish and Game Code Section 2080 et seq.).

Bio-2 Preconstruction Nesting Bird Surveys and Avoidance.

For all construction-related activities that take place within the nesting season (February 1 to August 31), including brushing, grading, and tree removal, a preconstruction nesting bird survey shall be conducted by a qualified biologist no more than two weeks prior to project initiation if required. The survey shall include a 500-foot buffer around the project site except where it is prohibited by private ownership. Surveys shall be conducted during the time of day when birds are active and shall be of sufficient duration to reliably conclude presence/absence of nesting birds and raptors on site and within the designated vicinity.

- If no nests are found, no further action is required.
- If active nests are found, an avoidance buffer will be established by the qualified biologist. The size of the buffer shall be based upon the species, presence of screening vegetation, the proposed work activity, ambient levels of human activity, and existing disturbances associated with land uses outside of the site to ensure the nesting activity is not disrupted. The avoidance buffer shall be demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary until the adults and young are no longer reliant on the nest site. The qualified biologist shall monitor construction activities that occur near active nest areas to ensure that no inadvertent adverse impacts affect the nest.

Bio-3 Special Status Invertebrate Surveys and Avoidance.

A qualified biologist(s) shall conduct a pre-construction survey within 14 days of the onset of work. The pre-construction survey effort shall be conducted for a minimum of one hour. The purpose of the survey is to identify and avoid individuals and colonies of Monarch butterfly, western bumble bee, or unsilvered fritillary. If construction begins between March 1st and November 1st, the ground shall also be searched during the survey for active bumble bee colonies. No capture or handling of bumble bees shall be conducted, and western bumble bee shall be avoided. Foraging bees shall be allowed to leave work areas undisturbed, and bee colonies shall be avoided during the active season from March 1 through November 1.

Bio-4 Preconstruction Amphibian Surveys and Avoidance.

Immediately prior to initial ground disturbance and vegetation removal, a qualified biologist shall conduct a preconstruction clearance survey of the site for special status amphibians. If California giant salamander is observed on site, they shall be relocated to suitable habitat in the immediate vicinity by the qualified biologist. The following additional measures shall be implemented to reduce potential impacts:

- Vegetation disturbance shall be the minimum necessary to achieve the goals of the project.
- All trash shall be removed from the site daily and disposed of properly to avoid attracting potential predators to the site.
- No pets shall be permitted on site during project activities.
- All vehicles shall be in good working condition and free of leaks. All leaks shall be contained and cleaned up immediately to reduce the potential of soil/vegetation contamination.
- All hole and trenches shall be covered at the end of the day or ramped to avoid entrapment.

Bio-5 Special Status Bats Preconstruction Surveys and Avoidance.

A preconstruction bat emergence survey shall be conducted no more than 14 days prior to the start of construction by a qualified biologist to determine if any trees designated for removal functions as a maternity or temporary roost. Emergence times may vary dependent on species, weather conditions, and time of year and should occur when conditions are favorable (higher temperatures, high humidity, low wind, no precipitation), and timed to capture bat emergence (typically occurring between sunset and midnight). high humidity, low wind, no precipitation), and timed to capture bat emergence (typically occurring between sunset and midnight).

- Emergence surveys shall be conducted during the maternity season for bats (May 1 through August 31). During September, bats begin to enter their hibernaculum stage in preparation for colder months and may not emerge from their roosts, and emergence surveys would not be conclusive.
- If bats are identified roosting in trees to be removed, eviction measures can be implemented for non-maternity roosts. Install exclusion netting (specific for bats to prevent reentry) or other suitable exclusion methods (as determined by a qualified biologist) at roost openings to allow bats to exit but prevent their re-entry into the roost. Nets or exclusion devices would have to be regularly checked to prevent wildlife entrapment. Exclusion devices should be left in place and monitored daily for seven days to confirm the exclusion is successful prior to tree removal. Tree

removal should be monitored by a qualified bat biologist in case any further individual relocation is necessary. Removal of trees that have an identified maternity roost shall be scheduled outside the maternity season and shall follow the procedures outlined above.

Bio-6 Invasive Species Control.

The following measures shall be implemented to prevent the spread of invasive species:

- Limit disturbance areas during construction to the minimum required to perform work and limit ingress and egress to defined routes.
- Implement vehicle and equipment cleaning and inspection procedures and closely monitor the types of materials brought onto the site to minimize the potential for weed introduction.
- Use of certified weed free mulch, straw wattles, hay bales and seed mixes.
- Any revegetation will be done with certified weed-free native species sources.

B) Less than Significant Impact

The proposed project area does not have any riparian habitat. The proposed project will impact a designated sensitive natural community (Redwood forest); however, the proposed project parcel is small and already surrounded by fragmented habitat due to residential development. While the proposed project will require the removal of 19 trees, including nine medium-to-large redwood trees, this does not contribute a significant proportion of undeveloped redwood forest and these trees are not considered "Significant" under Santa Cruz County Code Chapter 16.34 SIGNIFICANT TREES PROTECTION. Impacts will be less than significant.

C) No Impact

The proposed project site is not located within or adjacent to any wetlands or other aquatic resources and is contained entirely within upland areas. All construction activities would therefore occur in uplands. No impact to state or federally protected wetlands would occur.

D) Less than Significant Impact

The proposed project site is regionally located within an area mapped as an Essential Connectivity Area (CDFW 2010); however, the site is surrounded by residential development and doesn't function as a specific or unique corridor for wildlife movement in the region. Construction would be temporary, and the area of disturbance would be small, creating little disturbance for local wildlife movement. Once construction is complete, it would not result in permanent changes that would impair wildlife movement as compared to the existing conditions. Therefore, impacts to wildlife movement and the use of native wildlife nursery sites would be less than significant.

E) Less than Significant Impact

While the proposed project would require the removal of up to 19 trees, including nine medium-to-large redwood trees, none of the trees to be removed meet the criteria for "Significant" status, as defined by Santa Cruz County Code Chapter 16.34 SIGNIFICANT TREES PROTECTION. The Project Design Features include measures to protect existing trees. With implementation of Project Design Features to protect trees not required for removal, and because those trees to be removed do not conflict with Santa Cruz County ordinances, impacts would be less than significant.

F) No Impact

The proposed project site is not located within the jurisdiction of an adopted Habitat Conservation Plan, Natural Community Plan, or other approved local, regional, or state habitat conservation plan (CDFW 2019). No impact would occur.

2.2.5 Cultural Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	■	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	■	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

Environmental Setting

The proposed project site is included within a prehistoric and historic site record and literature search completed in 2021 by the CHRIS/NWIC (File No. 21-0487 by Murazzo dated 10/18/2021). Appendix B includes the Cultural Resources Memo with detailed discussion on the records that were reviewed. The Native American Heritage Commission (NAHC) was contacted for a review of the Sacred Lands Files on July 22, 2022 (Appendix B). The review was negative (Campagne 2022). The seven Native American tribes/individuals recommended for further outreach were contacted by the SLVWD for AB52 consultation on August 31, 2022 (Attachment E). No other agencies, departments or local historical societies aside from the SLVWD were contacted regarding potential archaeological features/sites, landmarks, potential historic sites or structures. A field inventory was not undertaken due to the lack of recorded prehistoric and built environment resources in the proposed project area and the presence of the existing water tank and associated improvement.

Discussion

A and B) Less than Significant Impact

The proposed project would involve the removal of the existing water tank and the construction of a new tank on a currently vacant parcel and the installation of a water pipeline in an existing roadway. The following information is known regarding the proposed project site (Appendix B):

- The CHRIS/NWIC records review found no record of any previous project site specific cultural resource studies and did not report the presence of any prehistoric and/or historic era archaeological sites within or immediately adjacent to the project site (Appendix B).

- No Native American villages, traditional use areas or contemporary use areas or other features of significance have been identified in or adjacent to the project site.
- No Hispanic era features have been identified in or adjacent to the project site. No American Period archaeological sites have been recorded, reported or identified in or adjacent to the project site.
- No listed, known significant and/or potentially significant National Register of Historic Places, California Register of Historical Resources or local cultural resources/historic properties, landmarks, points of interest, etc. have been identified in or adjacent to the project site.
- Records available at the SLVWD indicate that the existing 40,000 gallon tank was installed in the mid-1980s and is less than 45 year in age.

The available information reviewed for the project site suggests a low to very low moderate potential for the presence of subsurface prehistoric and/or historic deposits either within or adjacent to the project site. Although no archaeological resources have been previously identified within the proposed project site, there is potential for unknown, buried archaeological resources to be discovered during ground disturbing activities. Project Design Features would be implemented during project construction measures in case of unanticipated discovery of cultural resources during project development. Impacts to historical and archaeological resources would be less than significant.

C) Less than Significant Impact

While the proposed project site is unlikely to contain human remains, the potential for the recovery of human remains is always a possibility during ground disturbing activities. However, based on the disturbed nature of the proposed project site and the lack of any identified cultural resources within the study area, the potential to encounter human remains is considered low. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the California Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. Impacts to human remains would be less than significant

2.2.6 Energy

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
6. ENERGY. Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	■	☐
b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

Discussion

A) Less than Significant Impact

Construction

The construction equipment and vehicles that would be used during construction of the proposed project would consume energy via combustion of petroleum products, including gas, diesel, and motor oil. Consumption of energy during construction would be temporary, lasting an estimated 3 months and would cease after the proposed project is completed. Indirect energy use would be required to make the materials and components used in construction. Indirect energy use includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing. Fuel use would be consistent with typical construction and manufacturing practices and would not require excessive or wasteful use of energy. Construction activities would not reduce or interrupt existing fuel or electricity delivery systems due to insufficient supply. The impact of construction activities would be less than significant.

Operation

The proposed water storage tank and access road would require minimal maintenance. Operation and maintenance activities would be similar to maintenance of the existing tank site and would be conducted by SLVWD employees approximately once per month. Thus, the proposed project would not increase traffic to and from the proposed project site. Water would be pumped from the existing pump station located downhill of the project site to the water storage tank. The existing pump station would be able to accommodate the large water storage tank, and no upsizing would be required. Operation and maintenance activities would not require excessive or wasteful use of energy. The impact would be less than significant.

B) Less than Significant Impact

The construction and operation of the proposed project would result minimal consumption of energy resources. SLVWD has not adopted specific renewable energy or energy efficiency plans

with which the project could comply. The proposed project would be required to comply with the Santa Cruz County Climate Action Strategy (2013) and the California Building Code, Title 24 energy efficiency standards. Operation of the proposed project would be powered by the existing pump station and would require minimal energy usage. These operational activities would be similar to current operations and would not add additional energy use. Because the proposed project would be subject to State plans and policies, including the Santa Cruz County Climate Action Strategy, it would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The impact would be less than significant.

No State, local, or SLVWD plans for renewable energy apply to the proposed project. The proposed project site is in a rural area. The proposed project site has no electrical power, all connections are SCADA. The proposed project would not conflict with or obstruct the State plan for renewable energy. Thus, less than significant energy impact would occur.

2.2.7 Geology and Soils

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
7. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	■	☐
ii) Strong seismic ground shaking?	☐	☐	■	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
iv) Landslides?	☐	■	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	■	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and, potentially, result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	■	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	■	☐	☐
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?	☐	☐	☐	■
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	■	☐

Environmental Setting

A geologic and geotechnical investigation was conducted for the proposed project in August 2021 (full investigation included as Appendix C). The description of the environmental setting provided below reflects information contained in the County General Plan, as well as the

project specific geotechnical report. The purpose of the geotechnical investigation was to evaluate the soil and bedrock conditions at the proposed project site and develop geotechnical design criteria for the proposed project.

Seismicity

The proposed project site is located within a seismically active region in the Santa Cruz mountain range. Major active faults in the vicinity of the proposed project area include the San Andreas Fault and Zayante Fault, located approximately 3.22 miles and 0.82 miles from the proposed project site, respectively**.** Potential seismic hazards at the proposed project site include surface ground rupture and strong seismic shaking.

Liquefaction

During severe ground shaking, liquefaction can occur in loosely packed, waterlogged sediments. The proposed project site is not mapped as having the potential for liquefaction (Santa Cruz County Planning Department, 2022).

Landslides

The geotechnical investigation did not find evidence of any recent land sliding in the slopes descending from the proposed project site. The investigation determined that the potential for deep seated land sliding in the shallow bedrock of the proposed project site is relatively low. However, there is the potential for shallow land sliding on the steeper slopes descending away from the tank site if saturated. This could result in a potentially result in substantial adverse effects to people from landslides.

Soils

Based on the results of the subsurface exploration, the top 12 to 24 inches of soil consist of loose silty or clayey sand topsoil, underlain by medium dense clayey sand to depths of 2 to 3.5 feet. This layer is underlain by sandstone bedrock to depths between 4 and 5 feet deep. The proposed project site is mapped as Vaqueros Sandstone (Oligocene). A contact between the Vaqueros Sandstone and Rices Mudstone Member is mapped approximately 180 feet northeast of the proposed project site.

Discussion

A) (i, ii, and iii) Less than Significant Impact

The proposed project site is located in a seismically active region and may be subject to intense ground shaking during a seismic event. The proposed project site is within the vicinity of the San Andreas Fault and Zayante Fault but is not located in a Alquist-Priolo Eathquake Fault Zone (Santa Cruz County Planning Department, 2022). The geotechnical investigation for the proposed project determined that the potential for surface ground rupture is low, since the proposed project site is not located within a fault zone (Appendix C).

Due to the location of the proposed project in a seismically active region, the proposed project would likely be subject to strong seismic shaking following construction. The proposed project involves the construction of a water storage tank and would not directly expose people to

seismically induced risk. The proposed project would be designed in accordance with the California Building Code standards and the data and recommendations provided in the geotechnical investigation, specifically including seismic design criteria.

Liquefaction can result from the strong seismic shaking of loose, saturated soils. The geotechnical investigation determined that the potential for liquefaction is low, due to the shallow, dense bedrock underlying the proposed project site.

Therefore, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or seismic-related ground failure, including liquefaction. The impacts would be less than significant.

A) (iv) Less than Significant with Mitigation

The proposed project site is not currently mapped as an area with a history of landslides and no evidence of recent landslides was found at the proposed project site (Appendix C). However, the geotechnical investigation determined that there is the potential for shallow land sliding on the slopes descending from the proposed project site when saturated. Implementation of Mitigation Measure GEO-1 requires the proposed project to comply with the recommendations outlined in the geotechnical investigation, including site drainage. Tank roof and surface runoff would be directed away from the site to collection facilities and conveyed via buried plastic pipes to Blue Ridge Drive, Short Street, or an existing storm drain system. Site drainage improvements would ensure that concentrated runoff from the proposed project site would not flow on the slows below the tank site. Preventing surface runoff from flowing downslope of the proposed project site would minimize the risk of shallow land sliding. The impact would be less than significant with mitigation.

Mitigation Measures

GEO-1 Geotechnical Investigation Recommendation.

> The project contractor shall implement the recommendations identified in the geotechnical investigation prepared for the proposed project by Haro, Kasunich, and Associates, Inc. in August 2021.

B) Less than Significant Impact with Mitigation.

Excavation and grading activities during construction could result in a temporary increase in erosion. The geotechnical investigation indicated that the soils at the proposed project site have the potential for erosion where unvegetated. Therefore, the proposed project would have potentially significant impacts on erosion. Mitigation Measure GEO-1 would require implementation of the following recommendations detailed in the geotechnical investigation, including:

- All grading and soil disturbance shall be kept to a minimum;
- No eroded soil shall be allowed to leave the site;

- All bare soil shall be seeded and mulched immediately after grading with barley, rye, grass, and crimson clover and covered straw;
- Prior to the rainy season bare soil shall be well vegetated or protected form erosion by installation of ground cover or erosion control blankets.

Implementation of Mitigation Measure GEO-1 would reduce impacts to less than significant levels.

C) Less than Significant with Mitigation

Liquefaction
As discussed under impact a(iii), the proposed project site is underlain with shallow bedrock. Therefore, the potential for seismic induced liquefaction is low.

Landslides and Lateral Spreading,
The slopes descending for the proposed project site could be susceptible to landslides and lateral spreading during construction and operation of the proposed project. If the slopes around the proposed project site become saturated, the impact from slope destabilization would be potentially significant. As discussed under impact a(iv), implementation of Mitigation Measure GEO-1 would prevent concentrated runoff from the proposed project site from flowing downslope of the proposed project site. Furthermore, the proposed project would be designed to meet current California seismic structure codes.

Subsidence, and Collapse
Subsidence caused by groundwater withdrawal can occur in unconsolidated to semi-consolidated sediments containing confined or semi-confined sand and gravel aquifers, inter-bedded with clay sediments. The proposed project site is not mapped as an area that is impacted by land subsidence (Santa Cruz County Planning Deparmtnet, 2022). Trenching for the proposed would be limited to a maximum depth of approximately 10 feet. Construction activities would include the backfilling of trenches to minimize any potential subsidence. There is low potential for land subsidence or collapse at the proposed project site.

The impact would be less than significant with mitigation incorporated.

D) Less than Significant Impact with Mitigation

The subsurface exploration determined that the top 12 to 24 inches of soil consist of loose silty or clayey sand topsoil, underlain by medium dense clayey sand to depths of 2 to 3.5 feet. Site soils have low expansion potential. Furthermore, the geotechnical investigation (Appendix C) determined that the on-site silty and clayey sand would be acceptable for fill material. Mitigation Measure GEO-1 requires compliance with the recommendations outlined in the geotechnical investigation, including any highly expansive clay soils identified during site grading would be removed from the proposed project site. The impact would be less than significant with mitigation.

E) No Impact

The proposed project would not require sanitary sewer service and would not use septic systems. No impact would occur.

F) Less than Significant Impact

There are no known paleontological resources or unique geologic features at the proposed project site. No paleontological resources were identified by Santa Cruz County near the proposed project site (Santa Cruz County Planning Department, 2022). Most of the site was previously disturbed for construction of the existing water tank, and no resources were documented as being unearthed. In addition, the depth of excavation and grading would be minimal. The impact would be less than significant.

2.2.8 Greenhouse Gas Emission

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
8. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

Environmental Setting

Greenhouse gases (GHGs) are global pollutants, unlike criteria air pollutants and toxic air contaminants. Global climate change can result in increased temperatures; changes in snow and rainfall patterns; and an increase in droughts, tropical storms, and heavy rain events. The following pollutants are the most prominent GHGs that have been identified as contributing to global climate change: Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

The State of California adopted the Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) on September 27, 2006, to address the threat of global warming caused by the increase in GHG emissions. AB 32 requires a reduction of carbon emissions to 1990 levels by the year 2020. The 1990 emissions were estimated at 427 million metric tons CO_2 equivalent ($MMCO_2e$). CARB developed mandatory reporting rules for significant sources of GHGs as required by AB 32 (Subchapter 10, Article 1, sections 95100 to 95133, Title 17, California Code of Regulations).

CARB released the 2008 Scoping Plan that indicated how GHG emission reductions would be achieved from significant GHG sources by adopting regulations to achieve maximum technologically feasible and cost-effective GHG emission reductions. The First Update to the Climate Change Scoping Plan was released in 2014 and has a new statewide goal of 33 percent renewable energy, in the State of California's energy portfolio by 2020. The updated Scoping Plan outlines voluntary early actions and reductions (CARB, 2017). The updated Scoping Plan adjusted the estimated 1990 emissions to 431 $MMCO_2e$. The 2008 Scoping Plan projected 2020 emissions to be 596 $MMCO_2e$. Emission sources in the state would need to reduce the projected 2020 emissions by approximately 28 percent to reach the reduction goal of 1990 emissions (CARB, 2017).

The County of Santa Cruz adopted a Climate Action Strategy (CAS) in 2013. By that time, the County had met AB 32 goals to reduce carbon emissions to 1990 levels with the closure of the Davenport Cement Plant, and so additional emission reduction goals were incorporated. Goals

include reducing emissions to 18 percent below 2009 levels by 2020, 30 percent below 2009 levels by 2035, and 59 percent below 2009 levels by 2050 (Santa Cruz County, 2013).

The proposed project site is under the jurisdiction of the Monterey Bay Air Resources District (MBARD). MBARD is tasked by CARB under AB 32 to regulate GHG emissions related to discretionary project approvals under CEQA. Neither MBARD nor SLVWD currently have thresholds or guidance regarding the significance of construction or water infrastructure related greenhouse gas emissions. As identified in Section 15064.7(c) of the CEQA Guidelines, the lead agency may adopt thresholds previously adopted or recommended by other public agencies. The San Luis Obispo County Air Pollution Control District (SLOAPCD) is the nearest jurisdiction with adopted quantitative thresholds for GHG emissions. However, in SLOAPCD's 2021 *Interim CEQA Greenhouse Gas Guidance*, they do not recommend using previously published thresholds as the GHG thresholds were based upon reduction goals by 2020, which is no longer applicable. Instead, it recommends the consideration of the following (SLOAPCD, 2021):

- **Consistency with a Qualified Climate Action Plan (CAP):** CAPs conforming to CEQA Guidelines § 15183 and 15183.5 would be qualified and eligible for project streamlining under CEQA
- **No-net Increase**: On page 101, California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), states that no-net increase in GHG emissions relative to baseline conditions "is an appropriate overall objective for new development".
- **Lead Agency Adopted Defensible CEQA GHG Thresholds**, including:
  - Meeting Local GHG Emission Targets with Best Management Practices
  - GHG Bright-line and Efficiency Thresholds

Discussion

A) Less than Significant Impact

Construction

Construction of the replacement water tank would generate greenhouse gas emissions from use of construction equipment, haul trucks, and vehicles used for construction worker transportation. Construction of the proposed project would occur over approximately 3 months. There would be no net change in the generation of greenhouse gasses after construction completion. As discussed in the Project Design Features, unnecessary idling of intern combustion engines would be prohibited and electrically-powered tools and facilities would be utilized wherever possible. Implementation of these Project Design Features would limit the generation of GHG emissions from project construction. In addition, energy use to complete construction would be limited and short-term.

Operation

A new access road would be added to improve access for SLVWD workers. However, operation of the proposed project would be similar to existing conditions and require approximately one

trip per month, which would not impact the level of traffic in the area. Operational GHG emissions for the proposed project would remain unchanged from the current operation and maintenance of the existing tank. Power usage is not expected to increase over current levels and would thus lead to no-net increase in relation to the current baseline. In addition, the proposed project would comply with the Santa Cruz County (2013) Climate Action Strategy (CAS). The proposed project is not anticipated to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

The impact would be less than significant.

B) Less than Significant Impact

The County of Santa Cruz (2013) CAS establishes GHG reduction strategies to be incorporated at the county level. Strategy E-8 in the CAS aims for the reduction of energy use for water supply through water conservation measures. These water conservation measures include: the adoption of a water conservation ordinance, adoption of a water-efficient landscape ordinance, and reducing the demand for potable water by promoting the use of residential greywater irrigation. The proposed project would support Strategy E-8, by replacing the existing leaking water storage tank with a new steel replacement tank that would limit water loss from aging water infrastructure. The proposed project would be consistent with the CAS. The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The impact would be less than significant.

2.2.9 Hazards and Hazardous Materials

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	■
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	■	☐

Discussion

As used in this section, the term "hazardous material" is defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. As used in this section, the term "hazardous waste" generally refers to a hazardous material that has been used for its original purpose and is about to be discarded or recycled. In California, a hazardous waste is defined as a waste, or combination of

wastes that, due to its quantity, concentration, or physical, chemical, or infectious characteristics, may either:

- Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Federal and State regulations require adherence to specific guidelines regarding the use, transportation, disposal, and accidental release of hazardous materials. The EPA is responsible for administering the Federal Toxic Substances Control Act and Resource Conservation and Recovery Act (RCRA), which regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is a federal database that records the known hazardous contaminated sites and facilitates remediation actions. The management of hazardous materials and waste within California is under the jurisdiction of CalEPA, which coordinates the State's Unified Program for permitting, inspecting, and enforcing regulations related to hazards materials.

A) and B) Less than Significant Impact

Construction of the proposed project would involve the use of materials that are defined as hazardous, such as paints and other types of coatings, fuels, hydraulic fluids, and coolants for construction equipment. All of these materials are common in the construction industry and construction process and their transport, handling, use, and disposal within specifications outlined by their respective manufactures are designed to ensure that there are no environmental effects. Further, many of the manufactures' recommendations are based on regulations promulgated by federal and state government; also with the intent of reducing the potential for accidental upset and environmental effects. After construction there would be no hazardous materials transported to or from the site on a regular basis.

Therefore, operation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Further, the proposed project would not 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. As such, hazardous materials impacts would be less than significant.

C) No Impact

The proposed project site is not located within 0.25 mile of an existing or proposed school. The closest school is the Seeds of Knowledge Preschool, located approximately 2 miles north of the proposed project site. No impact would occur.

D) No Impact

Government Code Section 65962.5 requires the CalEPA to develop an updated Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. The analysis for this section included a review of the State Water Resources Control Board Geotracker database and the DTSC Envirostor database on August 23, 2022 to provide hazardous material release information. Based on review of these resources, there are no known hazardous materials sites located on the proposed project site, or within 0.5 mile from the proposed project site. No impact would occur.

E) No Impact

The proposed project is not located within an airport land use plan or within two miles of a public airport or public use airport. No impact would occur.

F) Less than Significant Impact

Construction of the proposed project may require a temporary road closure on Blue Ridge Drive to accommodate trenching and pipeline installation activities. Emergency responders would still be able to access this road to access Summit Avenue and Short Street throughout the construction period. In emergency access or evacuation scenarios, steel plates placed alongside active trenches would quickly be used to restore vehicle access in the roadway. All local service providers (including emergency personnel) would be contacted before roadway construction begins to schedule services around daily roadway openings and establish communication protocols with SLVWD for accommodating unscheduled access needs.

Project operation would not interfere with emergency response because the pipeline would be located entirely underground, and the aboveground infrastructure would not impede access in emergency response scenarios. This impact would be less than significant.

G) Less than Significant Impact

The proposed project site is located in the Moderate Fire Hazard Severity Zone in the State Responsibility Area. The proposed project is not located in a Fire Hazard Area as designated by the County of Santa Cruz (Santa Cruz County Planning Department, 2022). Furthermore, the proposed project would not involve the construction of habitable structures. Thus, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This impact would be less than significant.

2.2.10 Hydrology and Water Quality

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

Environmental Setting

The existing project site is covered by impervious surface within the fence line with surrounding vegetated slopes descending to the west, north, and south of the proposed project site at gradients between 3:1 and 2:1 (H:V). The proposed project is located in the San Lorenzo Valley watershed under the jurisdiction of the Central Coastal Regional Water Quality Control Board. The proposed project site is not underlain by a groundwater basin (California Department of Water Resources, 2022).

Discussion

A) Less than Significant Impact

Construction

Project construction could temporarily impact water quality due to earth-moving activities including, grading, tree removal, and site preparation that could transport sediment and debris into receiving water bodies during storm events. The proposed project would disturb less than one acre of land. Therefore, the proposed project would not be subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. However, the proposed project would be subject to Chapter 16.22 of the Santa Cruz County Municipal Code which requires the preparation of an erosion control plan for all grading permit applications.

The proposed project would comply with the *Design Criteria Containing Standards for the Construction of Streets, Storm Drains, Sanitary Sewers, Water Systems, Driveways Within the Unincorporated Portion of Santa Cruz County* (Santa Cruz County, 2022). The proposed project would constitute a "small" project, as it would add less than 500 square feet of impervious surface area. Small projects are exempt from specific quantitative requirements if there is adequate on and off-site drainage with no downstream restrictions. The design criteria contain design standards, mitigation, and requirements, including surface runoff, stormwater overflow, and drainage facilities.

Operation

B) No Impact

The replacement tank would increase the amount of impervious surface at the proposed project site. As discussed under Section 2.2.7, *Geology and Soils*, a geotechnical investigation was performed at the proposed project site (Appendix C). Bedrock was encountered at depths up to 5.5 feet. The geotechnical investigation did not encounter any groundwater at the proposed project site. However, groundwater levels fluctuate temporally and are dependent on seasonal precipitation, irrigation, land use, and climate conditions.

The proposed project would replace the existing storage tank and replace it with a larger water storage tank and construct an access road to the site. The net footprint change in impervious surface between the existing site and the proposed project is 381 square feet of additional impervious surface. The slight increase in impervious surface would not impact groundwater recharge. The proposed project site is not underlain by a groundwater basin and would not likely contribute to groundwater supply. In addition, the proposed project site is not mapped within a groundwater recharge area (Santa Cruz County Planning Department, 2022). The proposed project would not substantially deplete groundwater supplies or interfere with groundwater recharge. No impact would occur.

C)(i) Less than Significant Impact with Mitigation

Implementation of the proposed project would alter the existing drainage pattern due to the increase in impervious surfaces from the replacement tank. Upon construction completion, most of the site would be unpaved and vegetated. Surface runoff from the proposed project site

would not be permitted to pond adjacent to tank foundations, pavement, or other improvements. Surface runoff from the replacement tank would be directed away from foundations to collection facilities via buried plastic pipes to Blue Ridge Drive, Short Street, or an existing storm drain system, as required under Mitigation Measure GEO-1. The pipe outlet facilities would be designed to prevent instability or erosion at the outlet. The proposed project would not result in substantial erosion or siltation on or off site. The impact would be less than significant with incorporation of Mitigation Measure GEO-1.

C(ii) and (iii) Less than Significant Impact

Construction of the proposed project would increase impervious surfaces and alter the existing drainage pattern of the proposed project site. However, a majority of the proposed project site would remain unpaved and vegetated, including the access road. The slight increase in impervious surface would not substantially alter the existing drainage pattern of the proposed project site. The proposed project would not alter the course of a stream or river, or store pollutants that would add sources of polluted runoff.

As discussed under impact item a, the proposed project would comply with the *Design Criteria Containing Standards for the Construction of Streets, Storm Drains, Sanitary Sewers, Water Systems, Driveways Within the Unincorporated Portion of Santa Cruz County* (Santa Cruz County, 2022). The design criteria provides design standards, mitigations, and requirements for small projects with less than 500 square feet of added impervious surface. Compliance with County's design criteria would minimize surface runoff at the proposed project site. The proposed project would not substantially increase runoff which would result in on or offsite flooding or the exceedance of capacity of existing or planned stormwater drainage systems. The impact would be less than significant.

C(iv) and D) No Impact

The replacement tank and access road would not be within the 100-year flood zone (Santa Cruz County Planning Department, 2022). No large water bodies are in the proposed project vicinity. The proposed project site is not located in an area subject to significant seiche or tsunami. No impact would occur.

E) No Impact

The proposed project site would have no adverse impacts related to water quality objectives or groundwater supplies. The proposed project is not underlain by a groundwater basin and would not conflict with a groundwater management plan. As such, the proposed project would not conflict or obstruct the implementation of a water control plan or sustainable groundwater management plan. No impact would occur.

2.2.11 Land Use and Planning

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
11. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	■
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	■	☐

Discussion

A) No Impact

The proposed project site is located in unincorporated Santa Cruz County on SLVWD-owned property and would not divide an established community. The proposed project would replace the existing storage tank on SLVWD-owned property. The proposed water storage tank and access road would not alter access to nearby roadways, including State Highway 9 and Blue Ridge Drive. The proposed project would not divide an established community and therefore, no impact would occur.

B) Less than Significant Impact

The proposed project would replace the existing leaking water storage tank with a steel-bolted tank with greater storage capacity. The Santa Cruz County General Plan (1994) contains several objectives and policies that pertain to the proposed project:

- **Objective 17.18a Domestic Water Service**: To ensure a dependable supply of high-quality domestic water to meet the needs of communities that obtain water service from municipal water systems, County water districts and small water systems.
- **Objective 7.18c Water Conservation**: To maximize the County's water conservation potential through a coordinated program with water purveyors and water management agencies involving public education, financial incentives to conserve, voluntary and mandatory conservation measures, retrofit programs, run-off management and water waste regulations and enforcement
- **Policy 7.18.4 Improvement of Water Systems**: Support water system improvement programs for storage, treatment and distribution facilities to meet necessary water supply and fire suppression requirements (Santa Cruz County General Plan, 1994).

The proposed project would improve SLVWD's water infrastructure, decrease water loss, and increase water storage, which would support the Santa Cruz County's goal of ensuring the reliability of domestic water supplies. By replacing the existing leaking water storage tank with an improved storage tank, the proposed project would improve water systems and enhance water conservation. In addition, the proposed project involves the construction of facilities for the storage of water and is exempt from County building and zoning ordinances under California Code Section 53091. The proposed project does not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation. The impact would be less than significant.

2.2.12 Mineral Resources

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
12. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	■

Discussion

A and B) No Impact

The proposed project site is not within a mineral resource zone established by the State Department of Conservation, and there are no identified important mineral resources on the proposed project site. Furthermore, the proposed project site is surrounded by residential uses that are not compatible with mineral resource extraction activities. No impact would occur. The site is not designated for mineral extraction in the County's General Plan and is not located within, adjacent to or near existing mining operations or known mineral resources (Santa Cruz County, 1994). According to the County's GIS data (Santa Cruz County Planning Department, 2022), the proposed project site is not located in a mineral resource zone. No impact would occur.

2.2.13 Noise

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

Environmental Setting

Existing Noise Environment

Noise is defined as unwanted and objectionable sound. Sound levels usually are measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing (California Department of Transporation, 2009). Noise-sensitive land uses generally include those areas of habitation where the intrusion of noise could adversely affect occupancy, use, or enjoyment of the environment. Sensitive receptors in Santa Cruz County include residences, schools, and hospitals (Santa Cruz County, 1994). The closest sensitive receptor is a resident located immediately adjacent to the proposed project site.

Noise Standards

Federal and State Guidance

CEQA does not specify a numerical threshold for "substantial increases" in noise, and no federal regulations that limit overall environmental noise levels are established; however, federal guidance documents address environmental noise and regulations for specific sources. The EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety in 1974, which provides information for State and local governments to use in developing their own ambient noise standards. The EPA determined that a day-night sound level of 55 dBA protects the public from indoor and outdoor activity interference.

The EPA, the Federal Highway Administration (FHWA), and the U.S. Department of Transportation (USDOT) have developed guidelines for noise. Under the authority of the Noise Control Act of 1972, the EPA established noise emission criteria and testing methods, published at 40 CFR Part 204, which apply to some construction and transportation equipment (portable air compressors and medium- and heavy-duty trucks). These regulations apply to trucks that would transport equipment to the proposed project site.

Santa Cruz County Construction Noise Ordinance

Santa Cruz County has developed noise standards for offensive noise, that includes construction noise. Chapter 8.30 of the Santa Cruz County Code states that, "No person shall make, cause, suffer, or permit to be made any offensive noise (Santa Cruz County, 2022)." According to 8.30.010(c)(1)(a) of the Santa Cruz County Code, noise is considered offensive if it occurs between the hours of 8:00 a.m. and 10:00 p.m. and it is:

- Clearly discernable at a distance of 150 feet from the property line; or
- In excess of 75 dBA at the edge of the property line

Groundborne Vibrations

Vibrating objects in contact with the ground radiate energy through the ground. Vibratory motion is commonly described by identifying the peak particle velocity (PPV). PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage (Caltrans, 2013). Table 6 provides the vibratory thresholds for damage to structures, depending on the type of construction. Background vibration levels on the proposed project site are low. Sources include vehicles traveling on Blue Ridge Drive and Summit Avenue. These sources create negligible levels of vibration.

Table 6 Construction Vibration Damage Criteria

Building Category	PPV (inch per second [in/sec])
Reinforced-concrete, steel or timber (no plaster)	0.5
Engineered concrete and masonry (no plaster)	0.3
Non-engineered timber and masonry buildings	0.2
Buildings extremely susceptible to vibration damage	0.12

Source: (FTA, 2006)

The County of Santa Cruz does not have established quantitative vibration thresholds to regulate construction or operational related vibration. Caltrans recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec PPV for old buildings or buildings that are documented to be structurally weakened (Caltrans, 2013).

Sensitive Noise Receptors

Noise-sensitive land uses generally include those areas of habitation where the intrusion of noise could adversely affect occupancy, use, or enjoyment of the environment. The County of Santa Cruz General Plan/Local Coastal Program Noise Element considers residences, hospitals, and schools to be sensitive receptors (Santa Cruz County, 1994). Sensitive receptors in the vicinity of the proposed project site are residences. The closest sensitive receptor is a residence along Short Street that abuts the proposed project site and is adjacent to the proposed project site.

Discussion

A) Less than Significant Impact

Pursuant to Section 50391 of the California Code of Regulations, building and zoning ordinances do not apply to the "location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency." The proposed project involves the storage and transmission of potable water supplies and is therefore exempt from local building and zoning ordinances, including the Santa Cruz County Noise Ordinance. Nevertheless, SLVWD as the lead agency has chosen to use the noise level limits in the Santa Cruz County Noise Ordinance as the thresholds of significance for the purposes of evaluating the project's operational impacts under CEQA in accordance with CEQA Guidelines Section 15064.7(c).

Construction

Ambient noise levels in the proposed project vicinity are generally low and mostly consist of natural noises and human-made noises from nearby residents. Construction of the proposed project would generate a short-term increase in noise. The proposed project would include demolition, site preparation, grading, temporary tank placement, new tank placement, and gravel placement and fence installation. Construction would occur over three months. Heavy machinery, including excavators, a crane, dozers, and dump trucks would be required during construction. Estimated noise levels from construction equipment at 50 feet from the noise source are presented in Table 7. Construction of the proposed project would occur within the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. The proposed project would comply with County of Santa Cruz Municipal Code Chapter 8.30, which prohibits "offensive" noise between 10:00 p.m. and 8:00 p.m.

The nearest sensitive receptor is located directly adjacent to the proposed project site. While construction noise would be temporary and intermittent, noise generated from proposed project construction would exceed the Santa Cruz County Code threshold of 75 dBA at the property line. As discussed in the Project Design Features, equipment would include shielding and mufflers to reduce construction noise levels, and staging areas and stationary equipment locations would be placed as far as practical from sensitive receptors. Shielding and muffling would reduce noise levels by at least 15 dBA (Generator Source, 2022). Implementation of the Project Design Features would reduce construction noise by 15 dBA, which would meet the County of Santa Cruz Municipal Code noise threshold.

Table 7 Construction Equipment Noise Levels

Equipment	L_{max} (dBA) at 50 Feet	L_{eq} (dBA) at 50 Feet
Bulldozer	82	78
Dump truck	76	73
Excavator	81	77
Power tools	67–89	60–82

Note:

[a] Based on an estimate, not an actual measurement.

Source: (FTA, 2006)

Operation

Noise levels generated from operation of the proposed project would be similar to the existing storage tank at the proposed project site. Operation and maintenance activities would be conducted by SLVWD employees approximately once per month. Traffic to and from the proposed project site would increase after construction of the replacement tank. Operational noise would not increase and would not exceed local noise standards. The impact would be less than significant. No mitigation would be required.

B) Less than Significant Impact

Groundborne vibrations would be generated during project construction because of the use of construction equipment and the presence of truck traffic. The proposed project would utilize bulldozers that can generate groundborne vibration. No construction equipment that could generate high levels of groundborne vibration (i.e., pile driving) would be utilized.

Operation of the proposed project would not generate vibration. Less than significant impacts related to operational vibration would occur.

C) No Impact

The proposed project is not located within 2 miles of a public airport, or within an existing or projected airport land use plan, or in the vicinity of a private airstrip. No impact would occur.

2.2.14 Population and Housing

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
14. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	■
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

Discussion

A) No Impact

The proposed project includes the construction and operation of a new water storage tank and conveyance infrastructure. Although the proposed project would expand the storage capacity of existing water infrastructure, the purpose of this proposed project is to replace the existing tank, installed in the mid 1980's, which is currently undersized and leaking. The proposed project would not result in acquisition of additional water supplies, and the proposed project would not expand service beyond areas presently served by existing infrastructure. Furthermore, the new infrastructure would be maintained by existing SLVWD employees and would not indirectly induce population growth as a result of new employment opportunities. Therefore, the proposed project would not indirectly support population growth. No impact related to substantial population growth would occur.

B) No Impact

The proposed project would not displace people or housing, as no housing units exist on the proposed project site. No impact related to displacement of people or housing would occur.

2.2.15 Public Services

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

Discussion

A) (i – v) No Impact

Construction and operation of the proposed project would not result in direct or indirect population growth. In addition, the proposed project would replace an existing water storage facility with a new larger water storage tank and would not result in new permanent facilities that would generate the need for additional fire or police protection services, schools, parks, or other public facilities. Therefore, the proposed project would not create demand for any public facilities and would not cause the need for new or physically altered government facilities. No Impacts would occur.

2.2.16 Recreation

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
16. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

Discussion

A and B) No Impact

No recreational facilities occur in the proposed project area, and the proposed project does not include construction or expansion of any recreational facilities. The proposed project would also not cause the need for expansion of recreational facilities. In addition, as discussed in Section 2.2.14, *Population and Housing*, the proposed project would not directly or indirectly support substantial population growth. Therefore, the proposed project would not increase the need for or use of neighborhood and regional parks or other recreational facilities. Therefore, the proposed project would not create demand for any recreational resources and facilities. No impacts would occur.

2.2.17 Transportation

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

Environmental Setting

The proposed project is located along Blue Ridge Drive and Short Street in the community of Boulder Creek, Santa Cruz County, California. Both roads are single-lane roads that permit two-way travel and provide access to nearby residences. Regional access to the proposed project site is provided by Kings Creek Road, that connects SR-9 with Blue Ridge Drive.

Discussion

A) Less than Significant Impact

The proposed project would demolish the existing tank and construct a new steel water storage tank and conveyance systems. The proposed project would not conflict with policies, plans, ordinances, or programs addressing the performance of the circulation system.

Construction of the proposed project would occur during the working hours of 8:00 a.m. to 5:00 p.m. Monday through Friday. Residents, emergency services (e.g., medical, fire, police), and other services (e.g., mail delivery, garbage and recycling pickup) would have coordinated access to Blue Ridge Drive throughout the construction period.

No roadblocks are proposed during construction of the water tank. Temporary roadblocks may be necessary during pipeline construction, which would take approximately two weeks to complete. Road access would not be blocked for the entire two-week duration of construction. Per standard SLVWD practice for projects in roadways, outside the active construction hours of 8:00 a.m. to 5:00 p.m., steel roadway plates would cover open pipeline trenches, and vehicle access would be restored. In addition, during the 8:00 a.m. to 5:00 p.m. daily construction hours, the portion of the roadway under construction would be re-opened for traffic for increments of

10 minutes once every 45 minutes to one hour. In emergency access or evacuation scenarios, steel plates placed alongside active trenches would quickly be used to restore vehicle access in the roadway.

Local residents and service providers (including emergency personnel, postal service, garbage, and recycling) would be contacted before roadway construction begins to schedule services around daily roadway openings and establish communication protocols with SLVWD for accommodating unscheduled access needs. In addition, if local residents have a special request for timed access (e.g., a scheduled time they need to leave or return to their home, scheduled construction at their home, etc.), they can contact SLVWD to accommodate road access at the scheduled time.

Equipment and vehicle staging would occur onsite. Large equipment may be craned into place during construction but would not require any temporary road closures.

Operation and maintenance activities would be conducted by SLVWD employees and would require approximately one trip per month to the proposed project site. These vehicle trips would represent a negligible increase in traffic and would not impact the performance of the transportation system. Operational transportation impacts would be less than significant

B) Less than Significant Impact

During project construction, miles traveled would temporarily increase due to construction vehicles and equipment. Operation of the replacement tank would not increase miles traveled as the existing maintenance visits would remain the same as the existing tank. The impact would be less than significant.

C) Less than Significant Impact

The proposed project would construct an access road from the tank site to Blue Ridge Drive. The replacement tank and access road would not involve substantially increase hazards due to a geometric design feature or incompatible use. The impact would be less than significant.

D) Less than Significant Impact

Construction of the proposed project may require a temporary roadblocks on Blue Ridge Drive to accommodate trenching and pipeline installation activities. As discussed above, emergency service providers would be contacted prior to construction. In emergency access or evacuation scenarios, steel plates placed alongside active trenches would quickly be used to restore vehicle access in the roadway. In addition, emergency responders would have access to Summit Avenue and Short Street throughout the construction period.

Project operation would not interfere with emergency response because the pipeline would be located underground, and aboveground infrastructure would not impede access in emergency response scenarios. Construction of the access road would improve site access in the event of an emergency at the proposed project site. The impact would be less than significant.

2.2.18 Tribal Cultural Resources

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

Discussion

A) (i-ii) Less than Significant Impact

No CRHR-eligible or listed resources are located within the proposed project site, as discussed under Cultural Resources responses (a) and (b). To date, no Native American Tribes have formally requested consultation with the SLVWD..

The Native American Heritage Commission (NAHC) Sacred Lands File search for the proposed project was negative, indicating there are no known tribal cultural resources in the proposed project area. The proposed project would not impact a known listed or eligible tribal cultural resource. Previously undiscovered tribal cultural resources could be discovered during excavation and ground-disturbing activities. The impact would be potentially significant. Project Design features requires a professional archaeologist and a qualified tribal monitor to conduct cultural resources sensitivity training and cessation of work within a 50-foot radius in the event of a cultural resource discovery. The impact to undiscovered eligible tribal cultural resources would be less than significant.

2.2.19 Utilities and Service Systems

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
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?	☐	☐	■	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	■	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

Discussion

A) Less than Significant Impact

The proposed project consists of the replacement of an undersized, leaking existing water tank. The proposed project would serve existing demand, accommodate planned growth, and improve performance reliability rather than to serve new growth. As described in this Initial Study, the proposed project would reduce all significant impacts to a less than significant level with Project design features and mitigation incorporated into the project.

The proposed project does not include domestic sewage or septic facilities and as a result would not require the construction of expanded wastewater treatment for this use. The proposed project would not utilize natural gas or electrical power; therefore no construction or replacement of lines would be necessary. The proposed project would not result in significant impacts due to the construction or relocation of new wastewater treatment, electrical power, natural gas, or telecommunication facilities. Impacts would be less than significant.

B) Less than Significant Impact

The proposed project is a water supply project and consists of the replacement of the existing water tanks. Construction would require minor water use for water for dust suppression. Once in operation, the proposed project would not be staffed and therefore would not require water use for employees. The proposed project would be sized to have sufficient water supplies available to serve the project and reasonably foreseeable future development. Impacts would be less than significant.

C) No Impact

The proposed project would not generate sanitary wastewater and therefore, no impacts would occur.

D and E) Less than Significant Impact

The existing redwood tank would be deconstructed and removed from the site for reuse of some or all of the tank components (such as remilling of the redwood staves) or for placement in a suitable landfill. Existing materials that would be removed and not used on site would be transported to the Ben Lomond Santa Cruz County Transfer Station, from where it would be trucked to the Buena Vista Landfill. Buena Vista Landfill has a maximum daily throughput of 838 tons per day, and a remaining capacity of 2.2 million cubic yards (California Department of Resources Recycling and Recovery 2020). Waste generation would be temporary, occurring only during project construction, and would be well below the 300 tons per day permitted capacity of the Ben Lomond Santa Cruz County Transfer Station and the remaining capacity of 2.2 million cubic yards at Buena Vista Landfill. Therefore, the project would not result in significant impacts to a local landfill.

Once constructed, operation and maintenance activities would not generate solid waste. As such, operation of the proposed project would not exceed permitted capacity at local landfills. Solid waste impacts would be less than significant.

2.2.20 Wildfire

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	■

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?	☐	☐	☐	■
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

Discussion

A through D) No Impact

The proposed project site is not located in a Very High Fire Hazard Severity Zone. As discussed in Section 2.2.9, *Hazards and Hazardous Materials*, the proposed project site is located in the Moderate Fire Hazard Severity Zone in the State Responsibility Area (Santa Cruz County Planning Department, 2022). The closest Very High Fire Hazard Severity Zone is located approximately six east of the proposed project site (California Department of Forestry and Fire Protection (CAL FIRE), 2007).

The proposed project would not build habitable structures. In addition, the proposed project would remove a number of trees on the proposed project site, which could serve as fuel for wildfires. Furthermore, the proposed project would improve the reliability of local water supplies and reduce water loss through leaks, thereby bolstering water supplies for firefighting efforts. No adverse impact related to wildfire risk would occur. No impacts would occur.

2.2.21 Mandatory Findings of Significance

Environmental Impacts	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
21. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	■	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

Discussion

A) Less than Significant Impact with Mitigation Incorporated

As noted under Section 2.2.4, *Biological Resources*, there are special status plant species and animal species that have potential to occur within the proposed project area. Although impacts to special status species could occur (e.g., injury or mortality to individuals if they are present within the proposed project area during construction), Mitigation Measures BIO-1 through -5 would reduce impacts to candidate, sensitive, and special status species to a less-than-significant level. In addition, removal of nineteen trees and placement of the tank would not significantly alter the function of the plant community on the project site. Accordingly, the project would not 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 substantially reduce or restrict the range of a rare or endangered plant or animal.

The project site does not contain any known archaeological or tribal cultural resources. As discussed in Section 2.2.5, *Cultural Resources*, Project Design Features would be implemented during project construction in case of unanticipated discovery of cultural resources. As a result, the proposed project would not eliminate an important example of major periods of California history or prehistory. This impact would be less than significant.

B) Less than Significant Impact

Based on the analysis provided in this Initial Study, the proposed project would not significantly contribute to cumulative impacts, because the proposed water tank replacement project would be constructed with the essentially the same purpose. The proposed project would be sized to have sufficient water supplies available to serve the project and reasonably foreseeable future development.

Under CEQA “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 proposed project would not result in a cumulatively considerable adverse environmental effect. This Initial Study contains Project design features and mitigation to ensure that all impacts would be minimized to a less than significant level. There are no past, current or future projects in the vicinity that when

taken together would result in significant impacts. Therefore, there would be no cumulative impacts.

C) Less than Significant with Mitigation Incorporated

In general, impacts to human beings are associated with air quality, geology and soils, hydrology and water quality, hazards and hazardous materials, and noise impacts. As detailed in the preceding sections, the project would not result, either directly or indirectly, in adverse effects related to air quality. Implementation of Project design features, mitigation measures and standard best management practices would reduce impacts to a less-than-significant level. Accordingly, the project would not cause substantial adverse effects on human beings, either directly or indirectly. This impact would be less than significant.

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4 List of Preparers

This section lists those individuals who either prepared or participated in the preparation of this IS/MND.

Panorama Environmental, Inc. prepared this IS-MND under contract to the San Lorenzo Valley Water District. Persons involved in data gathering analysis, project management, and quality control are listed below.

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APPENDIX A

BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

MEMORANDUM

Date: September 9, 2022

To: Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006

Subject: San Lorenzo Valley Water District Blue Ridge Tank Replacement Project – Biological Resources Technical Memorandum

Project Overview

The San Lorenzo Valley Water District (SLVWD or District) is proposing to implement the Blue Ridge Tank Replacement Project (proposed project). SLVWD was established in 1941 and serves several communities within the 136 square-mile San Lorenzo River watershed. The proposed project is located in the community of Boulder Creek in Santa Cruz County. Regional access is provided to the project site via State Highway 9 and Kings Creek Road (Figure 1). The properties to the north, west and east of the proposed project are developed with single family residences along Blue Ridge Road and Short Street.

SLVWD would be replacing the existing 40,000-gallon redwood Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage, located in the community of Boulder Creek. The existing tank, installed in the mid 1980's, is currently undersized and leaking. The proposed project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. The existing water meter would remain in place and no upgrades would be installed. Site preparation would involve grading and removal of removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank, development of an access road, staging areas and temporary tank placement. The new 160,000-gallon tank would be craned into location. The utility systems would be connected to the new tank, after which the tank would be placed into service.

Environmental Setting

The proposed project is located on parcels owned by SLVWD in the Redwood Grove Subdivision, a rural mountain subdivision consisting of mostly quarter acre lots. The project site consists of a steeply sloped area consisting of north coast coniferous forest habitat. Tree cover is dominated by an overstory of second-growth coast redwood (*Sequoia sempervirens*) and Douglas

fir (*Pseudotsuga menziesii*), with other tree species in the shorter overstory including California live oak (*Quercus agrifolia*) and Pacific madrone (*Arbutus menziesii*). The under story is comprised of young saplings of overstory species as well as California hazelnut (*Corylus cornuta var. californica*), poison oak (*Toxicodendron diversilobum*), Pacific blackberry (*Rubus ursinus*), tan oak (*Notholithocarpus densiflorus*), coffeeberry (*Frangula californica*), and California bay (*Umbellularia californica*). Non-native species are also common in the understory, including English ivy (*Hedera helix*), big leaf periwinkle (*Vinca major*), French broom (*Genista monspessulana*), and thistles (*Carduus and Cirsium spp.*). The disturbed area immediately surrounding the existing tank is mostly lacking vegetation, with sparse non-native grasses growing in the clearing (Figure 2).

Soils are Maymen stony loam, 30 to 75 percent slopes (NRCS, 2022). These soils are residuum weathered from sandstone and shale and/or residuum weathered from granite. This soil map unit also contains minor components of Madonna, Ben Lomond, Sur, and Catelli soil series, and rock outcrops.

Special Status Species

The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) records were reviewed to identify rare and special-status species likely to occur within the vicinity of the proposed project site. A 5-mile radius around the project site was used for wildlife occurrences, and a 1-mile radius was used for plants and sensitive natural communities (CNDDB; Figures 3 and 4). A report was also generated through the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) to identify federally listed species and migratory birds that are known or likely to occur within the project vicinity (Attachment A). Special status species considered include those that are: 1) listed, proposed for listing or a candidate for listing under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA); 2) birds protected under the Migratory Bird Treaty Act (MBTA); 3) designated as Species of Special Concern (SSC) by CDFW; 4) on the CDFW Special Animals List; and/or 5) on the California Native Plant Society (CNPS) Rare Plant list.

The areas surrounding the proposed project provide suitable habitat for a number of special status plant and animal species that are known to occur in the region. A total of 40 special status species (7 plants and 33 animals) were evaluated for their potential to occur in the project area (Table 1). CNDDB reported 16 special status species and one sensitive natural community. The USFWS IPaC reported 16 federally listed species and 8 migratory bird species. Note that some of these federally listed species are also state species of concern and are reported in the CNDDB. No critical habitat or essential fish habitat occurs within or adjacent to the proposed project area.

Table 1 lists the special status species reported within the regional vicinity of the project area and the potential for them to occur at the project site.

Table 1 Special Status Species and the Potential to Occur

Species	Status	Habitat Requirements	Potential to Occur and Rationale
		Plants	
Arctostaphylos silvicola Bonny Doon manzanita	1B.2	Endemic to Santa Cruz County, known from only about 20 occurrences in the southern Santa Cruz Mountains. It grows in coniferous forest and chaparral in deep, sandy soils. Elevation range is 395 to 1970 feet.	None. Project site is within estimated range but contains marginal habitat; this species has also not been observed at the project location.
Arenaria paludicola Marsh sandwort	FE	Bogs and fens, freshwater marshes and swamps that are wet year-round, typically in sandy areas. Elevation range is 10 to 560 feet. Known from only two natural occurrences in Mendocino and San Luis Obispo counties.	None. No suitable habitat is present at the project site. This species is highly restricted in its distribution.
Chorizanthe pungens var. harwegiana Ben Lomond spineflower	FE	Lower montane coniferous forest (maritime ponderosa pine sandhills). Often found in openings in sandhill chaparral or the understory of ponderosa pine forests in areas of Zayante series sand deposits. Elevation range is 295 to 2000 feet.	None. No suitable habitat or soils are present at the project site.
Erysimum teretifolium Santa Cruz wallflower	FE	Chaparral and lower montane coniferous forests with inland marine sandy soils. Often found in openings in sandhill chaparral or the understory of ponderosa pine forests in areas of Zayante series sand deposits. Elevation range is 395 to 2000 feet.	None. No suitable habitat or soils are present at the project site.
Hesperocyparis abramsiana var. abramsiana Santa Cruz cypress	FT, SE 1B.2	Closed-cone pine forest, chaparral, and lower montane coniferous forest, typically granite or sandstone bedrock. Elevation range is 920 to 2625 feet.	None. Suitable habitat and soils are present, but this species was not observed at the project site.
Pedicularis dudleyi Dudley's lousewort	SR 1B.2	Maritime chaparral, cismontane woodlands, north coast coniferous forests, and valley and foothill grasslands. Specifically, they are often found in forests with sparse understory dominated by coast redwood, Douglas fir, and tan oak. Elevation range is 195 to 2955 feet.	Low. Suitable habitat is present at project site and CNDDB occurrence data overlaps project; however, this data is historic (1893) and unreliable. Closest known occurrence is over 5 miles away in Portola Redwoods State Park.

Piperia candida White-flowered rein orchid	1B.2	Broadleaf upland forests, lower montane and north coast coniferous forests, sometimes associated with serpentine soils. Generally found in boggy areas. Elevation range is 100 to 4300 feet.	Low. Suitable habitat is present. Closest CNDDB documented occurrence is near the town of Boulder Creek.
Invertebrates			
Bombus occidentalis Western bumble bee	NL*, S1	Nests occur primarily in underground cavities such as old squirrel or other animal nests and in open west-southwest slopes bordered by trees. Feeds on a variety of flowering plants. Ranges along western North America.	Low to none. Individuals could be found on flowering plants within the project site; however, CNDDB did not map exact locations in the vicinity and no nesting colonies have been reported.
Danaus plexippus Monarch butterfly	FC	Use a wide variety of habitats but rely on milkweed as a larval host plant. Adults migrate from Mexico to the California coast to overwinter. Prefers eucalyptus and Monterey cypress groves for colonies.	Low to none. Individuals could be found on flowering plants within the project site; however, CNDDB did not report occurrences within the project vicinity. Closest overwintering populations are along the coast.
Polyphylla barbata Mount Hermon June beetle	FE	Known only from the sandhills near Mount Hermon in Santa Cruz County, inhabits sand parklands and sand chaparral. Typically associated with ponderosa pine communities.	None. No suitable habitat is present at the project site.
Speyeria adiaste adiaste Unsilvered fritillary	NL*, S1	Openings in redwood and coniferous forests, oak woodlands, chaparral. Very local, restricted range from California County north to San Mateo County and east to Los Angeles and Kern counties.	Low to none. Individuals could be found on flowering plants within the project site; however, CNDDB did not have location data and observation date is 30 years old.
Trimerotropis infantilis Zayante bad-winged grasshopper	FE	Endemic to isolated sandstone deposits in the Santa Cruz Mountains (Zayante series). Associated with ponderosa pine-silverleaf manzanita communities.	None. No suitable habitat is present at the project site.
Fish			

Eucyclogobius newberryi Tidewater goby	FE	Shallow lagoons and lower stream reaches where the water is brackish (salinities usually <10 ppt) to fresh and slow-moving or fairly still but not stagnant.	None. No suitable habitat is present at the project site.
Oncorhynchus kisutch Coho salmon (central California coast ESU)	FE, SE	Ranges from Punta Gorda in Humboldt County, south to the San Lorenzo River in Santa Cruz County. Typically associated with low gradient reaches of tributary streams, which provide suitable spawning areas and good juvenile rearing habitat.	None. No suitable habitat is present at the project site.
Oncorhynchus mykiss Steelhead (central California coast DPS)	FT	In California, steelhead are the most widely distributed native trout and are found on the western slopes of the Sierra Nevada in waters draining to the Pacific Ocean.	None. No suitable habitat is present at the project site.
Reptiles			
Actinemys marmorata Western pond turtle	SSC	Waterbodies with some canopy cover, including ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams. Require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks.	None. No suitable habitat is present at the project site.
Thamnophis sirtalis tetrataenia San Francisco garter snake	FE	Freshwater marshes, ponds, canals, and slow-moving streams with emergent vegetation and frog populations, as well as connected grassy uplands with brushy cover.	None. No suitable habitat is present at the project site.
Amphibians			
Ambystoma californiense California tiger salamander	FT	Annual grasslands and grassy understory of hardwood habitats; need underground refuges (i.e., ground squirrel burrows) and seasonal water sources for breeding.	None. No suitable habitat is present at the project site.
Aneides niger Santa Cruz black salamander	SSC	Occurs in mixed deciduous woodland, coniferous forests, coastal grasslands. Found under rocks near streams, in talus, under damp logs, and other objects. Rarely encountered very far from water. Endemic to California with a limited range in Santa Cruz County, western Santa Clara County, and southern San Mateo County.	None. No suitable habitat is present at the project site.

Dicamptodon ensatus California giant salamander	SSC	Endemic to Northern California. Ranges up to 6,500 feet primarily in damp, coastal forests including Douglas fir and California coast redwood in both montane and valley-foothill riparian habitats.	Low. Suitable habitat is present, and closest observation was within 1 mile of the project site (found along Two Bar Rd).
Rana boylii Foothill yellow-legged frog	FPT, SSC	Streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	None. No suitable habitat is present at the project site.
Rana draytonii California red-legged frog	FT, SSC	Occurs in a broad range of freshwater and associated upland habitats throughout the Coast Range, Sierra Nevada and foothills, often found in perennial to seasonal drainages with dense vegetation.	None. No suitable habitat is present at the project site.
Mammals			
Antrozous pallidus Pallid bat	SSC	Grasslands, shrub-steppe, desert and forests such as oak or ponderosa forest, although sometimes in mixed conifer. Most commonly found in open, dry habitats with rocky areas for roosting.	Low. Associated habitat is present for possible foraging bats; however, no roosting sites are present in the project area.
Corynorhinus townsendii Townsend's big-eared bat	SSC	Occurs throughout California in a wide variety habitat, most commonly in mesic sites. Roosts in the open, hanging from walls and ceilings in caves, mines, or buildings. Identified in the regional vicinity in association with second growth redwood, Douglas fir, madrone, tan oak, live oak and manzanita.	Low. Associated habitat is present for possible foraging bats; however, no roosting sites are present in the project area.
Dipodomys venustus venustus Santa Cruz kangaroo rat	NL*, S1	Endemic to the Zayante Sandhills in Santa Cruz County. Inhabits silverleaf manzanita mixed chaparral on inland marine sand deposits.	None. No suitable habitat is present at the project site.
Erethizon dorsatum North American porcupine	NL*, S3	In California, most common in montane conifer and wet meadow habitats, and can be found in the Coast Ranges, Klamath Mountains, southern Cascades, Modoc Plateau, Sierra Nevada, and Transverse Ranges.	None. Coniferous forest is present; however, they are very unlikely to occur due to the low elevation, small size of project site, and the surrounding residential areas. Individuals have not been documented in the vicinity of the project.

Birds			
Baeolophus inornatus Oak titmouse	BCC	Along Pacific coast, occurs most commonly in oak woodland, including areas where oaks meet streamside trees or pines. Also found in well-wooded suburbs, and rarely in coniferous forest in mountains.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Brachyramphus marmoratus Marbled murrelet	FT, SE	Forages along coastline and offshore, nests in older stands of coastal redwood and Douglas fir forest within approximately 30 miles of the coast.	Low. Individuals have been observed in the vicinity, but only marginal nesting habitat is present at the project site.
Chamaea fasciata Wrentit	BCC	Within its range, inhabits most kinds of dense low growth. Most common in chaparral, thickets of poison oak, and coastal sage scrub. Also found in streamside thickets and in shrubby areas in suburbs and city parks.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Coccyzus americanus Yellow-billed cuckoo	FT	Migrating yellow-billed cuckoos are found in coastal scrub, second-growth forests and woodlands, hedgerows, forest edges, and in smaller riparian patches than those used for breeding. Wintering yellow-billed cuckoos generally use woody lowland vegetation near fresh water.	None. Marginal migrating habitat is present; however, no nesting habitat is present and no documented observations in the vicinity of the project.
Contopus cooperi Olive-sided flycatcher	BCC	Breeds mostly in late successional coniferous forests with open canopies at mid to high elevations, especially around the edges of open areas including bogs, ponds, burns and clearings.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Cypseloides niger Black swift	BCC	Forages widely over any kind of terrain but is still very local in its occurrence, probably limited to regions with suitable nesting sites. Nests on ledges or in crevices in steep cliffs, either along coast or near streams or waterfalls in mountains.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.

Empidonax traillii extimus Southwestern willow flycatcher	FE	Dense riparian vegetation near standing or running water, generally willow thickets. In winter, they often use shrubby clearings, pastures, and woodland edges often near water.	None. No suitable nesting habitat is present and no documented observations in the vicinity of the project.
Falco peregrinus anatum Peregrine falcon	FP	Open country, cliffs (mountains to coast); sometimes cities. Often near water, especially along coast, and migrants may fly far out to sea. Limited by availability of nest sites (often cliff ledges) and prey. Often moves into cities, nesting on building ledges and feeding on pigeons.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting or foraging habitat is present at the project site.
Pandion haliaetus Osprey	WL	Found near water, either fresh or salt, where large numbers of fish are present. May be most common around major coastal estuaries and salt marshes, but also regular around large lakes, reservoirs, rivers.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting or foraging habitat is present at the project site.
Picoides nuttallii Nuttall's woodpecker	BCC	Wooded canyons and foothills, river woods. In much of range almost always around oaks, especially where oaks meet other trees along rivers, also in pine-oak woods in foothills.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Selasphorus sasin Allen's hummingbird	BCC	Breeds in a variety of semi-open habitats, including open oak woods, streamside groves, well-wooded suburbs, city parks. Winters mostly in foothills and mountain forests in Mexico.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Spinus lawrencei Lawrence's goldfinch	BCC	Breeds in a variety of habitat including streamside trees, oak woodland, open pine woods, pinyon-juniper woods, and chaparral. Often found close to water in fairly dry climates.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.
Toxostoma redivivum California thrasher	BCC	Most common in chaparral, also occurs in streamside thickets and in suburban neighborhoods that have enough vegetation. Extends into edges of desert regions, and in chaparral in mountains up to about 6,000 feet.	Low to none. Individuals have been observed in the vicinity, but no suitable nesting habitat is present at the project site.

Vireo bellii pusillus Least bell's vireo	FE	Low-elevation, riparian habitats with a dense shrub understory that is near water. The ideal habitat contains both canopy and shrub layers. They prefer to nest in willows but will also use shrubs, trees, and vines. Most are found below 2,000 feet elevation.	None. No suitable nesting habitat is present and no documented observations in the vicinity of the project.

Notes:
ESA Listing statues: FE = Federally Endangered FT = Federally Threatened
CESA listing status: SE = State Endangered SR = State Rare
SSC = CDFW Species of Special Concern
BCC = USFWS Bird of Conservation Concern
FP = CDFW Fully Protected
WL = CDFW Watch List
NL* = Not Listed. Included because they are tracked by CNDDB and considered vulnerable or imperiled in the state of CA.
S1 = Critically Imperiled S3 = Vulnerable
CRPR (CNPS California Rare Plant Rank):
1B = Rare, Threatened, or Endangered in California and elsewhere
CRPR Threat Code Extension:
.2 = Fairly endangered in California (20-80% occurrences threatened)

Sensitive Natural Communities

CNDDB records were reviewed to identify sensitive natural communities that occur within a 1-mile radius around the proposed project site. The North Central Coast Drainage Sacramento Sucker/Roach River aquatic community was reported near the project site within the San Lorenzo River and Kings Creek drainages. This habitat is associated with native fish including steelhead, coho salmon, Pacific lamprey, Sacramento sucker, California roach, speckled dace, three spine stickleback, and sculpin species. No other CNDDB sensitive communities were located within one mile of the project vicinity. The USFWS National Wetlands Inventory (NWI) was reviewed to identify and sensitive riparian or wetland communities within the project vicinity (USFWS, 2018). NWI aquatic resources were identified within one mile of the project site along the San Lorenzo River, Kings Creek, Spring Creek, and Two Bar Creek, all classified as riverine. None of these aquatic resources are closer than ¼ mile to the project site and would not be impacted by project actions. There are no mapped wetland resources within the project site.

Effects to Special Status Species

Special Status Plants

Two special status plant species have potential to occur within the proposed project area: Dudley's lousewort (*Pedicularis dudleyi*) and white-flowered rein orchid (*Piperia candida*). Dudley's lousewort is listed as rare under the CESA. White-flowered rein orchid is considered a special status species due to its rare occurrence, but it is not state or federally listed. Impacts to non-listed species would only be considered significant under CEQA if those impacts were to result in an adverse effect (i.e., jeopardize the long-term viability) of a local or regional population.

Dudley's lousewort requires closed-canopy forests with a low-density of understory plants and bare mineral soil with minimal leaf litter. It is often found in areas with infrequent natural or human disturbance, such as wildfires or light foot traffic. The only areas of the project site with sparse vegetation and litter are immediately adjacent to the existing tank. The only source of information for the CNDDB occurrence data that overlaps the project site is from an 1893 collection. The closest known occurrence of Dudley's lousewort is in Portola Redwoods State Park, over 5 miles away from the project location.

White-flowered rein orchid has been documented by CNDDB within one mile of the project, although its exact location is unknown and the information is based on collections from 1940, 1956, and 1966. CDFW indicates that fieldwork is needed to verify these populations. Generally found in boggy areas, this species is also known to inhabit drier areas within coniferous and mixed forests within 30 miles of the coast.

While it is possible that individuals of either of these species could be present within the project site and potentially impacted by ground disturbance, it is unlikely they represent a significant portion of the regional or local population and impacts would not affect long-term viability. Implementation of Avoidance/Minimization Measure BIO-1 in areas of potential habitat that will be cleared and grubbed for tank replacement would ensure impacts would be less than significant.

Special Status Wildlife

Several special status animal species have potential to occur within the project work areas (Table 1). Of these, one is the federally threatened and state endangered marbled murrelet (*Brachyramphus marmoratus*) and one is the federal candidate Monarch butterfly (*Danaus plexippus*). Other species that could occur include two other invertebrates (western bumble bee [*Bombus occidentalis*] and unsilvered fritillary [*Speyeria adiaste adiaste*]), one amphibian (California giant salamander [*Dicamptodon ensatus*]), and two mammals (pallid bat [*Antrozous pallidus*] and Townsend's big-eared bat [*Corynorhinus townsendii*]). Ten species of migratory birds have the potential to occur.

Marbled Murrelet

Marbled murrelet is not expected to nest within the project area due to a predominance of second growth redwood forest and a lack of suitable old-growth breeding/nesting habitat. However, vegetation removed from the project site would include the removal of large trees, including up to 9 redwood trees and 7 Douglas fir trees, ranging in size from 13 to 45 inches in diameter and over 100 feet tall. Preconstruction nesting surveys (Avoidance/Minimization Measures BIO-2) would be needed to verify there are no nesting birds present prior to tree removal to ensure impacts would be less than significant.

Monarch Butterfly

Potential impacts to Monarch butterfly include injury or mortality if individuals or colonies are present within the project area during construction. With implementation of Avoidance/Minimization Measure BIO-3, impacts would be mitigated to a less than significant level.

Other Special Status Invertebrates

Two unlisted invertebrates, the western bumble bee and the unsilvered fritillary, have the potential to occur within the project area. While these species do not have legal status under the ESA or CESA, they are tracked by CNDDB and the western bumble bee is considered S1 (critically imperiled) by CDFW and the unsilvered fritillary is S3 (vulnerable). Implementation of Avoidance/Minimization Measure BIO-3 would ensure that impacts are negligible for these species if they were to occur at this location.

California Giant Salamander

California giant salamander may occur in leaf litter or under rocks in moist upland habitat and has a low potential to occur on paved roadways during dispersal. This species could be injured or killed by construction activity within natural areas, especially during clearing vegetation. Implementation of Avoidance/Minimization Measure BIO-4 would ensure impacts are less than significant.

Special Status Bats

Pallid bat and Townsend's big-eared bat have a low potential to occur on site for foraging. No known or likely roosting habitat is present, although some of the larger trees could have cavities that may provide roosting sites. Project work would take place during daylight hours; however, impacts to individuals may occur through direct mortality if bats are roosting in trees when removed. Implementation of Avoidance/Minimization Measure BIO-5 would ensure impacts to special status bats are less than significant.

Migratory Birds

Although no suitable nesting habitat has been identified for any MBTA species, some species could occur within proposed work areas during foraging or migration or could be utilizing marginal habitat for nesting. Construction that occurs between February 1 and August 31, the common breeding season for most migratory birds, could cause direct impacts to breeding activities if nests occur within areas of vegetation removal or where equipment would be operated. Indirect impacts, such as elevated noise levels in the proposed project vicinity, could also affect nests. Demolition of the existing tank, construction of the larger replacement tank, vegetation clearing for an access road and tree removal could result in the destruction or abandonment of eggs or nests. Nest abandonment and loss of nestlings would be considered a significant impact under CEQA but could be mitigated to a less than significant level through implementation of Avoidance/Minimization Measure BIO-2.

Special Status Aquatic Species

No listed or special status fish or aquatic species are likely to occur within the proposed project area and, therefore, proposed project activities would not have impacts on listed or special status fish or aquatic species.

Invasive Species

Proposed project construction involves vegetation removal and grading, tree removal, demolition of the existing tank structure, and construction of the new replacement tank. The use of construction equipment and grading could result in the introduction and/or spread of invasive species. Standard measures to prevent and/or minimize the spread of invasive species should be implemented in accordance with Avoidance/Minimization Measure BIO-6 to mitigate impacts to a less than significant level.

Recommended Avoidance/Minimization Measures

BIO-1 Threatened, Endangered, Rare and Native Plants

A qualified biologist shall conduct a survey during the appropriate blooming period for all special-status plants that have the potential to occur within the project site prior to the start of construction. Surveys should be conducted following the Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities, prepared by CDFW, dated March 20, 2018. If special status plants are found, the project will be redesigned to avoid impacts to special status plants to the greatest extent feasible. If impacts to special-status plants cannot be avoided completely during construction, compensatory mitigation and on-site restoration will be implemented and the plan provided for CDFW review and approval. A qualified biologist in this context should be knowledgeable about plant taxonomy, familiar with plants of the region, and have experience conducting botanical field surveys according to established protocols. If take of any species listed under

CESA cannot be avoided either during project activities, a CESA Incidental Take Permit is warranted (pursuant to Fish and Game Code Section 2080 et seq.).

BIO-2 Preconstruction Nesting Bird Surveys and Avoidance

For all construction-related activities that take place within the nesting season (February 1 to August 31), including brushing, grading, and tree removal, a preconstruction nesting bird survey shall be conducted by a qualified biologist no more than two weeks prior to project initiation if required. The survey shall include a 500-foot buffer around the project site except where it is prohibited by private ownership. Surveys shall be conducted during the time of day when birds are active and shall be of sufficient duration to reliably conclude presence/absence of nesting birds and raptors on site and within the designated vicinity.

If no nests are found, no further action is required. If active nests are found, an avoidance buffer will be established by the qualified biologist. The size of the buffer shall be based upon the species, presence of screening vegetation, the proposed work activity, ambient levels of human activity, and existing disturbances associated with land uses outside of the site to ensure the nesting activity is not disrupted. The avoidance buffer shall be demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary until the adults and young are no longer reliant on the nest site. The qualified biologist shall monitor construction activities that occur near active nest areas to ensure that no inadvertent adverse impacts affect the nest.

BIO-3 Special Status Invertebrate Surveys and Avoidance

A qualified biologist(s) shall conduct a pre-construction survey within 14 days of the onset of work. The pre-construction survey effort shall be conducted for a minimum of one hour. The purpose of the survey is to identify and avoid individuals and colonies of Monarch butterfly, western bumble bee, or unsilvered fritillary. If construction begins between March 1st and November 1st, the ground shall also be searched during the survey for active bumble bee colonies. No capture or handling of bumble bees shall be conducted, and western bumble bee shall be avoided. Foraging bees shall be allowed to leave work areas undisturbed, and bee colonies shall be avoided during the active season from March 1 through November 1.

BIO-4 Preconstruction Amphibian Surveys and Avoidance

Immediately prior to initial ground disturbance and vegetation removal, a qualified biologist shall conduct a preconstruction clearance survey of the site for special status amphibians. If California giant salamander is observed on site, they shall be relocated to suitable habitat in the immediate vicinity by the qualified biologist. The following additional measures shall be implemented to reduce potential impacts:

- Vegetation disturbance shall be the minimum necessary to achieve the goals of the project.

- All trash shall be removed from the site daily and disposed of properly to avoid attracting potential predators to the site.
- No pets shall be permitted on site during project activities.
- All vehicles shall be in good working condition and free of leaks. All leaks shall be contained and cleaned up immediately to reduce the potential of soil/vegetation contamination.
- All hole and trenches shall be covered at the end of the day or ramped to avoid entrapment.

BIO-5 Special Status Bats Preconstruction Surveys and Avoidance

A preconstruction bat emergence survey shall be conducted no more than 14 days prior to the start of construction by a qualified biologist to determine if any trees designated for removal functions as a maternity or temporary roost. Emergence times may vary dependent on species, weather conditions, and time of year and should occur when conditions are favorable (higher temperatures, high humidity, low wind, no precipitation), and timed to capture bat emergence (typically occurring between sunset and midnight). high humidity, low wind, no precipitation), and timed to capture bat emergence (typically occurring between sunset and midnight).

Emergence surveys shall be conducted during the maternity season for bats (May 1 through August 31). During September, bats begin to enter their hibernaculum stage in preparation for colder months and may not emerge from their roosts, and emergence surveys would not be conclusive. If bats are identified roosting in trees to be removed, eviction measures can be implemented for non-maternity roosts. Install exclusion netting (specific for bats to prevent reentry) or other suitable exclusion methods (as determined by a qualified biologist) at roost openings to allow bats to exit but prevent their re-entry into the roost. Nets or exclusion devices would have to be regularly checked to prevent wildlife entrapment. Exclusion devices should be left in place and monitored daily for seven days to confirm the exclusion is successful prior to tree removal. Tree removal should be monitored by a qualified bat biologist in case any further individual relocation is necessary. Removal of trees that have an identified maternity roost shall be scheduled outside the maternity season and shall follow the procedures outlined above.

BIO-6 Invasive Species Control

The following measures shall be implemented to prevent the spread of invasive species:

- Limit disturbance areas during construction to the minimum required to perform work and limit ingress and egress to defined routes.
- Implement vehicle and equipment cleaning and inspection procedures and closely monitor the types of materials brought onto the site to minimize the potential for weed introduction.
- Use of certified weed free mulch, straw wattles, hay bales and seed mixes.

Any revegetation will be done with certified weed-free native species sources.

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Figure 1 Project Location

Figure 2 Vegetation Communities

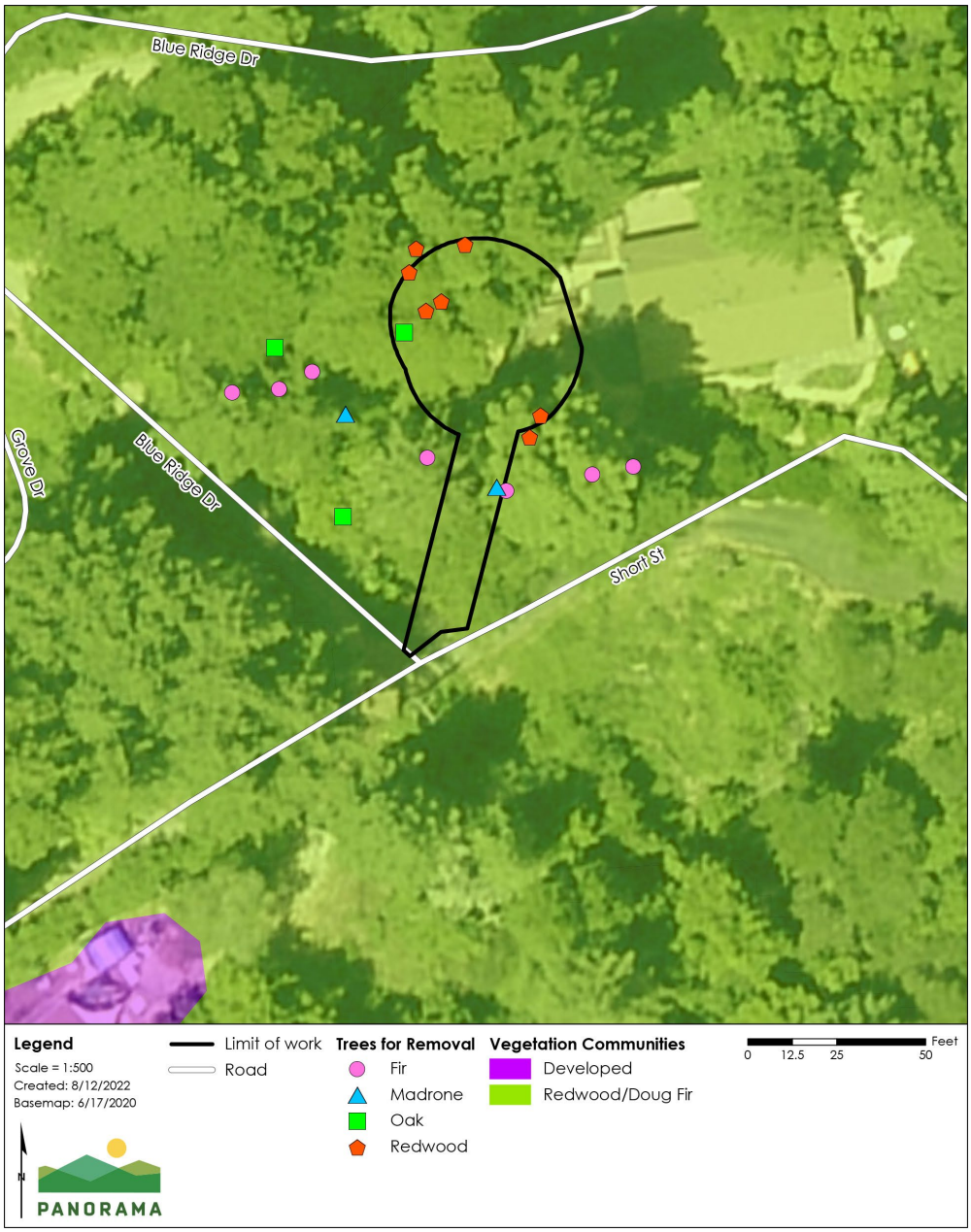


Figure 3 CNDDB Plant Occurrences

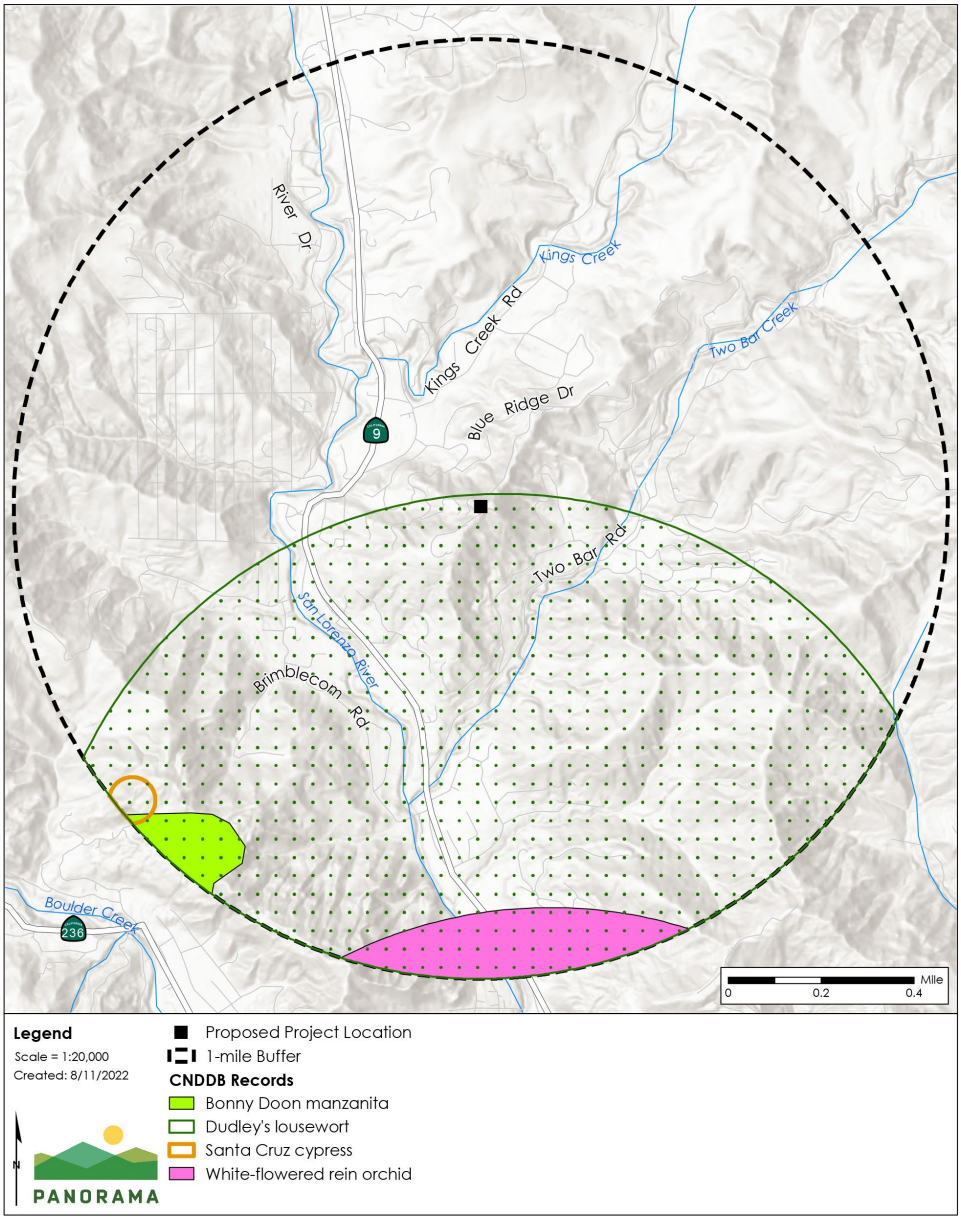
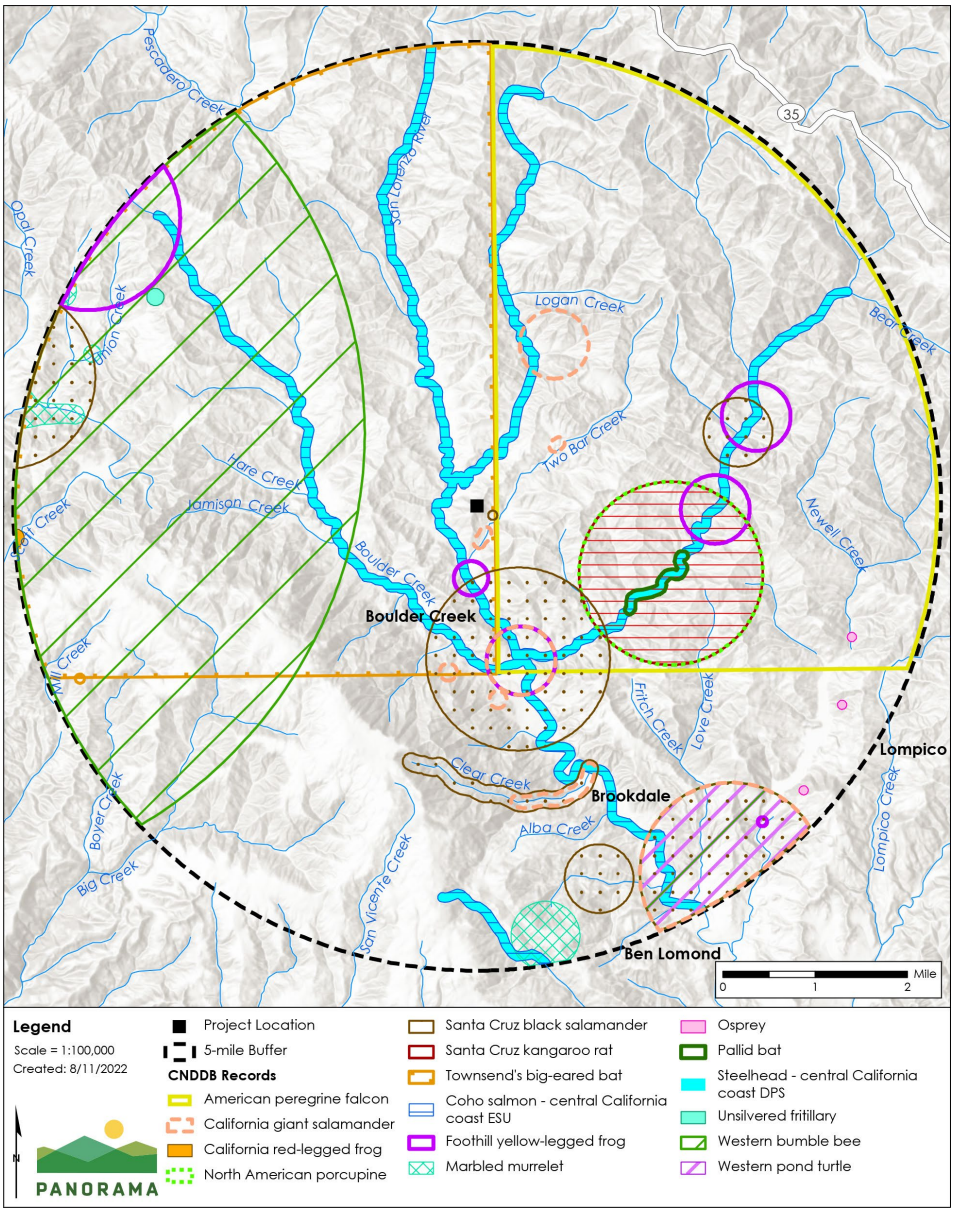


Figure 4 CNDDB Wildlife Occurrences



Attachment A: 2022 USFWS IPaC Report for Survey Area

IPaC U.S. Fish & Wildlife Service

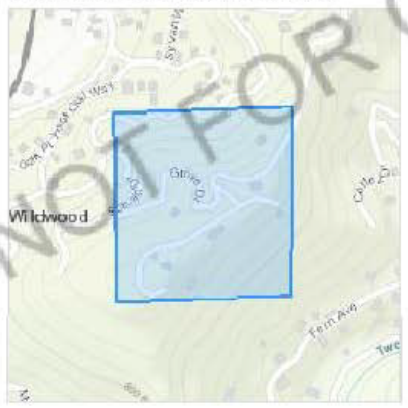
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area.
However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Santa Cruz County, California



Local office

Ventura Fish And Wildlife Office

(805) 644-1766
(805) 644-3958
FW8VenturaSection7@FWS.Gov

2493 Portola Road, Suite B
Ventura, CA 93003-7726

https://www.fws.gov/Ventura

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. **Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).**

2. 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.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Least Bell's Vireo Vireo bellii pusillus Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5945	**Endangered**
Marbled Murrelet Brachyramphus marmoratus There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4467	Threatened
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo Coccyzus americanus There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
San Francisco Garter Snake Thamnophis sirtalis tetrataenia Wherever found **No critical habitat has been designated for this species.** https://ecos.fws.gov/ecp/species/5956	**Endangered**

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — **Threatened**
Wherever found
There is final critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — **Threatened**
There is final critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Foothill Yellow-legged Frog Rana boylii — Proposed Threatened
No critical habitat has been designated for this species.

Fishes

NAME	STATUS
Tidewater Goby Eucyclogobius newberry Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Mount Hermon June Beetle Polyphylla barbata Wherever found **No critical habitat has been designated for this species.** **https://ecos.fws.gov/ecp/species/3982**	**Endangered**
Zayante Band-winged Grasshopper Trimerotropis infantilis Wherever found **There is final critical habitat for this species. The location of the critical habitat is not available.** **https://ecos.fws.gov/ecp/species/1036**	**Endangered**

Flowering Plants

NAME	STATUS
Ben Lomond Spineflower Chorizanthe pungens var. hartwegiana Wherever found **No critical habitat has been designated for this species.** https://ecos.fws.gov/ecp/species/7498	**Endangered**
Ben Lomond Wallflower Erysimum teretifolium Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7429	**Endangered**
Marsh Sandwort Arenaria paludicola Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered

Conifers and Cycads

NAME	STATUS
Santa Cruz Cypress Cupressus abramsiana Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1678	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. **The Migratory Birds Treaty Act of 1918.**
2. **The Bald and Golden Eagle Protection Act of 1940.**

Additional information can be found using the following links:

- **Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species**
- **Measures for avoiding and minimizing impacts to birds** https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be **present and breeding in your project area.**

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS

	ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin **This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.** **https://ecos.fws.gov/ecp/species/9637**	**Breeds Feb 1 to Jul 15**
Black Swift Cypseloides niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Lawrence's Goldfinch Carduelis lawrencei This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. **https://ecos.fws.gov/ecp/species/9656**	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher Contopus cooperi **This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.** **https://ecos.fws.gov/ecp/species/3914**	**Breeds May 20 to Aug 31**
Wrentit Chamaea fasciata **This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.**	**Breeds Mar 15 to Aug 10**

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4- week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

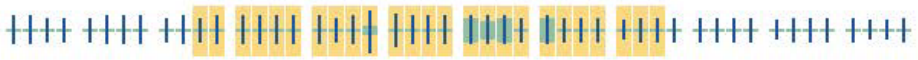
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

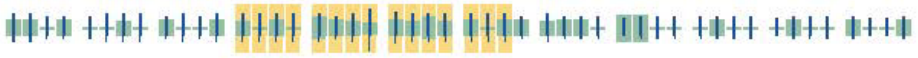
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

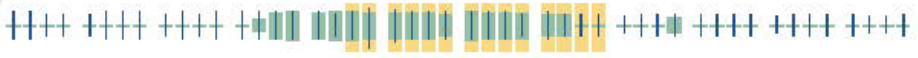


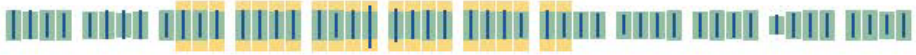
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Olive-sided Flycatcher BCC Rangewide (CON) (This is a **Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)**





Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. **"BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their** range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. **For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.**

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

THERE ARE NO KNOWN COASTAL BARRIERS AT THIS LOCATION.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted **on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation**

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be

subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX B

CULTURAL RESOURCES REVIEW MEMORANDUM

M E M O R A N D U M **B a s i n R e s e a r c h A s s o c i a t e s**

Cultural Resources Review – IS/MND for the Blue Ridge Tank Replacement Project, San Lorenzo Valley Water District, Santa Cruz County

TO:	Jessica Koteen, Senior Manager, Panorama Environmental
RE:	Cultural Resources Review – IS/MND for the Blue Ridge Tank Replacement Project, San Lorenzo Valley Water District, Santa Cruz County
FROM:	Colin I. Busby, Project Principal (510 430-8441 ext 101)
DATE:	16 September, 2022 (Revised)

INTRODUCTION

The San Lorenzo Valley Water District (SLVWD) is proposing to replace the existing 40,000 gallon Blue Ridge water tank which is leaking and undersized for current service. The proposed project would involve demolition and removal of the existing tank, electrical panel, and utility connections.

PROJECT LOCATION AND DESCRIPTION

The project site is located south and east of Blue Ridge Drive and north of Short Street in a rural residential neighborhood in the unincorporated community of Boulder Creek, Santa Cruz County. The Blue Ridge Tank site is located on two contiguous parcels: (1) APN 084-261-13 (no address, 0.095 acres) and APN 084-261-14 (1025 Short Street, 0.241 acres) (USGS Big Basin, CA 1992 T 9S, R 2W, Section 19) [Figs. 1-2].

The SLVWD is proposing to replace the existing 40,000 gallon Blue Ridge water tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage. The existing tank, installed in the mid-1980s, is currently undersized and leaking. The proposed project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. The existing water meter would remain in place and no upgrades would be installed.

Site preparation would involve grading and removal of removal of 19 mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank, development of an access road, staging areas and temporary tank placement. Heavy equipment use and earth-moving activities are assumed to occur for approximately 3 month based on the preliminary information provided by SLVWD. The new 160,000-gallon tank would be craned into location. The utility systems would be connected to the new tank, after which the tank would be placed into service.

RESEARCH PROTOCOLS

The project site is included within a prehistoric and historic site record and literature search completed in 2021 by the CHRIS/NWIC (File No. 21-0487 by Murazzo dated 10/18/2021). The literature review also included a review of lists of various state and/or federal historically or architecturally significant structures, landmarks, or points of interest in/adjacent including:

> *National Register of Historic Places* listings for Santa Cruz County, California (USNPS 2021a-c);

OHP Built Environment Resources Directory for Santa Cruz County [BERD] (CAL/OHP 2022a);

Listed California Historical Resources for Santa Clara County (CAL/OHP 2022b) with the most recent updates of the National Register of Historic Places; California Historical Landmarks; and, California Points of Historical Interest as well as other evaluations of properties reviewed by the State of California Office of Historic Preservation;

California History Plan (CAL/OHP 1973);

California Inventory of Historic Resources (CAL/OHP 1976);

Five Views: An Ethnic Sites Survey for California (CAL/OHP 1988); and,

Archaeological Determinations of Eligibility for Santa Cruz County [ADOE] (CAL/OHP 2021).

The Native American Heritage Commission (NAHC) was contacted for a review of the Sacred Lands Files on July 22, 2022 (Busby 2022a). The review was negative (Campagne 2022). The seven Native American tribes/individuals recommended for further outreach were contacted by the SLVWD for AB52 consultation on August 31, 2022. No responses were received as of September 14, 2022 (see Attachments). Further consultation outreach and results will be provided in the project's environmental documentation.

No other agencies, departments or local historical societies aside from the SLVWD were contacted regarding potential archaeological features/sites, landmarks, potential historic sites or structures. The SLVWD provided information on the existing water tank location within the project site.

A field inventory was not undertaken due to the lack of recorded prehistoric and built environment resources in the project area and the presence of the existing water tank and associated improvement.

FINDINGS

The project site is currently the location of the SLVWD 40,000 gallon Blue Ridge water tank, electrical and utility connections and other infrastructure support.

The CHRIS/NWIC records review found no record of any previous project site specific cultural resource studies and did not report the presence of any prehistoric and/or historic era archaeological sites within or immediately adjacent to the project site.

No Native American villages, traditional use areas or contemporary use areas or other features of significance have been identified in or adjacent to the project site.

No Hispanic era features have been identified in or adjacent to the project site.

No American Period archaeological sites have been recorded, reported or identified in or adjacent to the project site.

No listed, known significant and/or potentially significant National Register of Historic Places, California Register of Historical Resources or local cultural resources/historic properties, landmarks, points of interest, etc. have been identified in or adjacent to the project site.

Records available at the SLVWD indicate that the existing 40,000 gallon tank was installed in the mid-1980s and is less than 45 year in age.

The available information reviewed for the project site suggests a low to very low moderate potential for the presence of subsurface prehistoric and/or historic deposits either within or adjacent to the project site.

MANAGEMENT RECOMMENDATIONS

It is the considered opinion of BASIN, based on a review of pertinent records, maps and other documents and a field inventory, that the proposed project can proceed as planned as it will not affect any recorded historic properties or unique archaeological resources. No subsurface testing for buried archaeological resources within the project construction prism is necessary. In addition, archaeological monitoring during ground disturbing construction does not appear warranted due to the perceived low sensitivity for exposing significant subsurface cultural resources.

The following general protection recommendations apply to the SLVWD tank replacement project:

CUL-1 – Worker Awareness Training (WAT)

For all activities with the potential for ground disturbance (excluding vegetation and tree trimming, and hand pulling smaller vegetation) all contractors and workers will receive training prepared by and/or conducted by a Professional Archaeologist (who meets the U.S. Secretary of Interior's professional standards set forth in 48 CFR Parts 44738-44739 and Appendix A to 36 CFR 61) prior to beginning work. The training will address the potential for exposing subsurface resources, recognizing basic signs of a potential resource, understanding required procedures if a potential resource is exposed, including protecting the resource and reporting the resource to a Professional Archaeologist, and, understanding all procedures required under Health and Safety Code § 7050.5 and PRC §§ 5097.94, 5097.98, and 5097.99 for the discovery of human remains.

CUL-2 - Unanticipated Discovery

In the event that a previously unidentified cultural resource is discovered during implementation of an activity, all work within a minimum of 50 feet of the discovery will stop. The boundaries around the resource with a suitable buffer will be temporarily marked with visible protective fencing or visible flagging. A Professional Archaeologist will review the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, the resource will be documented on California State Department of Parks and Recreation cultural resource record forms (DPR 523) and a Primary Resources Number obtained from the California Historical Resources Information System, Northwest Information Center (CHRIS/NWIC). In addition, the resource will be located, identified, and recorded in the SLVWD cultural resources GIS database. No further effort will be required.

Data regarding archaeological and Tribal Cultural Resources will be kept confidential in accordance with state law, but may be shared with Native American tribes identified by the Native American Heritage Commission (NAHC) to be traditionally and culturally affiliated with the geographic area of the project site, if archaeological in nature and if the tribe has requested that such information be shared with them.

If the project proponent wishes to continue work in the discovery area and no additional finds are anticipated, the Professional Archaeologist will review the proposed work activity and develop appropriate measures to ensure avoidance of impacts to the resource. Measures may include monitoring by a Professional Archaeologist of any potential subsurface impacts; use of small hand or powered hand tools only; no parking, turning or entry of vehicles of any kind within the discovery area; no piling or burning slash within the discovery area; and, any trees or vegetation removed within 100 feet of the discovery will be fallen away and supervised by the RPF on site.

Alternatively, the Professional Archaeologist will evaluate the resource and determine if it is:

- Eligible for the California Register of Historical Resources (CRHR) (and a historical resource for purposes of CEQA),
- A unique archaeological resource as defined by CEQA, and/or,
- A potential Tribal Cultural Resource (all archaeological resources could be a Tribal Cultural Resource).

If the resource is determined to be neither a unique archaeological resource; an historical resource; or, a potential Tribal Cultural Resource, work may commence in the area without further management. After work is completed, all cultural resource delineators (e.g., flags or fencing) will be removed in order to avoid potential vandalism, unauthorized excavation(s), etc.

If the resource meets the criteria for either a historical resource, a unique archaeological resource, and/or may be a potential Tribal Cultural Resource, work will remain halted in the buffered area around the resource. If the Professional Archaeologist determines that discovery may be a Tribal Cultural Resource, he or she will, within 48 hours of the discovery, notify and consult with each Native American tribe identified by the NAHC to be traditionally and culturally affiliated with the geographic area of the discovery. Tribal members will be invited to consult on the discovery and permitted to inspect the resource to determine if it constitutes a Tribal Cultural Resource. If no responses are received within 48 hours of the requests to the tribes, the Professional Archaeologist will continue the archaeological review.

If the Professional Archaeologist determines that the resource is eligible for the CRHR work will only be allowed within 100 feet of the discovery if it can be performed without affecting the resource.

REFERENCES

Busby, Colin I. (Basin Research Associates, San Leandro)

2022 Request to Native American Heritage Commission for Review of Sacred Lands File & Native American Contacts List, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Santa Cruz County. Dated July 22, 2022. On file, Basin Research Associates, San Leandro.

California (State of), Department of Parks and Recreation, Office of Historic Preservation **(CAL/OHP)**

1973 The California History Plan. Volume One - Comprehensive Preservation Program. Volume Two - Inventory of Historic Features.

1976 California Inventory of Historic Resources.

2021 *Archeological Determinations of Eligibility* for Santa Cruz County (reviewed by CHRIS/NWIC staff as part of records search File No. 21-0487).

2022a *OHP [*Office of Historic Preservation] *Built Environment Resources Directory* (BERD) for Santa Cruz County. Web, accessed 8/31/2022.

2022b *Listed California Historical Resources* – Santa Cruz County [including National Register, State Landmark, California Register, and Point of Interest]. http://ohp.parks.ca.gov/ListedResources/?view=county&criteria=27 Web, accessed 8/31/2022.

Campagne, Cody (Cultural Resources Analyst)

2022 Response - Review of Sacred Lands File & Native American Contacts List, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Santa Cruz County. Dated August 29, 2022. On file, Basin Research Associates, San Leandro.

Murazzo, Justin (CHRIS/NWIC Staff Researcher)

2021 Records Search Results. Regarding: Ben Lomond 2, County of Santa Cruz]. CHRIS/NWIC File No. 21-0487. Dated October 18, 2021. Copy on file, Basin Research Associates, San Leandro.

United States Department of the Interior, National Park Service **(USNPS)**

2021a-c National Register of Historic Places San Mateo County, California listings: spreadsheet of NRHP List, Multiple Property Cover Documents, Spreadsheet of NHLs [National Historic Landmarks] (current to 6/17//2021). http://www.nps.gov./nr/research//data_downloads. Web, accessed 8/31/2022.

United States Geological Survey **(USGS)**

1997 Big Basin, CA. [Quadrangle]. Topographic map, 7.5' minute series. United States Geological Survey, Menlo Park.

1997 Castle Rock Ridge, CA. [Quadrangle]. Topographic map, 7.5' minute series. United States Geological Survey, Menlo Park.

1997 Davenport, CA. [Quadrangle]. Topographic map, 7.5' minute series. United States Geological Survey, Menlo Park.

1997 Felton, CA. [Quadrangle]. Topographic map, 7.5' minute series. United States Geological Survey, Menlo Park.

ATTACHMENTS

FIGURES

FIGURE 1	General Project Location (ESRI World Street Map)
FIGURE 2	Blue Ridge Tank Location – T9S R2W Section 18 (USGS Big Basin, CA 1997; Castle Rock Ridge, CA 1997; Davenport, CA 1997; Felton, CA 1991)

NATIVE AMERICAN OUTREACH

LETTER	Request to Native American Heritage Commission
LETTER	Native American Heritage Commission Responses
LETTERS	Correspondence Log and Requests to Native Americans Identified by Native American Heritage Commission

Figure 1: General Project Location (ESRI World Street Map)

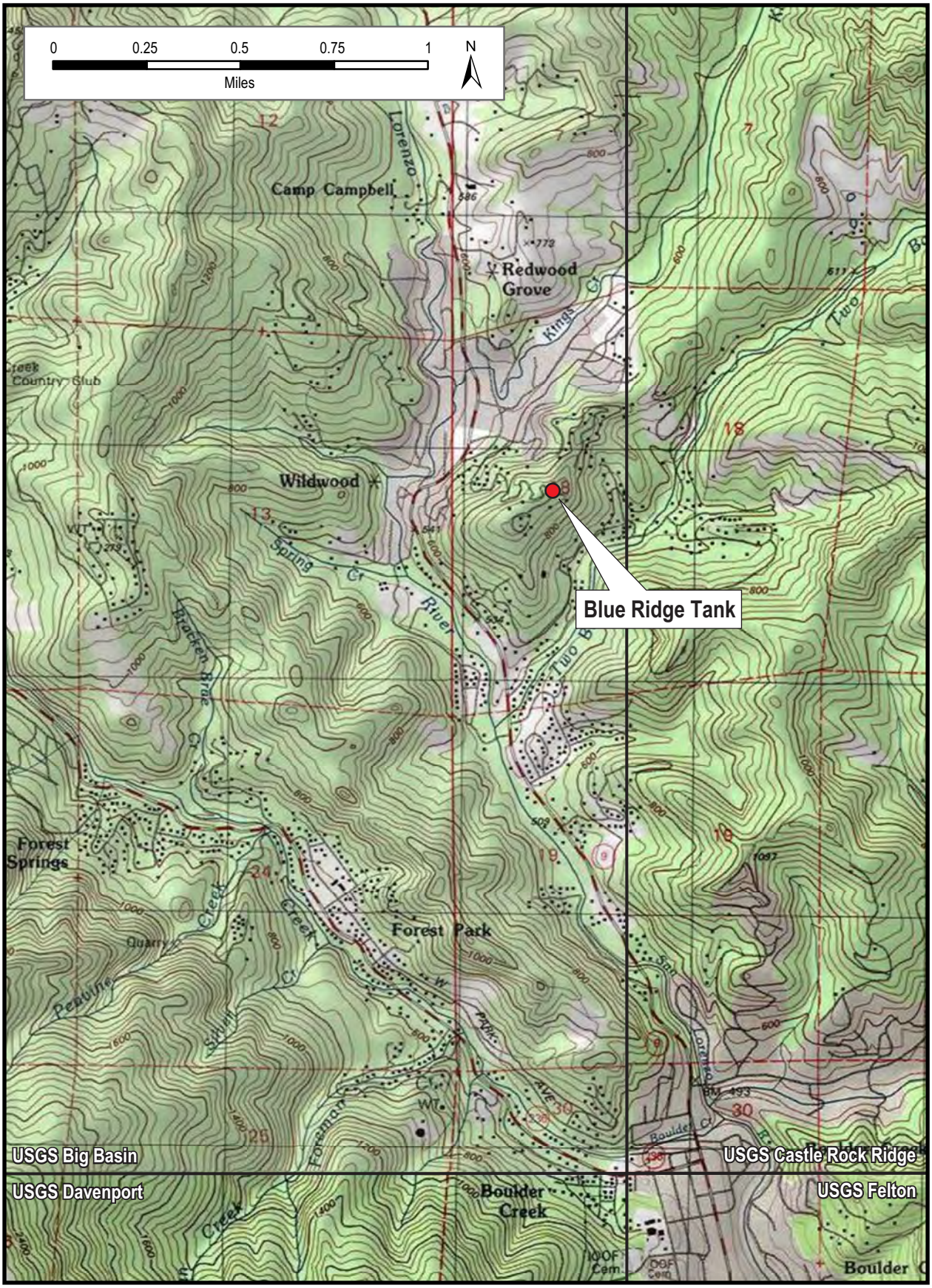


Figure 2: Blue Ridge Tank Location - T9S R2W Section 18 (USGS Big Basin, CA 1997; Castle Rock Ridge, CA 1997; Davenport, CA 1997; Felton, CA 1991)

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

1556 Harbor Boulevard, STE 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: San Lorenzo Valley Water District Blue Ridge Tank Replacement

County: Santa Cruz County

USGS Quadrangle Name: USGS Castle Rock Ridge, CA 1997

Address: Community of Boulder Creek, Blue Ridge Drive

Township: 9 South **Range**:2 West, Section 18

Company/Firm/Agency: Basin Research Associates

Contact Person: Colin I. Busby, PhD, RPA

Street Address: 1933 Davis Street, STE 214

City/Zip: San Leandro, CA 94577

Phone: (510) 430-8441 x101

Email: Please send response to basinres1@gmail.com

Project Description:

The proposed project is located in a rural residential neighborhood in the unincorporated community of Boulder Creek in Santa Cruz County, California. The proposed project is located south and east of Blue Ridge Drive and north of Short Street.

The San Lorenzo Valley Water District plans to replace the existing redwood 40,000 gallon Blue Ridge Tank with a new 160,000 gallon tank (proposed project) located in the community of Boulder Creek.

The existing tank is currently undersized and leaking. The proposed project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. The existing propane tank, water meter, and storage area would remain in place and no upgrades would be installed.

Site preparation would involve grading and removal of up to 20 trees (including redwoods, oaks and fir) to accommodate the larger replacement tank. The new 160,000-gallon tank would be craned into location. The utility and electrical systems would be connected to the new tank, after which the tank would be placed into service.

The Blue Ridge Tank site is located on APN 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively. The project site has a land use designation of Rural Residential (RR) and zoning designation of Single-Family Residential, 15,000 square feet to one-acre lot size (R-1-15). The parcels adjacent to the project site are also designated RR and zoned R-1-15.

Date: 07/22/2022

Figure 1: Blue Ridge Tank - T9S R2W Section 18 (ESRI World Street Map)

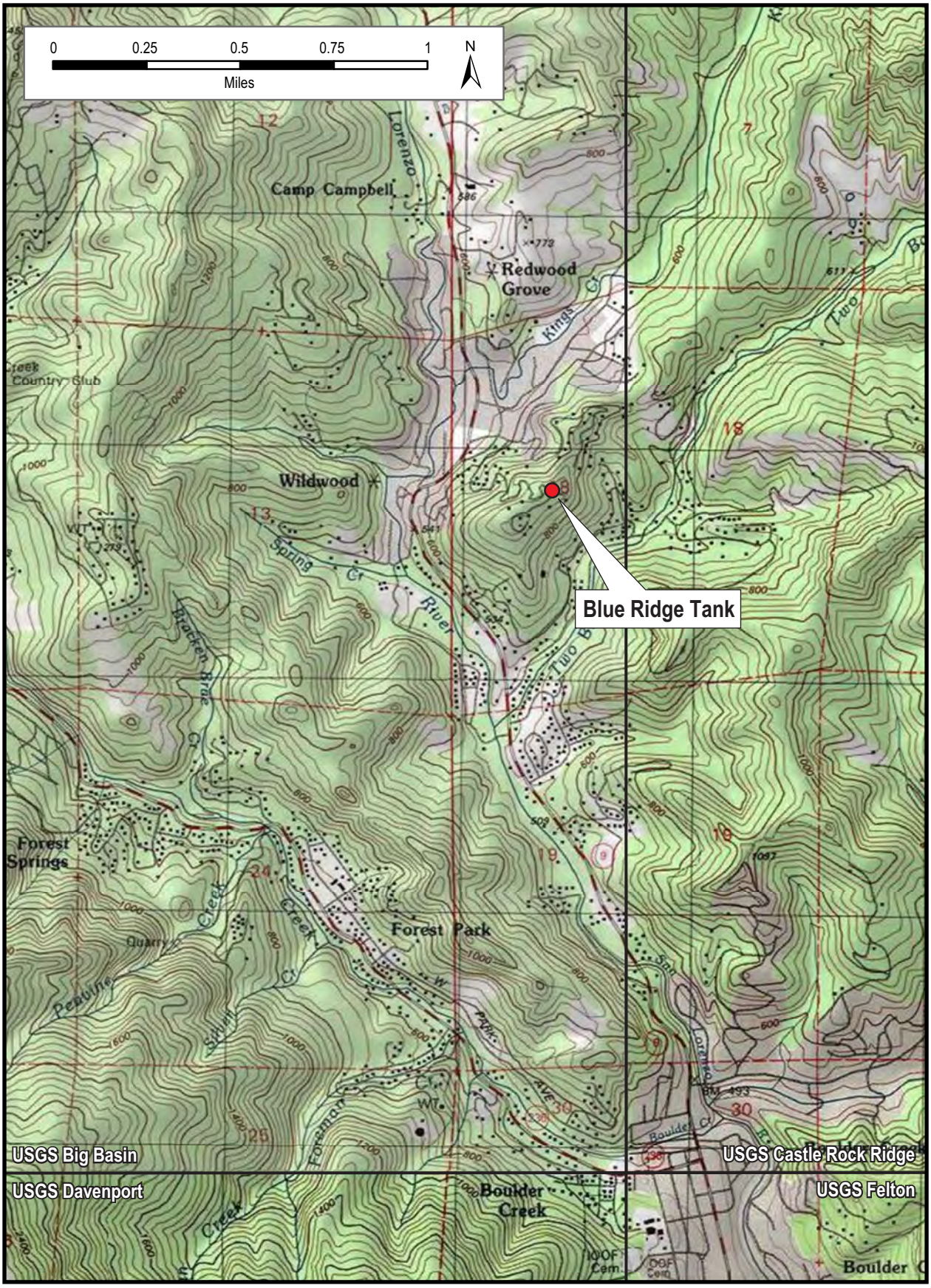


Figure 1: Blue Ridge Tank - T9S R2W Section 18 (USGS Big Basin, CA 1997; Castle Rock Ridge, CA 1997; Davenport, CA 1997; Felton, CA 1991)

San Lorenzo Valley Water District - Blue Ridge Tank Replacement Project
AB 52 Correspondence

Contact List	Letter Transmittal Date	Response Date	Contact Log
Amah Mutsun Tribal Band Valentin Lopez, Chairperson P.O. Box 5272 Galt, CA, 95632 Phone: (916) 743 - 5833 vlopez@amahmutsun.org	August 31, 2022		Mailed by certified mail & via email on 8/31/22
Amah Mutsun Tribal Band of Mission San Juan Bautista Irene Zwierlein, Chairperson 3030 Soda Bay Road Lakeport, CA, 95453 Phone: (650) 851 - 7489 Fax: (650) 332-1526 amahmutsuntribal@gmail.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22
Costanoan Ohlone Rumsen-Mutsen Tribe Patrick Orozco, Chairman 644 Peartree Drive Watsonville, CA, 95076 Phone: (831) 728 - 8471 yanapvoic97@gmail.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22
Indian Canyon Mutsun Band of Costanoan Ann Marie Sayers, Chairperson P.O. Box 28 Hollister, CA, 95024 Phone: (831) 637 - 4238 ams@indiancanyons.org	August 31, 2022		Mailed by certified mail & via email on 8/31/22

Indian Canyon Mutsun Band of Costanoan Kanyon Sayers-Roods, MLD Contact 1615 Pearson Court San Jose, CA, 95122 Phone: (408) 673 - 0626 kanyon@kanyonkonsulting.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22
Muwekma Ohlone Indian Tribe of the SF Bay Area Monica Arellano, Vice Chairwoman 20885 Redwood Road, Suite 232 Castro Valley, CA, 94546 Phone: (408) 205 - 9714 marellano@muwekma.org	August 31, 2022		Mailed by certified mail & via email on 8/31/22
Wuksache Indian Tribe/Eshom Valley Band Kenneth Woodrow, Chairperson 1179 Rock Haven Ct. Salinas, CA, 93906 Phone: (831) 443 - 9702 kwood8934@aol.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22

Sample Letter Sent

San Lorenzo Valley WATER DISTRICT

August 30, 2022

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road
Lakeport, CA, 95453

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Chairperson Zwierlein:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

The District's cultural resources consultant is currently conducting literature review for the project to determine potential cultural resources in the area. The results of the review can be provided confidentially, upon request. The Native American Heritage Commission (NAHC) also reviewed the Sacred Lands File (SLF) and determined negative results. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated. The input of the Amah Mutsun Tribal Band of Mission San Juan Bautista is important to the SLVWD's planning process.

Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

Enclosure: Project Location Map

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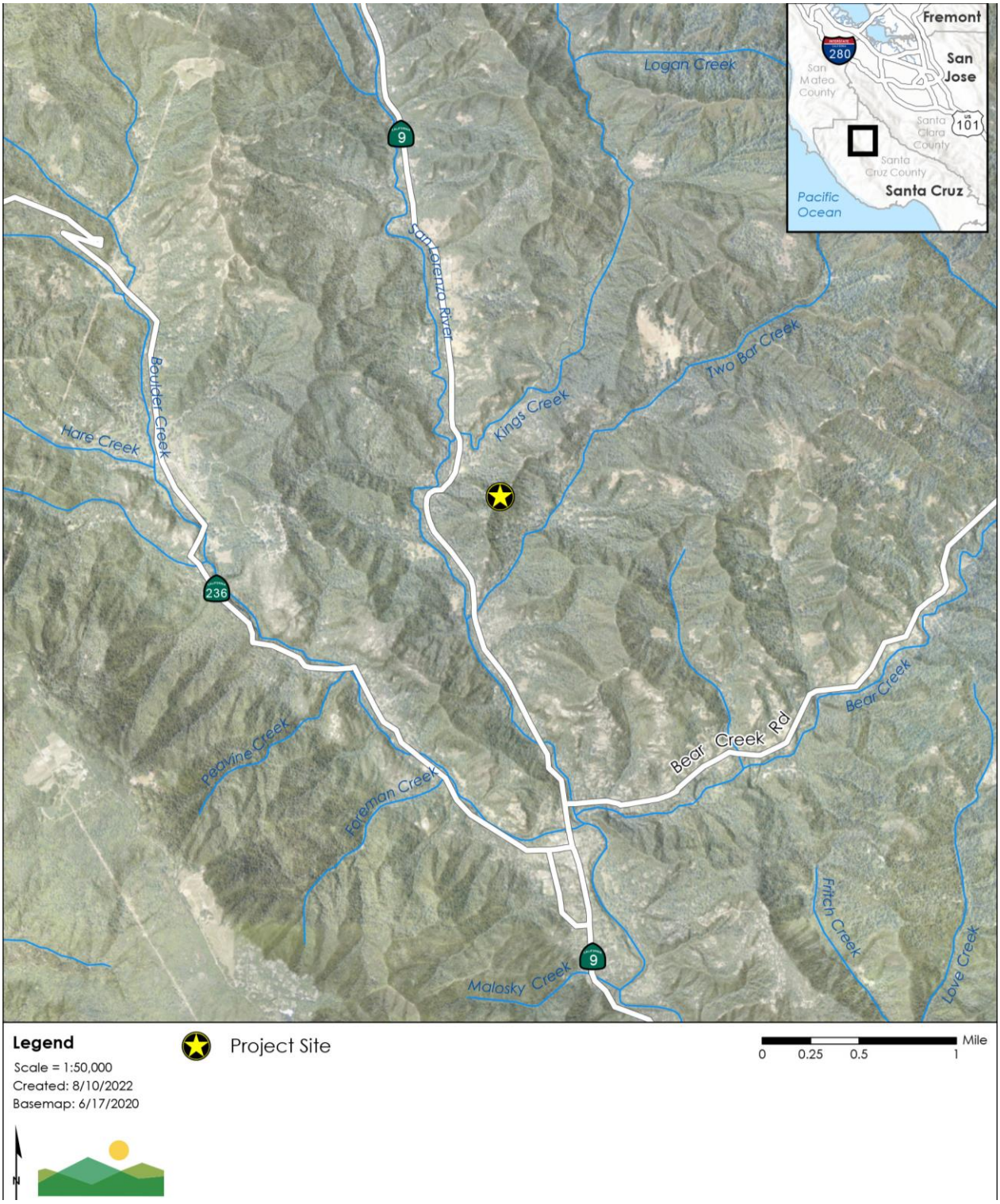
Figure 1: Project Location



APPENDIX C

GEOTECHNICAL INVESTIGATION

GEOTECHNICAL INVESTIGATION
For
BLUE RIDGE TANK REPLACEMENT
APN 084-261-13, 14
Boulder Creek, California

Prepared For
SAN LORENZO VALLEY WATER DISTRICT
13060 Highway 9
Boulder Creek, California

Prepared By
HARO, KASUNICH AND ASSOCIATES, INC.
Geotechnical & Coastal Engineers
Project No. SC11988
August 2021

Project No. SC11988
20 August 2021

SAN LORENZO VALLEY WATER DISTRICT
13060 Highway 9
Boulder Creek, CA 95006

Attention: Mr. Josh Wolff

Subject: Geotechnical Investigation

Reference: Blue Ridge Tank Replacement Project
APN 084-261-13, 14
Blue Ridge Drive
Boulder Creek, California

Dear Mr. Wolff:

In accordance with your authorization, we have performed a Geotechnical Investigation for the referenced project in Boulder Creek, California.

The accompanying report presents our conclusions and recommendations, as well as the results of the geotechnical investigation on which they are based.

If you have any questions concerning the data or conclusions presented in this report, please call our office.

Respectfully Submitted,

HARO, KASUNICH AND ASSOCIATES, INC.

Andrew Kasunich,
Staff Engineer

Christopher A. George
Senior Engineer

AK/CG/cg

Copies: 1 to Addressee + email (JWolff@slvwd.com)

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Project No. SC11988
20 August 2021

GEOTECHNICAL INVESTIGATION

Introduction

This report presents the findings, conclusions, and recommendations of our Geotechnical Investigation for the proposed Blue Ridge Tank Replacement Project site (see Site Vicinity Map, Figure 1 in Appendix A).

A Site Map for the proposed replacement water tank site, prepared by Paul Jensen, was provided for our use. The map, dated April 2021, was used as a base for our Boring Site Plan and Cross Section A-A' (see Figure 3 & 4 in Appendix A). Exploratory boring locations were not surveyed and should be considered approximate only. Ground surface elevations shown on Exploratory Boring Logs are based on contour elevations shown on the Site Map. Site descriptions, elevations, slope gradients and distances referred to in this report are based on review of the map and site reconnaissance by the engineer.

Foundation and grading plans for the replacement tank or improvements have not been developed at the time this report was prepared. Haro, Kasunich and Associates should be provided an opportunity to review the project plans prior to finalizing to evaluate if the criteria and recommendations presented were properly interpreted and implemented and determine if this report is adequate and complete for proposed project.

Purpose and Scope

The purpose of our investigation was to evaluate the soil and bedrock conditions at the referenced Blue Ridge Tank site and develop geotechnical design criteria and recommendations for proposed replacement water tank foundations and associated improvements. It is presumed the most current California Building Code (2019 CBC) edition design considerations will be followed during design and construction of the projects.

The specific scope of our services was as follows:

1. Site reconnaissance and review of available data in our files regarding the site and vicinity.
2. A field exploration program consisting of logging and interval sampling of soils encountered in three (3) exploratory borings with limited access, solid flight auger equipment drilled to depths of 5.5 feet. Standard Penetration Tests (SPT) were performed during sampling operations. The soil samples obtained were sealed and returned to the laboratory for testing.
3. Laboratory testing and classification of select samples was completed. Moisture content, dry density, grain size analysis, Atterberg Limits, and direct shear tests were performed to aid in soil classification and evaluate the soil engineering properties of onsite geomaterials.
4. Engineering analysis and evaluation of the resulting data was performed. We developed geotechnical design parameters for ring foundations, concrete

slabs-on-grade, retaining walls, and recommendations for site grading, drainage, and erosion control.

5. Preparation and submittal of this report presenting the results of our Geotechnical Investigation.

Site Location and Conditions

The Blue Ridge Tank site is located on APN 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively. The site is on the top of a bedrock ridge spur with undisturbed natural slopes descending to the west, north and south of the ridge spur at gradients of between 3:1 and 2:1 (H: V). From the proposed tank location, slopes continue for roughly for horizontal distances of 60 to 120 feet, putting the tank site at 30 to 40 feet above Blue Ridge Road. The slopes are vegetated with scattered trees and brush.

Existing structures and improvements on the tank site parcel include a concrete pad below the redwood water storage tank to be replaced, a propane tank, electrical control panel and wiring, large water pipes and valves, and buried water lines. It is unknown if the concrete pad has footings or reinforcement. The existing concrete water tank pad is about 20 feet in diameter and is situated in the approximate middle of the ridge spur.

On the lower elevations of the ridge spur, adjacent to Blue Ridge Drive and Short Street, the slopes steepen to gradients of 100% to near vertical.

Project Description

A replacement water tank is proposed for Blue Ridge Tank site. We understand the existing concrete slab foundation will be removed. It is presumed the existing foundation will be demolished and removed so that a foundation for the new tank can be constructed.

The new water tank will be situated on a new ring spread footing foundation situated in the approximate location of the existing tank. We understand the replacement tank will be approximately the same size as the existing tank. Grading for the project is anticipated to consist of cut or cut and fill grading to construct a new level pad for the tank, and excavations for ring footings.

Field Exploration

Subsurface conditions were investigated on 2 July 2021 by drilling three (3) exploratory borings to depths of 5.5 feet each. The boring locations were not surveyed and should be considered approximate only. The borings were drilled with 3-inch diameter, minuteman equipment mounted on a tripod and a portable soil auger drill rig. The approximate locations of the borings are shown on the Boring Site Plan (see Figure 3 in Appendix A).

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using a 3.0-inch outside diameter (O.D.) Modified California Sampler (L), or by a 2.0-inch O. D. Standard Terzaghi Sampler (T). The soils encountered in the borings were continuously logged in the field and visually described in accordance with the Unified Soil Classification System (ASTM

D2487).

The Logs of Test Borings are included in Appendix A of this report. The Logs depict subsurface conditions at the approximate locations shown on the Boring Site Plans. Subsurface conditions at other locations may differ from those encountered at the explored locations. Stratification lines shown on the logs represent the approximate boundaries between soil types; actual transitions may be gradual.

The penetration blow counts noted on the boring logs were obtained by driving a sampler into the soil with a 140-pound hammer dropping through a 30-inch fall. The sampler was driven up to 18 inches into the soil and the number of blows counted for each 6-inch penetration interval (Standard Penetration Test). The numbers indicated on the logs are the total number of blows that were recorded for the second and third 6-inch intervals, or the blows that were required to drive the penetration depth shown if high resistance was encountered.

Subsurface Conditions

Based on the results of our subsurface exploration, the top 12 to 24 inches of soil in our borings at the tank site consists of loose silty or clayey sand topsoil, underlain by medium dense clayey sand to depths of 2 to 3.5 feet. This layer is underlain by weathered to intact bedrock, which is likely the Vaqueros Formation Sandstone.

In B-1, loose silty sand topsoil with roots and sandstone fragments was encountered from

the ground surface to a depth of 18 inches, which was underlain by medium dense weathered to un-weathered sandstone, which became very dense between 4 and 5 feet deep.

In B-2, firm sandy clay topsoil with roots and sandstone fragments was found from the ground surface to a depth of about 12 inches, underlain by stiff to very stiff weathered mudstone, which became hard at a depth of 5 feet.

In B-3, loose to medium dense clayey sand was encountered from the ground surface to a depth of 3.5 feet, which was underlain by medium dense to dense weathered fine sandstone to a depth of 5.5 feet.

A review of "The Geologic Map of Santa Cruz County, California" (Brabb, 1989) indicates that the site is mapped as Tvq: Vaqueros Sandstone (Oligocene). A contact between the Tvq and Tsr: Rices Mudstone Member (Oligocene and Eocene) is mapped about 180 northeast of the tank site.

Groundwater

Groundwater was not encountered in any of the borings. However, groundwater levels will fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climate conditions as well as other factors. Therefore, water observations at the time of the field investigation may vary from those encountered during the construction phase and/or post-construction of the project.

Laboratory Testing

The laboratory testing program was directed toward determining pertinent engineering and soil index properties.

The natural moisture contents and dry densities were determined on selected samples and are recorded on the boring logs at the appropriate depths. Since the engineering behavior of soil is affected by changes in moisture content, the natural moisture content will aid in evaluation of soil compressibility, strength, and potential expansion characteristics. Soil dry density and moisture content are index properties necessary for calculation of earth pressures on engineering structures. The soil dry density is also related to soil strength and permeability.

An Atterberg Limits test and grain size analysis tests were performed on selected soil samples to evaluate the range of moisture contents over which the soil exhibits plasticity, and to classify the soil according to the Unified Soil Classification System. The plasticity characteristics of a soil give an indication of the soil's compressibility and expansion potential. The results of the Atterberg Limit test indicate soil sample 2-1-2 located at a depth of 2 feet is classified as sandy clay (CH) with moderate to high expansion potential (PI = 34). The grain size analysis for this sample indicates silt and clay fines = 57 percent and sand = 43 percent. The grain size analysis for soil sample 2-2, in mudstone bedrock indicates silt and clay fines = 99.5 percent. In borings B-1 and B-3, we found two to three feet of medium dense silty and clayey sand underlain by dense to very dense fine

sandstone bedrock.

The strength parameters of the underlying earth materials were determined from a direct shear test performed in the laboratory and from Standard Penetration Test (SPT) blow count measurements obtained in the field during sampling of in-situ soil. The results of the field and laboratory testing appear on the "Logs of Test Boring" opposite the sample tested.

Seismicity

The following is a general discussion of seismic considerations affecting the project area. Detailed studies of seismicity, faulting and other geologic hazards are beyond the scope of this study.

The Blue Ridge Tank Site is located at Latitude 37.151488° North and Longitude 122.129767° West (USGS). The active San Andreas Fault one and Zayante Fault zones are located about 3.22 miles and 0.82 miles from the project site, respectively.

The San Andreas Fault zone is a major fault zone of active displacement which extends from the Gulf of California to the vicinity of Point Arena, where the fault leaves the California coastline. Between these points, the fault is about 700 miles long. The fault zone is a break or series of breaks along the earth's crust, where shearing movement has taken place. This fault movement is primarily horizontal.

The largest historic earthquake in Northern California occurred on 18 April 1906 (M8.3+).

The 17 October 1989 Loma Prieta earthquake (M6.9) is also considered to have been associated with the San Andreas Fault system. This event was the second largest earthquake in Northern California this century. Strong ground shaking was experienced throughout Santa Cruz County during both of these seismic events.

Although research on earthquake prediction has greatly increased in recent years, seismologists have not yet reached the point where they can predict when and where another large earthquake will occur. Nevertheless, on the basis of current technology, it is reasonable to assume that the proposed development will be subject to at least one moderate to severe earthquake during the fifty-year period following construction.

Potential seismic hazards at the site and vicinity include surface ground rupture, liquefaction effects, land sliding, and damage from strong seismic shaking.

Since no known faults cross the project site, the potential for surface ground rupture is low. Because of the shallow very dense bedrock underlying the Blue Ridge Tank site, the potential for seismic induced liquefaction is nil.

Slope Stability

During our field investigation and site reconnaissance, we did not observe evidence of recent land sliding in the slopes descending from the tank site. The potential for deep seated land sliding in the shallow bedrock at the tank site to negatively impact the replacement tank is relatively low. However, there is potential for shallow land sliding on

steeper slopes descending from the tank site when saturated. It is critical that concentrated runoff from the replacement tank and improvements be collected and conveyed to the roadways below the site.

California Building Code (2019) Seismic Design Parameters

The improvements should be designed in conformance with the most current California Building Code (2019 CBC). For seismic design, the soil properties at the site are classified as **Site Class "D"** based on definitions presented in Section 1613.2.2 in the 2019 CBC which refers to Chapter 20 of ASCE 7. The longitude and latitude were determined using a satellite image generated by Google Earth. These coordinates were taken from the approximate middle of the area of the proposed improvements:

Longitude = - 122.129767°, Latitude = 37.151488°.

The coordinates listed above were used as inputs in the OSHPD seismic design maps created by California Office of Statewide Health Planning and Development (OSHPD) to determine the ground motion associated with the maximum considered earthquake (MCE) S_M and the reduced ground motion for design S_D. The results are as follows:

Site Class D

S_S= 1.956 g

S_1= 0.741 g

S_{MS}= 2.348 g

S_{M1}= 1.260 g

refer to section 11.4.8 ASCE7-16 for site specific ground motions and exceptions[1]

S_{DS}= 1.565 g

S_{D1}= 0.840 g

refer to section 11.4.8 ASCE7-16 for site specific ground motions and exceptions[1]

A maximum considered earthquake geometric mean (MCE_G) peak ground acceleration (PGA) was estimated using the Figure 22-9 of the ASCE Standard 7-16. The mapped PGA was 0.819g and the site coefficient F_{PGA} for Site Class D is 1.2. The MCE_G peak ground acceleration adjusted for Site Class effects is $PGA_M = F_{PGA} * PGA$.

$PGA_M = 1.2 * 0.819\ g = 0.983\ g$

Building Codes

Project design and construction should conform to the following current building codes:

-2019 California Building Code (CBC); and

-2019 Green Building Standards Code (CALGreen)

1 "EXCEPTION: A ground motion hazard analysis is not required for structures other than seismically isolated structures and structures with damping systems where: … [Exception] 2. Structures on Site Class D sites with S_1 greater than or equal to 0.2 provided the value of the seismic response coefficient C_S is determined by Eq. (12.8-2) for values of $T \leq 1.5\ T_S$ and taken as equal to 1.5 times the value computed in accordance with either Eq. (12.8-3) for $T_L \geq T > 1.5T_S$ or Eq. (12.8-4) for $T > T_L$." ASCE7-16.

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our investigation, the proposed construction of a replacement water tank on the Blue Ridge Tank Site is acceptable from a geotechnical standpoint, provided the following geotechnical criteria and recommendations are incorporated into the design and construction of the project.

Geotechnical considerations at the Blue Ridge Tank Site include providing firm uniform bearing support for the water tank foundation, collecting, and directing water away from the slopes below the site, and the potential for strong seismic shaking.

There is a potential for total and differential settlement if the water tank foundation is founded on soil with variable compressibility. The top 12 to 24 inches of soil in our soil borings was loose. We recommend loose soil be removed and the bottom of the excavation be compacted to a minimum of 90 percent relative compaction or loose soil removed and replaced as engineered fill to provide firm uniform support for the replacement water tank. The depth of loose soil below the tank foundation is uncertain. Once the foundation is removed, the slab subgrade soil should be inspected by the geotechnical engineer. If loose soil is found within the replacement tank foundation zone, the soil should be removed entirely, and the bottom compacted as engineered fill or loose soil sub-excavated, stockpiled, and reused as engineered fill after compaction of the bottom of the excavation is completed. The sub-excavation should extend 5 feet beyond the tank perimeter.

Provided our recommendations are incorporated into the design and construction of the project, post-construction total and differential settlement of foundations due to static loading are considered to be low. Potential total and differential immediate foundation settlements are expected to be less than 1 inch and ½ inch, respectively, provided the entire structure is properly founded in similarly prepared subgrade soil.

Based on our subsurface exploration and testing, the soil below a depth of 2 feet in our borings along with the underlying weathered and un-weathered sedimentary bedrock will provide firm uniform support for the replacement water tank. The proposed ring-type replacement foundation should be uniformly embedded a minimum of 18 inches into the medium dense silty and clayey sand or very stiff clay under the tank site. There should be a minimum horizontal distance of 7 feet between the adjacent slope and the bottom of the ring foundation.

Concentrated surface and roof stormwater runoff from the project site **should not** be allowed to flow onto the slopes below the tank site. We recommend runoff from the site be collected and discharged in several locations on Blue Ridge Drive or an existing storm drain system.

The project site is located within a seismically active area. The proposed replacement water tank should be designed in accordance with the most current CBC seismic design standards.

The following recommendations should be used as guidelines for preparing project plans and specifications.

Site Grading

1. The geotechnical engineer should be notified **at least four (4) working days prior to any grading or foundation excavating** so the work in the field can be coordinated with the grading contractor and arrangements for testing and observation can be made. The recommendations of this report assume that the geotechnical engineer or representative will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

2. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557-10.

3. The bottom of the ring foundation should be uniformly embedded a minimum of 18 inches into medium dense native clayey sand or weathered sedimentary rock. Loose, near surface soil on the tank site should be removed entirely and the bottom of the excavation compacted to a minimum of 90 percent relative compaction or removed, stockpiled, the bottom of the excavation compacted to a minimum of 90 percent relative compaction.

4. The tank pad area to be graded should be cleared of all obstructions, including concrete, fill or loose soil, trees not designated to remain, and other unsuitable material. Loose disturbed soil resulting from demolition and clearing operations may be stockpiled for

use as engineered fill provided the fill is clean of organic material, debris, or other unsuitable material. Existing depressions or voids created during site clearing should be backfilled with engineered fill. The geotechnical engineer or representative should observe the bottom of the excavation to confirm loose soil has been removed,

5. The remaining cleared areas should then be stripped of organic-laden topsoil. Stripping depth is anticipated to be from 4 to 6 inches. Actual depth of stripping should be determined in the field by the geotechnical engineer. Strippings should be wasted off-site or stockpiled for use in landscaped areas if desired.

6. Following clearing and stripping, the bottom of the subexcavation and all areas to receive fill should be scarified, moisture conditioned (or allowed to dry as necessary) to produce a moisture content 3 to 5 percent over laboratory optimum value, and uniformly compacted to a minimum of 90 percent relative compaction based on ASTM Test D1557-10.

7. If grading is performed during or shortly after the rainy season, the grading contractor may encounter compaction difficulty, such as pumping or bringing free water to the surface in the near surface soils. If compaction cannot be achieved after reducing the soil moisture content, it may be necessary to overexcavate the subgrade soil and replace it with angular crushed rock to stabilize the subgrade. The need for ground stabilization measures to complete grading effectively should be determined in the field at the time of grading, based on exposed soil conditions.

9. Engineered fill should be placed in thin lifts not exceeding 8 inches in loose thickness, moisture conditioned, and compacted to a minimum of 90 percent relative compaction. The upper 6 inches of slab or pavement subgrade and aggregate base below pavements should be compacted to a minimum of 95 percent relative compaction.

10. The on-site silty and clayey sand is acceptable for use as engineered fill. Highly expansive clay soil should be removed off site. Soil imported for use as engineered fill should consist of a predominantly granular soil conforming to the quality and gradation requirements as follows: Imported soil should be relatively free of organic material and contain no rocks or clods greater than 4 inches in diameter, with no more than 15 percent larger than 2½ inches. The material should be predominately granular with a plasticity index < 15, a liquid limit less than 35 and not more than 35 percent passing the No. 200 sieve. Engineered fill should also have sufficient binder so that footing and utility trenches will not collapse.

11. We estimate shrinkage factors of 15 to 25 percent for the on-site materials when used in engineered fills.

Cut and Fill Slopes

12. Temporary excavations should be properly shored and braced during construction to prevent sloughing and caving at sidewalls. The contractor should be aware of all CAL OSHA and local safety requirements and codes dealing with excavations and trenches.

13 Permanent cut slopes in bedrock should be inclined no steeper than 1:1 (horizontal to vertical). The top of all cut slopes should be rounded off to reduce soil sloughing. If seepage is observed, the geotechnical engineer should provide additional recommendations. Cut slopes with these recommended gradients may require periodic maintenance to remove minor soil sloughing.

14. Compacted fill slopes should be constructed at a slope inclination no steeper than 3:1 (horizontal to vertical). Fill slopes with these recommended gradients may require periodic maintenance to remove minor soil sloughing. All fills must be adequately benched into competent material, and keys for stability will be required at the toe of fill embankments. Toe keys should be at least 6 feet wide and should extend at least 1½ feet into competent soil or bedrock. The bottom of the toe key should be sloped downward at about 2 percent toward the back of the key. Where seepage is observed, keyways should have subdrains. The location of subdrains and outlets should be determined by the geotechnical engineer in the field during grading.

15. Following grading, exposed soil should be planted as soon as possible with erosion-resistant vegetation.

16. After the earthwork operations have been completed and the geotechnical engineer has finished his observation of the work, no further earthwork operations shall be performed without the direct observation and approval of the geotechnical engineer.

Ring Foundation

17. The actual dimensions of the ring-type foundation should be determined by the design professional. However, as a minimum, footings should be 15 inches in width, penetrate loose soil and be embedded a minimum of 18 inches into medium dense to very dense native soils. The footings should be reinforced as required by the structural designer based on the actual loads transmitted to the foundations.

18. The bottom of all foundation elements should have a minimum setback of 7 feet horizontally from adjacent slopes.

19. The foundation trenches should be kept moist and be thoroughly cleaned of all slough or loose materials prior to pouring concrete. In addition, all footings located adjacent to other footings should have their bearing surfaces founded below an imaginary 1½:1 plane projected upward from the bottom edge of the adjacent footings or utility trenches.

20. Provided the water tank pad is redensified as recommended in the grading section of this report and footings are embedded a minimum of 18 inches in medium dense silty or clayey sand or very stiff mudstone, the water tank and foundations may be designed for an allowable soil bearing pressure of 1500 psf for dead plus live loads. This value may be increased by one-third to include short-term seismic and wind loads.

21. Provided our recommendations are followed during design and construction of the

project, post-construction total and differential settlement of the proposed tank foundation is anticipated to be less than 1 inch and ½ inch, respectively.

22. Lateral load resistance for the tank footings may be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.30 is considered applicable. A passive resistance of 300 pcf may be used below a depth of 12 inches.

23. All footings should be reinforced in accordance with applicable CBC and/or ACI standards. We recommend the footings contain a minimum steel reinforcement of four (4) No. 4 bars, i.e., two near the top and two near the bottom of the footing.

24. The footing excavations should be thoroughly cleaned and observed by the geotechnical engineer prior to placing forms and steel, to verify subsurface soil conditions are consistent with the anticipated soil conditions and the footings are in accordance with our recommendations.

Concrete Slabs-On-Grade

25. Concrete slabs should be constructed on properly moisture conditioned and compacted subgrade soil. Soil subgrade should be prepared and compacted as recommended in the section entitled "Site Grading".

26. Slab reinforcing should be provided in accordance with the anticipated use and

loading of the slab, however we recommend a minimum reinforcement of #4 bars spaced 18 inches on-center in both directions. The steel reinforcement should be held firmly in the vertical center of the slab during placement and finishing of the concrete with pre-cast concrete dobies.

27. The project design professional should determine the appropriate slab reinforcing and thickness, in accordance with the anticipated use and loading of the slab. However, we recommend a minimum reinforcement of #4 bars spaced 18 inches on-center in both directions. The steel reinforcement should be held firmly in the vertical center of the slab during placement and finishing of the concrete with pre-cast concrete dobies. In addition, we recommend that consideration be given to a minimum slab thickness of 5 inches and steel reinforcement necessary to address temperature and shrinkage considerations.

Utility Trenches

28. Trenches must be properly shored and braced during construction or laid back at an appropriate angle to prevent sloughing and caving at sidewalls. The project plans and specifications should direct the attention of the contractor to all CAL OSHA and local safety requirements and codes dealing with excavations and trenches.

29. Utility trenches should be placed so that they do not extend below an imaginary line sloping down and away at a 1½:1 (horizontal to vertical) slope from the bottom outside edge of all footings. The structural design professional should coordinate this requirement with the utility layout plans for the project.

30. Trenches should be backfilled with granular-type material and uniformly compacted by mechanical means to the relative compaction as required by county specifications, but not less than 95 percent under paved areas and 90 percent elsewhere. The relative compaction will be based on the maximum dry density obtained from a laboratory compaction curve run in accordance with ASTM Procedure D1557-07.

31. Trenches should be capped with a minimum of 12 inches of compacted relatively impermeable soil.

Site Drainage

32. Surface drainage should include provisions for positive gradients so that surface runoff is not permitted to pond adjacent to tank foundations, pavement, or other improvements. Roof and surface runoff should be directed away from foundations to collection facilities and conveyed via buried plastic pipes to Blue Ridge Road or Short Street or an existing storm drain system. The pipe outlet facilities should be designed so that instability and/or erosion does not occur at the outlet. Concentrated roof surface runoff **must not** be allowed to flow on the slopes below the tank site.

Erosion Control

33. The soil at the project site has potential for erosion where unvegetated. We recommend the following provisions be incorporated into the project plans:

A. All grading and soil disturbance shall be kept to a minimum.

B. No eroded soil shall be allowed to leave the site.

C. All bare soil should be seeded and mulched immediately after grading with barley, rye, grass, and crimson clover and covered with straw.

D. Prior to the rainy season bare soil should be well vegetated or protected from erosion by installation of ground cover or erosion control blankets.

34. The migration of water or spread of extensive root systems below foundations, slabs, or pavements may cause undesirable differential movements and subsequent damage to these structures. Landscaping should be planned accordingly.

Plan Review, Construction Observation and Testing

35. Haro, Kasunich and Associates must be provided an opportunity to review project plans prior to construction to evaluate if our recommendations have been properly interpreted and implemented. We should also provide foundation excavation observations and earthwork observations and testing during construction. This allows us to confirm anticipated soil conditions and evaluate conformance with our recommendations and project plans. If we do not review the plans or provide observation and testing services during the earthwork phase of the project, we assume no responsibility for misinterpretation of our recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.

2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a geotechnical engineer.

APPENDIX A

Site Vicinity Map

Regional Geologic Map

Boring Site Plan

Section AA'

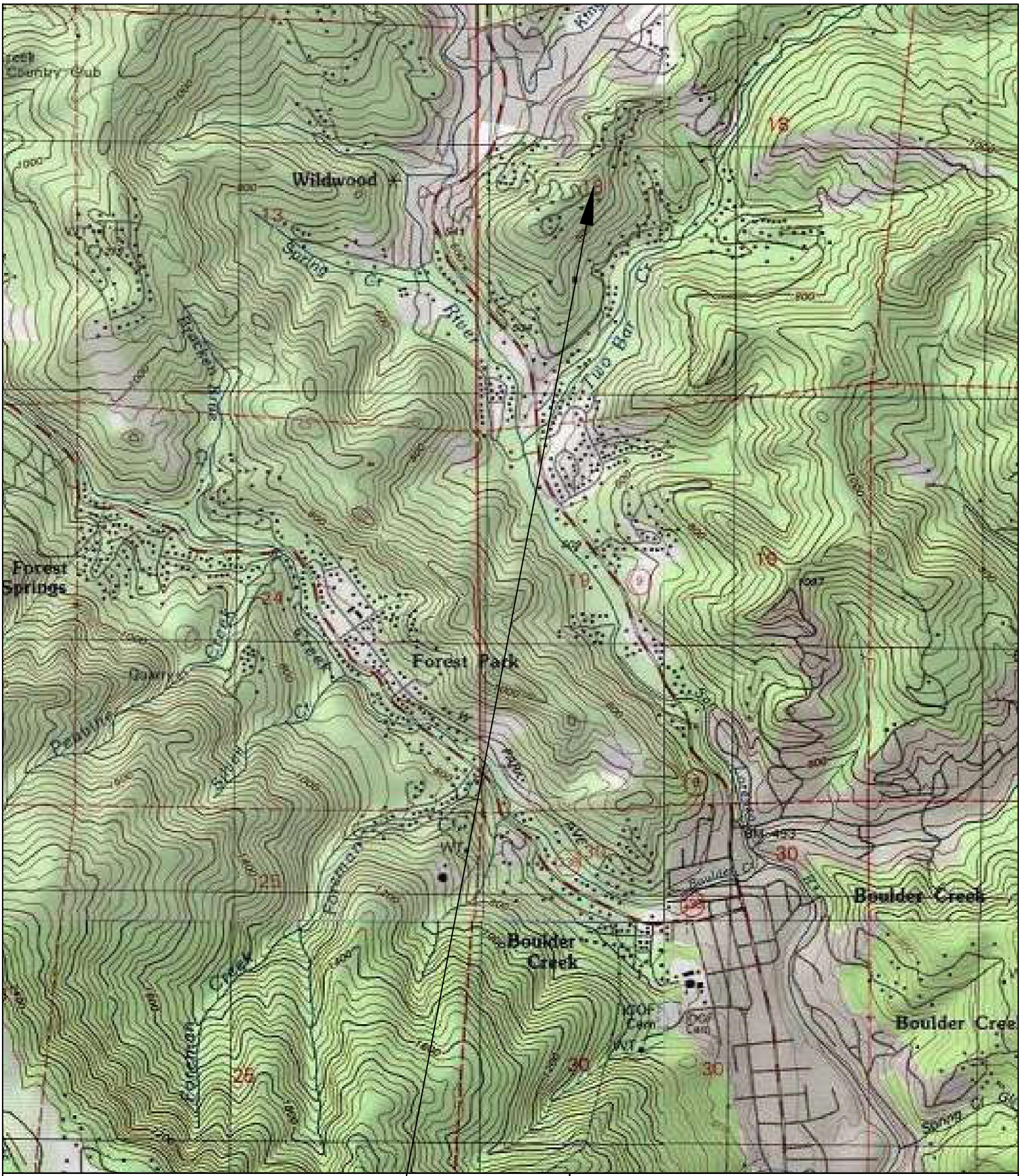
Key to Logs

Logs of Test Borings

Atterberg Limits Test

Direct Shear Test

Grain Size Analysis Tests



SITE LOCATION

FROM:

TopoZone.com

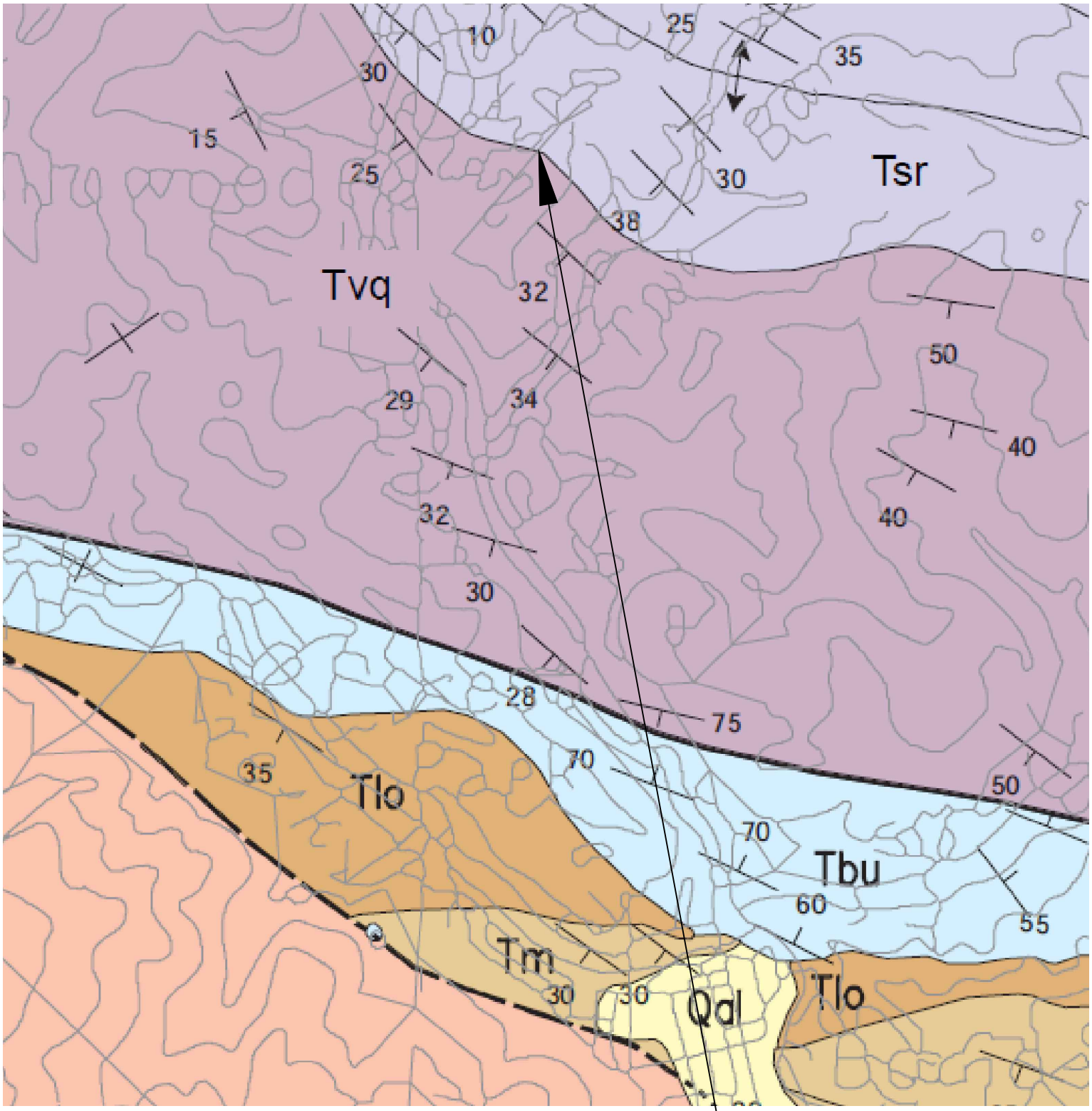
SITE VICINITY MAP
Blue Ridge Tank Replacement
APN 084-261-13, 14
Boulder Creek, Santa Cruz County

SCALE:	NTS
DRAWN BY:	AK
DATE:	JULY 2021
REVISED:	
JOB NO.	M11988

HARO, KASUNICH & ASSOCIATES, INC.
GEOTECHNICAL AND COASTAL ENGINEERS
116 E. LAKE AVENUE, WATSONVILLE, CA 95076
(831) 722-4175

FIGURE NO. 1

SHEET NO.



KEY:

Tsr — Rices Mudstone Member (Oligocene and Eocene)

Tvq — Vaqueros Sandstone (lower Miocene and Oligocene)

FROM:

GEOLOGIC MAP OF SANTA CRUZ COUNTY, CALIFORNIA
Compiled by
Earl E. Brabb
Digital Database Prepared by S. Graham, C. Wentworth, D. Knifong, R. Graymer and J. Blissenbach
1997

REGIONAL GEOLOGIC MAP
Blue Ridge Tank Replacement
APN 084-261-13, 14
Boulder Creek, Santa Cruz County

SCALE:	NTS
DRAWN BY:	AK
DATE:	JULY 2021
REVISED:	
JOB NO.	M11988

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116 E. LAKE AVENUE, WATSONVILLE, CA 95076
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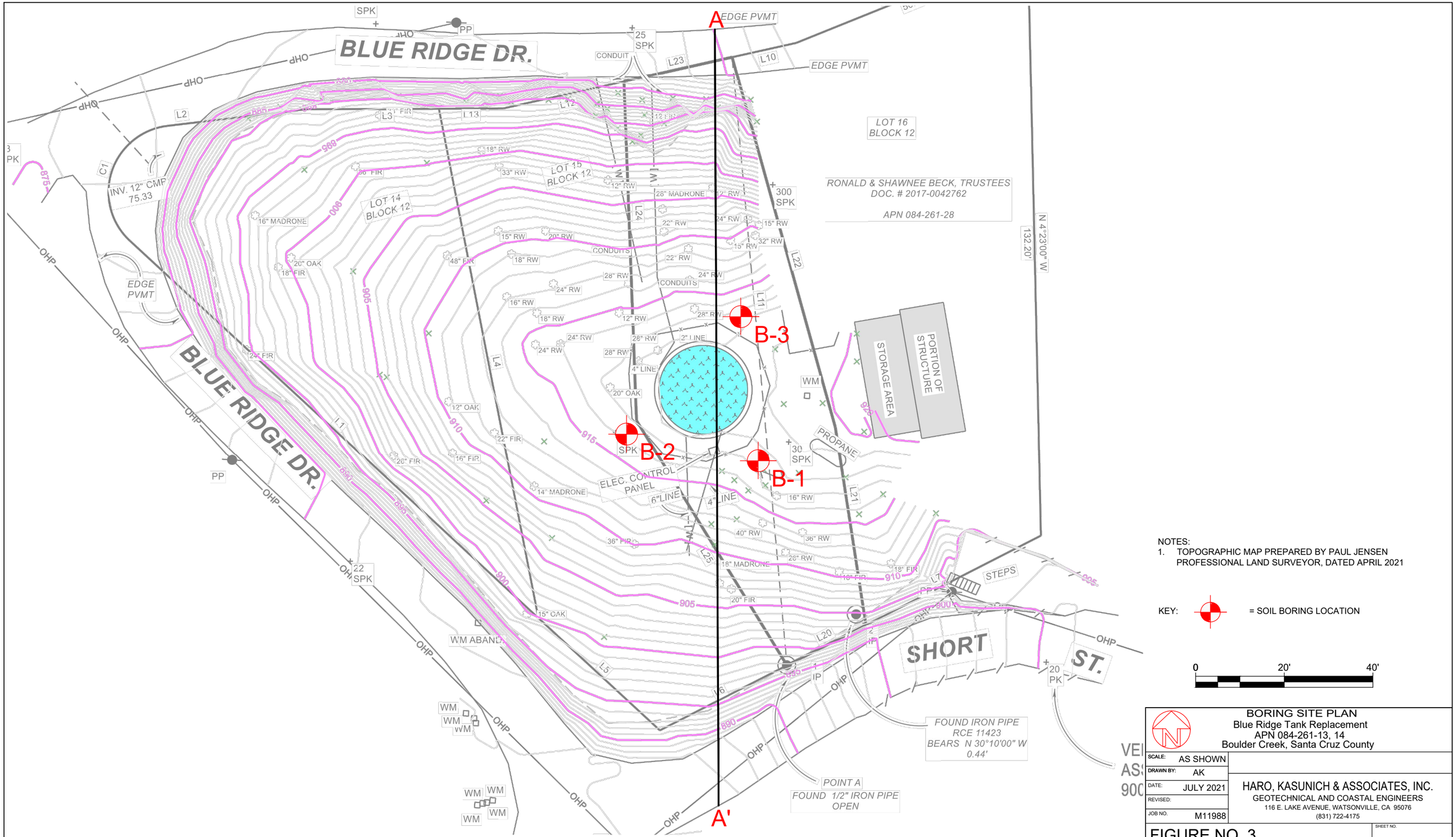
FIGURE NO. 2

SHEET NO.



NOTES:
1. TOPOGRAPHIC MAP PREPARED BY PAUL JENSEN PROFESSIONAL LAND SURVEYOR, DATED APRIL 2021

KEY: = SOIL BORING LOCATION

0 20' 40'

BORING SITE PLAN

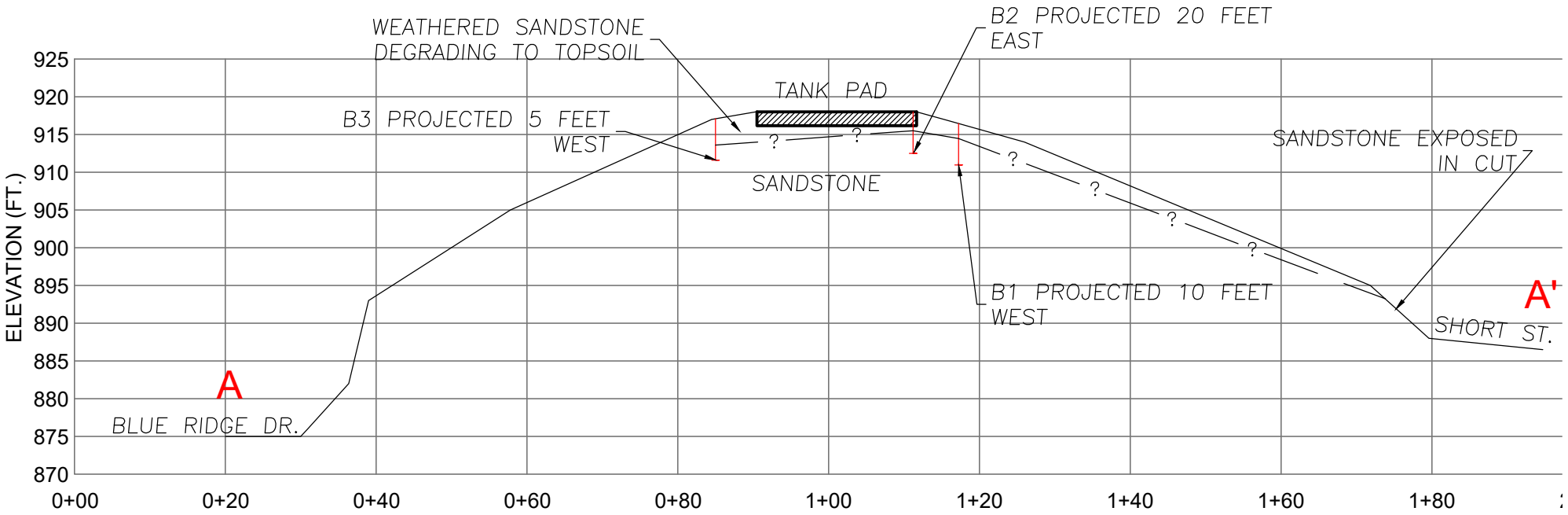
Blue Ridge Tank Replacement
APN 084-261-13, 14
Boulder Creek, Santa Cruz County

SCALE:	AS SHOWN
DRAWN BY:	AK
DATE:	JULY 2021
REVISED:	
JOB NO.	M11988

HARO, KASUNICH & ASSOCIATES, INC.
GEOTECHNICAL AND COASTAL ENGINEERS
116 E. LAKE AVENUE, WATSONVILLE, CA 95076
(831) 722-4175

FIGURE NO. 3

SHEET NO.



CROSS SECTION

SCALE: 1" = 20'

A–A'

NOTES:
CROSS SECTION DEVELOPED FROM TOPOGRAPHIC MAP PREPARED BY
PAUL JENSEN PROFESSIONAL LAND SURVEYOR, DATED APRIL 2021

SECTION AA'
Blue Ridge Tank Replacement
APN 084-261-13, 14
Boulder Creek, Santa Cruz County

SCALE:	1" = 20'
DRAWN BY:	AK AK
DATE:	JULY 2021
REVISED:	
JOB NO.	M11988

HARO, KASUNICH & ASSOCIATES, INC.
GEOTECHNICAL AND COASTAL ENGINEERS
116 E. LAKE AVENUE, WATSONVILLE, CA 95076
(831) 722-4175

FIGURE NO. 4

SHEET NO.

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRADED SOILS — MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
			GP	POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
		GRAVEL WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES.
	SAND — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
			SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES.
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTYRES, NON-PLASTIC FINES.
			SC	CLAYEY SANDS, SAND-CLAY MIXTYRES, PLASTIC FINES.
FINE GRADED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYES — LIQUID LIMIT LESS THAN 50%		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.
	SILTS AND CLAYES — LIQUID LIMIT GREATER THAN 50%		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS		
200	40	10	4	3/4"	2"	12"

SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS PER FOOT*
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH (TSF)**	BLOWS PER FOOT*
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

SAMPLING METHOD

STANDARD PENETRATION TEST	T	⧅
MODIFIED CALIFORNIA	MC	◧
PITCHER BARREL	P	⊠
SHELBY TUBE	S	◨
BULK	B	◭

WATER

FINAL	▽
INITIAL	▼
WATER LEVEL DESIGNATION	

KEY TO LOGS
Blue Ridge Tank Replacement
APN 084-261-13, 14
Boulder Creek, Santa Cruz County

SCALE:	NTS
DRAWN BY:	AK
DATE:	JULY 2021
REVISED:	
JOB NO.	M11988

HARO, KASUNICH & ASSOCIATES, INC.
GEOTECHNICAL AND COASTAL ENGINEERS
116 E. LAKE AVENUE, WATSONVILLE, CA 95076
(831) 722-4175

FIGURE NO. 5

SHEET NO.

Haro, Kasunich and Associates, Inc.
116 East Lake Avenue
Watsonville, CA
Telephone: (831) 722-4175
Fax: (831) 722-3202

BORING NUMBER 1

Figure No.: 6

CLIENT San Lorenzo Valley Water District
PROJECT NAME Blue Ridge Tank Replacement
PROJECT NUMBER SC11988
PROJECT LOCATION Boulder Creek, Ca
DATE STARTED 7/2/21 **COMPLETED** 7/2/21
GROUND ELEVATION _____ **HOLE SIZE** 4"
DRILLING CONTRACTOR Exploration Geo Services
GROUND WATER LEVELS:
DRILLING METHOD MMK - Solid Flight
AT TIME OF DRILLING ---
LOGGED BY AK **CHECKED BY** CG
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	USCS	SAMPLE TYPE NUMBER	BLOW COUNTS	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	SIEVE ANALYSIS GRAVEL %	SIEVE ANALYSIS SAND %	SIEVE ANALYSIS FINES %	ATTERBERG LIMITS LIQUID LIMIT	ATTERBERG LIMITS PLASTIC LIMIT	ATTERBERG LIMITS PLASTICITY INDEX	Phi (deg)	COHESION (psf)
0		Dark brown Silty Sand topsoil intermixed with SANDSTONE fragments		MC 1-1-1	6-11-11 (22)										
		Light brown weathered Fine SANDSTONE, damp, medium dense													
5		Intact Fine SANDSTONE Bedrock, decrease in moisture, very dense		SPT 1-2	26-38-50/6"										

Bottom of borehole at 5.5 feet.

Haro, Kasunich and Associates, Inc.
116 East Lake Avenue
Watsonville, CA
Telephone: (831) 722-4175
Fax: (831) 722-3202

BORING NUMBER 2

Figure No.: 7

CLIENT San Lorenzo Valley Water District
PROJECT NAME Blue Ridge Tank Replacement
PROJECT NUMBER SC11988
PROJECT LOCATION Boulder Creek, Ca
DATE STARTED 7/2/21 **COMPLETED** 7/2/21
GROUND ELEVATION _____ **HOLE SIZE** 4"
DRILLING CONTRACTOR Exploration Geo Services
GROUND WATER LEVELS:
DRILLING METHOD MMK - Solid Flight
AT TIME OF DRILLING ---
LOGGED BY AK **CHECKED BY** CG
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	USCS	SAMPLE TYPE NUMBER	BLOW COUNTS	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	SIEVE ANALYSIS GRAVEL %	SIEVE ANALYSIS SAND %	SIEVE ANALYSIS FINES %	ATTERBERG LIMITS LIQUID LIMIT	ATTERBERG LIMITS PLASTIC LIMIT	ATTERBERG LIMITS PLASTICITY INDEX	Phi (deg)	COHESION (psf)
0		Brown Sandy Clay topsoil with decomposed SANDSTONE and roots, firm to stiff	CH	MC 2-1-2	11-12-24 (36)	89	15	0	43.0	57	54	20	34		
		Highly weathered mudstone bedrock at shoe													
5		Brown mudstone bedrock, damp, hard		SPT 2-2	14-22-26 (48)		27		0.5	99.5					

Bottom of borehole at 5.5 feet.

Haro, Kasunich and Associates, Inc.
116 East Lake Avenue
Watsonville, CA
Telephone: (831) 722-4175
Fax: (831) 722-3202

BORING NUMBER 3

Figure No.: 8

CLIENT San Lorenzo Valley Water District
PROJECT NAME Blue Ridge Tank Replacement
PROJECT NUMBER SC11988
PROJECT LOCATION Boulder Creek, Ca
DATE STARTED 7/2/21 **COMPLETED** 7/2/21
GROUND ELEVATION _____ **HOLE SIZE** 4"
DRILLING CONTRACTOR Exploration Geo Services
GROUND WATER LEVELS:
DRILLING METHOD MMK - Solid Flight
AT TIME OF DRILLING ---
LOGGED BY AK **CHECKED BY** CG
AT END OF DRILLING ---
NOTES _____
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	USCS	SAMPLE TYPE NUMBER	BLOW COUNTS	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	SIEVE ANALYSIS GRAVEL %	SIEVE ANALYSIS SAND %	SIEVE ANALYSIS FINES %	ATTERBERG LIMITS LIQUID LIMIT	ATTERBERG LIMITS PLASTIC LIMIT	ATTERBERG LIMITS PLASTICITY INDEX	Phi (deg)	COHESION (psf)
0		(SC) Brown Clayey SAND, trace CLAY, moist, loose - medium dense at 2.5 feet Moisture at Saturation = 30.6%	SC	MC 3-1-1	7-8-14 (22)	87	12							31	69
5		Weathered Fine SANDSTONE Bedrock, damp medium dense to dense		SPT 3-2	9-13-13 (26)										

Bottom of borehole at 5.5 feet.

Liquid Limit:	53.49
Plastic Limit:	20.31
Plasticity Index:	33.2

HARO, KASUNICH AND ASSOCIATES, INC.
CONSULTING GEOTECHNICAL & COASTAL ENGINEERS

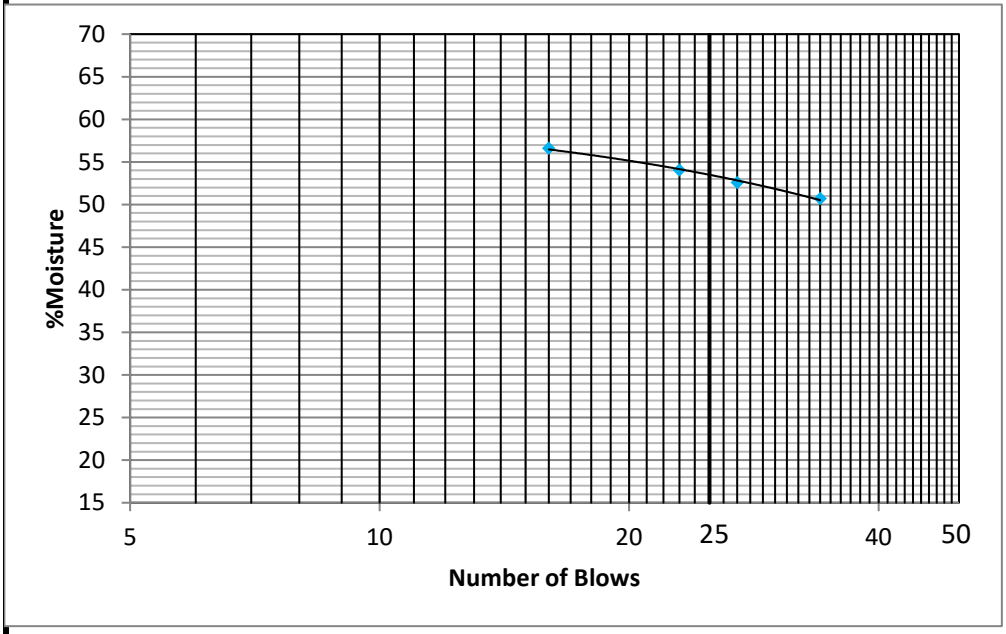
File N◦	11988
Sample N◦	2-1-2
Date:	7/12/2021
By:	MA

34

Job Name:	Blue Ridge Tank Replacement

	PLASTIC LIMIT			
Determination	1	2	3	4
Tare N◦	P3	P12		
Gross Wet WT.	20.92	20.32		
GrossDry WT.	19.71	19.21		
Tare WT.	13.70	13.79		
NET DRY WT.	6.01	5.42	0.00	0.00
WT. OF Water	1.21	1.11	0.00	0.00
% Moisture	20.13	20.48	#DIV/0!	#DIV/0!

	LIQUID LIMIT			
	NUMBER OF BLOWS			
	16	23	27	34
	F4	F3	D3	D1
	16.70	17.00	16.47	17.87
	13.28	13.61	13.30	14.30
	7.24	7.34	7.27	7.26
	6.04	6.27	6.03	7.04
	3.42	3.39	3.17	3.57
	56.62	54.07	52.57	50.71

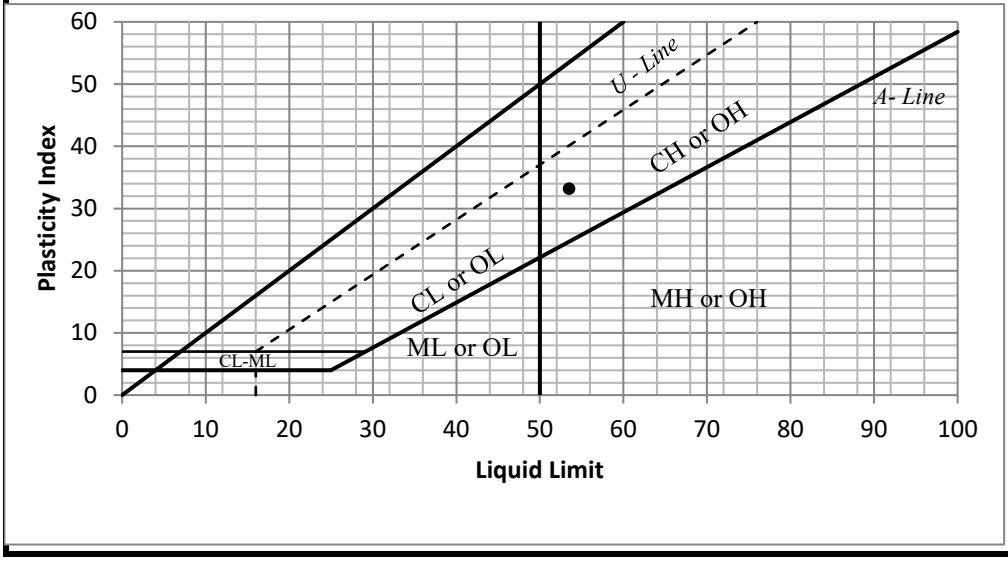


Sample #	2-1-2
Ht. of Sample	6/split
Tare	440
Gross Wet Wt	774.4
Gross Dry Wt.	721.8
Tare Wt.	414.6
Net Dry Wt.	307.2
Wt. Of Water	52.6
% Moisture	17.1%
Dry Density	88.5

SOIL DESCRIPTION

Mottled Dk Brown Sandy CLAY

Group Symbol	**CH**



Note:
Density calced using total weights from PI & FG. Total sample Moisture= 16.2%

Fig. 9

Saturated Direct Shear

Project Name:	Blue Ridge Tank Replacment
Project #:	11988
Sample #:	3-1-1
Description:	Mottled Orange/Gray/Brown Clayey SAND
Tested By:	MA
Date Tested:	7/12/21

Test Number	1	2	3	4
Normal Pressure (PSF)	200	350	500	-
Max Shear Stress	6.2	8.9	12.0	#VALUE!
Shear Stress (PSF)	192.5	276.9	374.2	#VALUE!

Equation of Trendline	
Intercept	Slope
69.218	0.6057

*Manually Enter from Trendline Equation

C (PSF)	PHI
69	31

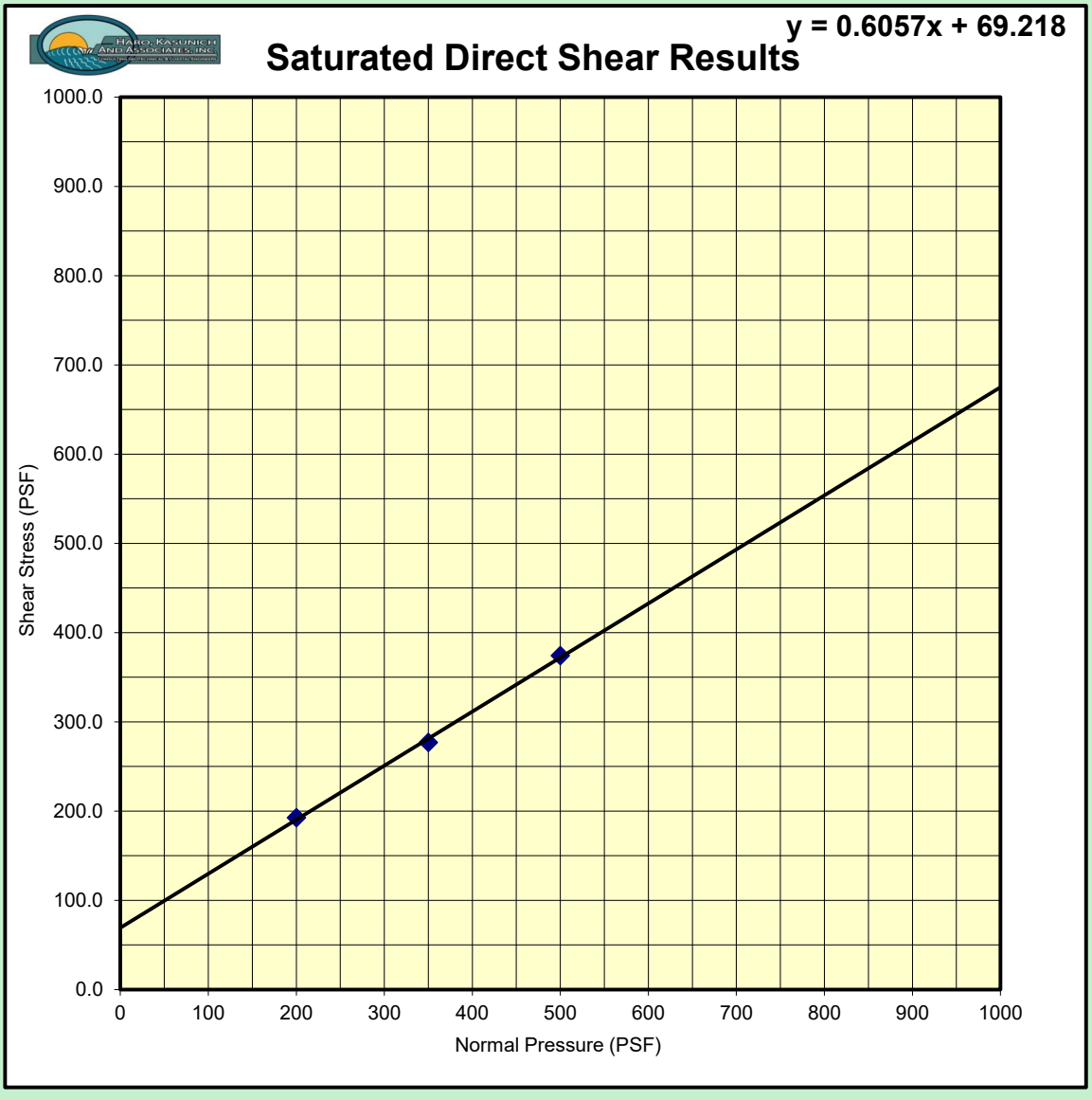


Figure No. 10

Percent Passing #200 Sieve

Project Name:	Blue Ridge Tank Replacement		
File No.:	11988		
Sample No.:	2-1-2		
Date:	July 12, 2021		
By:	MA		
Sample Description:			
Mottled Dk Brown Sandy CLAY			
Group Symbol:	CH	Note: Density calced using total weights of PI & 200W. Total sample moisture = 16.2%	
Gravel Content:	0.0%		
Sand Content:	43.0%		
Fines Content:	57.0%		

Moisture Density		
Height Of Sample (in) or Enter "Bag"		6.0
Tare No.	Total (NET)	PSF
Gross Wet Weight	717.8	436.2
Gross Dry Weight		388.6
Tare Weight		78.2
Net Dry Weight	617.6	310.4
Weight of Water	100.2	47.6
%Moisture	16.2%	15.3%
Dry Density		88.5

Sieve	Weight Retained	% Retained	Cumulative Percent		Specs
			Retained	Passing	
2"	0.0	0.0%	0.0%	100.0%	
1½"	0.0	0.0%	0.0%	100.0%	
1"	0.0	0.0%	0.0%	100.0%	
¾"	0.0	0.0%	0.0%	100.0%	
½"	0.0	0.0%	0.0%	100.0%	
3/8"	0.0	0.0%	0.0%	100.0%	
No. 4	0.0	0.0%	0.0%	100.0%	
No. 8	0.0	0.0%	0.0%	100.0%	
No. 10	0.0	0.0%	0.0%	100.0%	
No. 16	0.0	0.0%	0.0%	100.0%	
No. 30	0.0	0.0%	0.0%	100.0%	
No. 40	0.0	0.0%	0.0%	100.0%	
No. 50	0.0	0.0%	0.0%	100.0%	
No. 100	0.0	0.0%	0.0%	100.0%	
No. 200	133.5	43.0%	43.0%	57.0%	
Pan	176.9	57.0%	100.0%	0.0%	
Total	310.4	100.0%		100.0%	

Before Dry Wt.	310.4	After Wash Gross Dry Wt.	211.7
Tare		Tare	78.2
			133.5

Test Report By: HKA LAB
Date: 8/20/2021

Percent Passing #200 Sieve

Moisture Density	
Height Of Sample (in) or Enter "Bag"	Bag
Tare No.	6
Gross Wet Weight	400.3
Gross Dry Weight	336.9
Tare Weight	100.2
Net Dry Weight	236.7
Weight of Water	63.4
%Moisture	26.8%
Dry Density	#VALUE!

Project Name:	Blue Ridge Tank Replacement
File No.:	11988
Sample No.:	2-2
Date:	July 12, 2021
By:	MA

Sample Description: **Lt Brown CLAY**

Group Symbol:	CL-CH	Notes:
Gravel Content:	0.0%	
Sand Content:	0.5%	
Fines Content:	99.5%	

Sieve	Weight Retained	% Retained	Cumulative Percent Retained	Cumulative Percent Passing	Specs
2"	0.0	0.0%	0.0%	100.0%	
1½"	0.0	0.0%	0.0%	100.0%	
1"	0.0	0.0%	0.0%	100.0%	
¾"	0.0	0.0%	0.0%	100.0%	
½"	0.0	0.0%	0.0%	100.0%	
3/8"	0.0	0.0%	0.0%	100.0%	
No. 4	0.0	0.0%	0.0%	100.0%	
No. 8	0.0	0.0%	0.0%	100.0%	
No. 10	0.0	0.0%	0.0%	100.0%	
No. 16	0.0	0.0%	0.0%	100.0%	
No. 30	0.0	0.0%	0.0%	100.0%	
No. 40	0.0	0.0%	0.0%	100.0%	
No. 50	0.0	0.0%	0.0%	100.0%	
No. 100	0.0	0.0%	0.0%	100.0%	
No. 200	1.2	0.5%	0.5%	99.5%	
Pan	235.5	99.5%	100.0%	0.0%	
Total	236.7	100.0%		100.0%	

Before Dry Wt.	236.7	After Wash Gross Dry Wt.	101.4
Tare		Tare	100.2
			1.2

Test Report By: HKA LAB
Date: 8/20/2021

APPENDIX D

TREE REPORT

STEVEN M. BUTLER, REGISTERED PROFESSIONAL FORESTER
EROSION CONTROL PROFESSIONAL

12650 Highway 9 ♦ Boulder Creek, CA 95006 ♦ U.S.A
Phone 831-338-0249 ♦ Fax 831-338-0249

August 5, 2022

San Lorenzo Valley Water Dist.
Carly Blanchard
130609 Highway 9
Boulder Creek CA 95006

Dear Carly,

At your request I reviewed, catalogued and photographed the trees required for removal for the Tank replacement project on Blue Ridge and Short Street in Boulder Creek, California (Santa Cruz County). The trees were chosen for removal to provide room to allow for the demolition of the old tank, installation of a temporary tank, installation of a new larger permanent tank and an access path from the road below to the ridge top site.

The tank is set on parcels 084-261-13 &14 owned by the Water District. This is located in the Redwood Grove Subdivision, a rural mountain subdivision consisting of mostly quarter acre lots. The area is zoned Rural Residential (R-1-15).

The area is comprised of 110 years old second growth redwood forest with an over story of redwood and Douglas fir (Coastal Coniferous Forest). There are Live oaks and Madrones in a shorter over story. The under story is comprised of young specimens of the over story as well as: Hazel nut, Poison Oak, black berry, Tan Oak, Coffee Berry and Bay. The following non-native species were observed on site: Thistle, French Broom, Periwinkle (Vinca), and English Ivy.

List of trees greater than 12” diameter to be removed (Corresponding number painted with red paint on each tree to be removed):

- Tree #1, Redwood, 17” diameter, 100’ tall
- Tree #2, Redwood, 26” diameter, 110’ tall
- Tree #3, Redwood, 29” diameter, 110’ tall
- Tree #4, Redwood, 29” diameter, 110’ tall
- Tree #5, Redwood, 14” diameter, 55’ tall
- Tree #6, Redwood, 26” diameter, 110’ tall
- Tree #7, Double Live Oak 13” & 18” diameters, 75’ tall, heavily leaning and very rotten at base
- Tree #8, Douglas –fir, 21” diameter, 105’ tall, double top.
- Tree #9, Douglas-fir, 18” diameter, 95’ tall, leaning with 10” diameter dead top DF 3’ south.
- Tree #10 Douglas-fir, 24” diameter, 125’ tall, growing at top edge of road cut bank.
- Tree #11, Live Oak, 13” diameter, 50’ tall
- Tree #12, Madrone, 13” diameter, 50’ tall
- Tree #13, Douglas-fir, 33” diameter, 125’ tall, fading crown (dying)

- Tree #14, Live Oak, 15” diameter, 55’ tall, top of road bank
- Tree #15, Madrone stump, tree died and was removed by PG&E.
- Tree #16, Douglas-fir, 25” diameter, 125’ tall, leaner
- Tree #17, Douglas-fir, 17” diameter, 105’ tall
- Tree #18, Douglas fir 20” diameter, 90’ tall, Guy line from telephone pole on tree (not power pole). Tree not on SLVW parcel, on APN 084-261-28, 1041 Short Street.
- Tree #19, Redwood 20” diameter, 60’ tall, has 10” diameter redwood joined near base.
- Tree #20, Redwood, 45” diameter, 125’ tall
- Tree #21, Redwood, 39” diameter, 125’ tall

Pictures of trees to be removed on the following sheets, site map attached.

I hope this report meets your needs.

Sincerely,

Steven M. Butler
RPF #2390, CPESC #2196

Tress #1 & #2, trees 3 &4 to the left, trees 5 & 6 to the right.

Trees #3 & #4 in the center of picture, behind fence.. One of the stems of tree 7 on the right. Trees 1 & 2 to the back left

Tree #7 rotten double Live Oak.

Trees 8, 9, 10 & 11 (left to right).

Tree #12, madrone.

Tree # 14.

Tree # 13.

Tree # 16 to the left of Madrone stump #15. Dead Madrone was cut by PG&E.

Tree #21, #19 & #20 (Left to Right)

Tress #18 & #17 (Left to right).

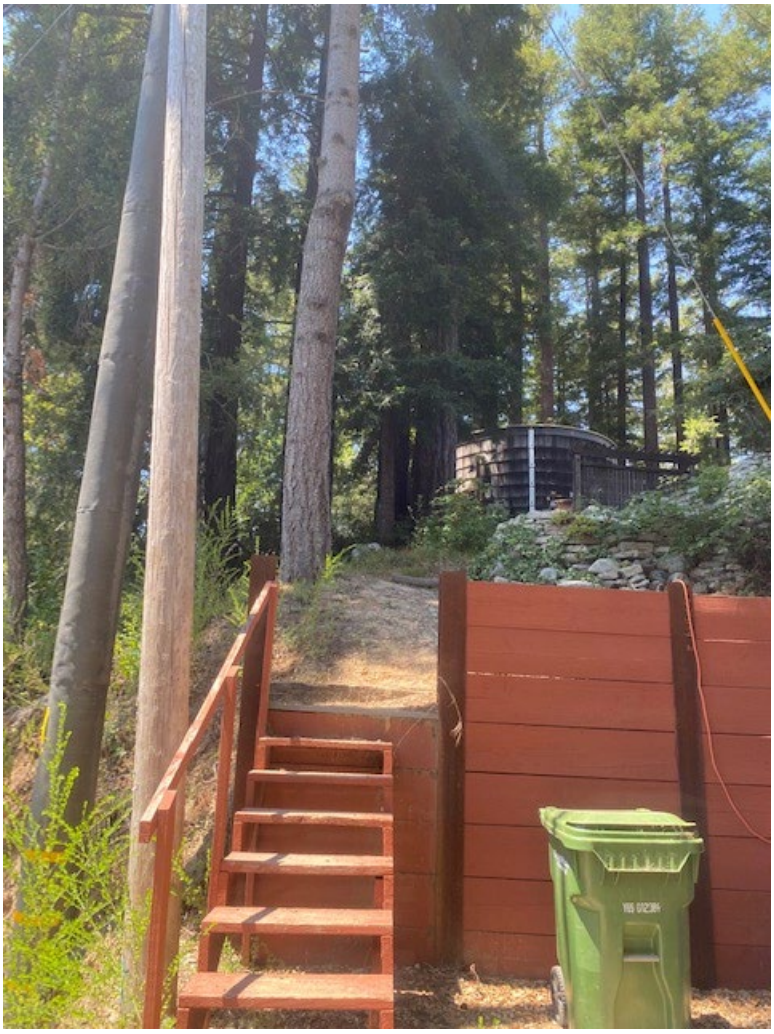
Tress #5 & #6 (Left to right).

Tank front view.

Tank left side.

Front of tank with canopy.

Front of tank with view of right side of property. Private property ~ 500 feet from fence line of tank.



Current access through private property to tank & site.

Access to tank site from private property.

Vegetation left side of tank.

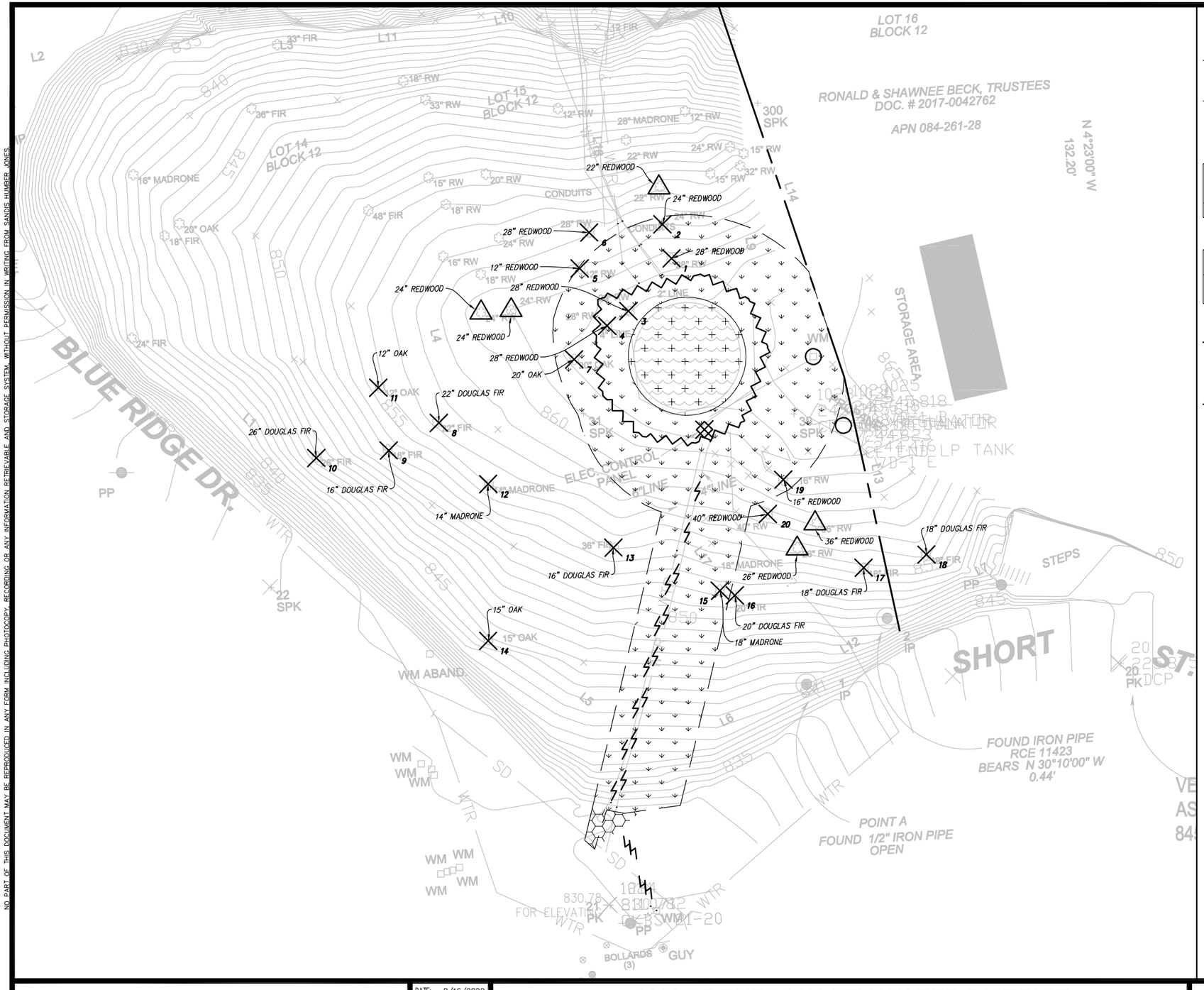
Backside of tank – right view.

Top of tank site looking down towards road (potential access road route).

Road below tank

Road below tank heading up towards private property access stairs.

Lower view (from road) of potential access route.



LEGEND

SAWCUT LINE. CONTRACTOR SHALL SAWCUT WITH A NEAT, CLEAN EDGE. SAWCUT CONCRETE AT NEAREST JOINT TO SAWCUT LINE SHOWN ON PLAN.

CLEAR AND GRUB EXISTING LANDSCAPE AREA SO NO ORGANICS ARE STILL PRESENT.

DEMOLISH AND REMOVE EXISTING TANK STRCUTURE

REMOVE EXISTING WALL OR FENCE INCLUDING ASSOCIATED FOOTINGS. RETURN FENCE TO OWNER.

DEMOLISH AND REMOVE EX. UTILITY LINE. BACKFILL EMPTY TRENCH WITH APPROVED FILL PER GEOTECHNICAL REPORT.

DEMOLISH AND REMOVE EX. UTILITY STRUCTURE

PROTECT EXISTING UTILITY TO REMAIN

REMOVE EXISTING TREE AND ROOT BALL. COORDINATE WITH LANDSCAPE ARCHITECT AND PROJECT ARBORIST PRIOR TO REMOVING ANY TREES.

PROTECT EXISTING TREE TO REMAIN. SEE LANDSCAPE PLANS AND ARBORIST'S REPORT FOR TREE PROTECTION DETAILS.

SANDIS BUILD ON. SANDIS.NET

DATE:	8/16/2022
SCALE:	1"=XX'
BY:	CRS
PROJECT No.:	221572

SAN LORENZO VALLEY WATER DISTRICT
2021 CIP PIPELINE PROJECT
BOULDER CREEK CALIFORNIA

TREE REMOVAL EXHIBIT

EXH-1

File: X:\P\221572\4_ENGINEERING\3_EXHIBITS\2022-08-16 Tree Removal Exhibit\EXH-1.dwg Date: Aug 16, 2022 - 11:29 AM

APPENDIX E

AB 52 LETTERS AND NATIVE AMERICAN OUTREACH LOG

August 30, 2022

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road
Lakeport, CA, 95453

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Chairperson Zwierlein:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

The District's cultural resources consultant is currently conducting literature review for the project to determine potential cultural resources in the area. The results of the review can be provided confidentially, upon request. The Native American Heritage Commission (NAHC) also reviewed the Sacred Lands File (SLF) and determined negative results. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated. The input of the Amah Mutsun Tribal Band of Mission San Juan Bautista is important to the SLVWD's planning process.

Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

Enclosure: Project Location Map

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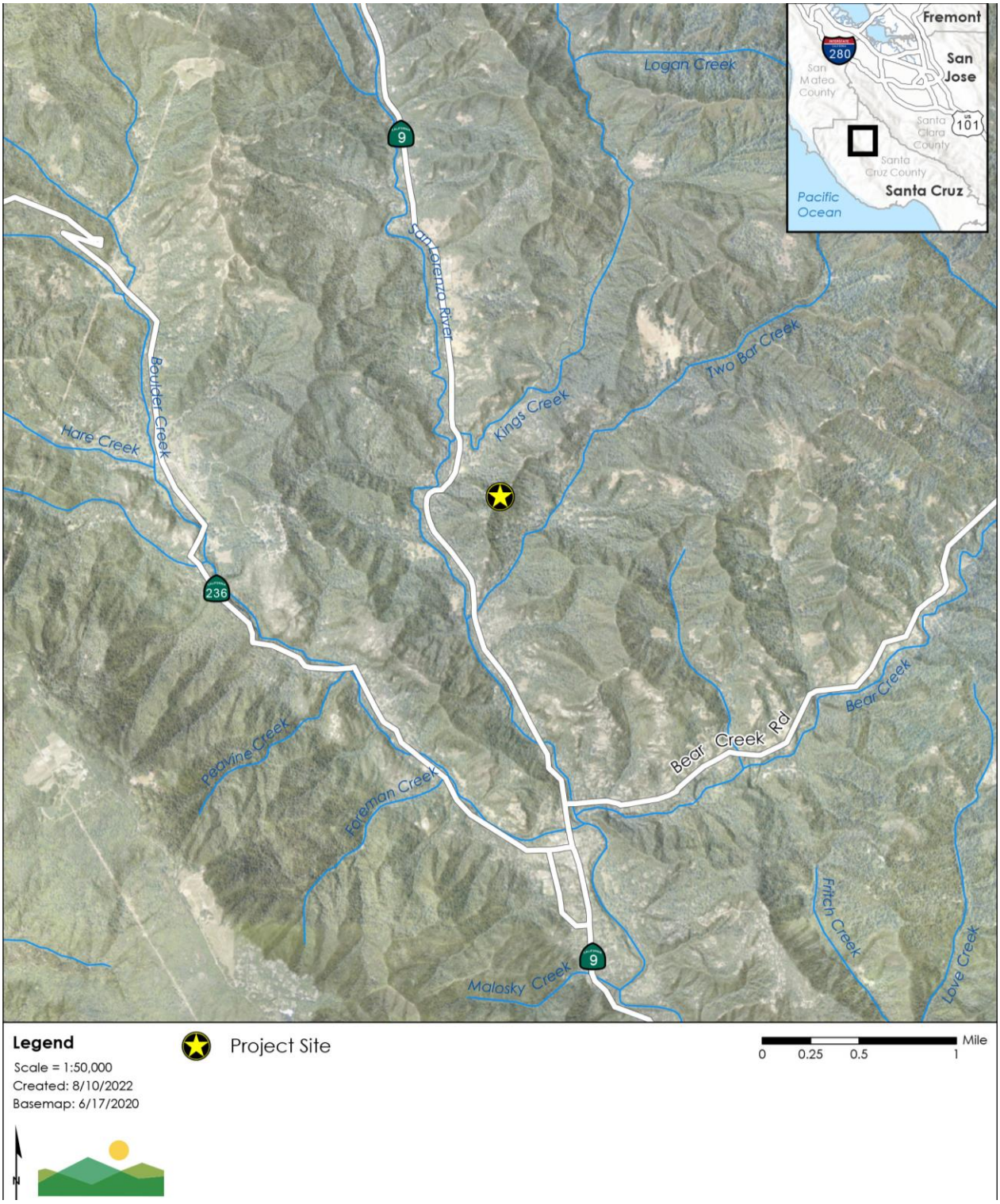
Figure 1: Project Location



San Lorenzo Valley
WATER DISTRICT

August 30, 2022

Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
P.O. Box 5272
Galt, CA, 95632

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Chairperson Lopez:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

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Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

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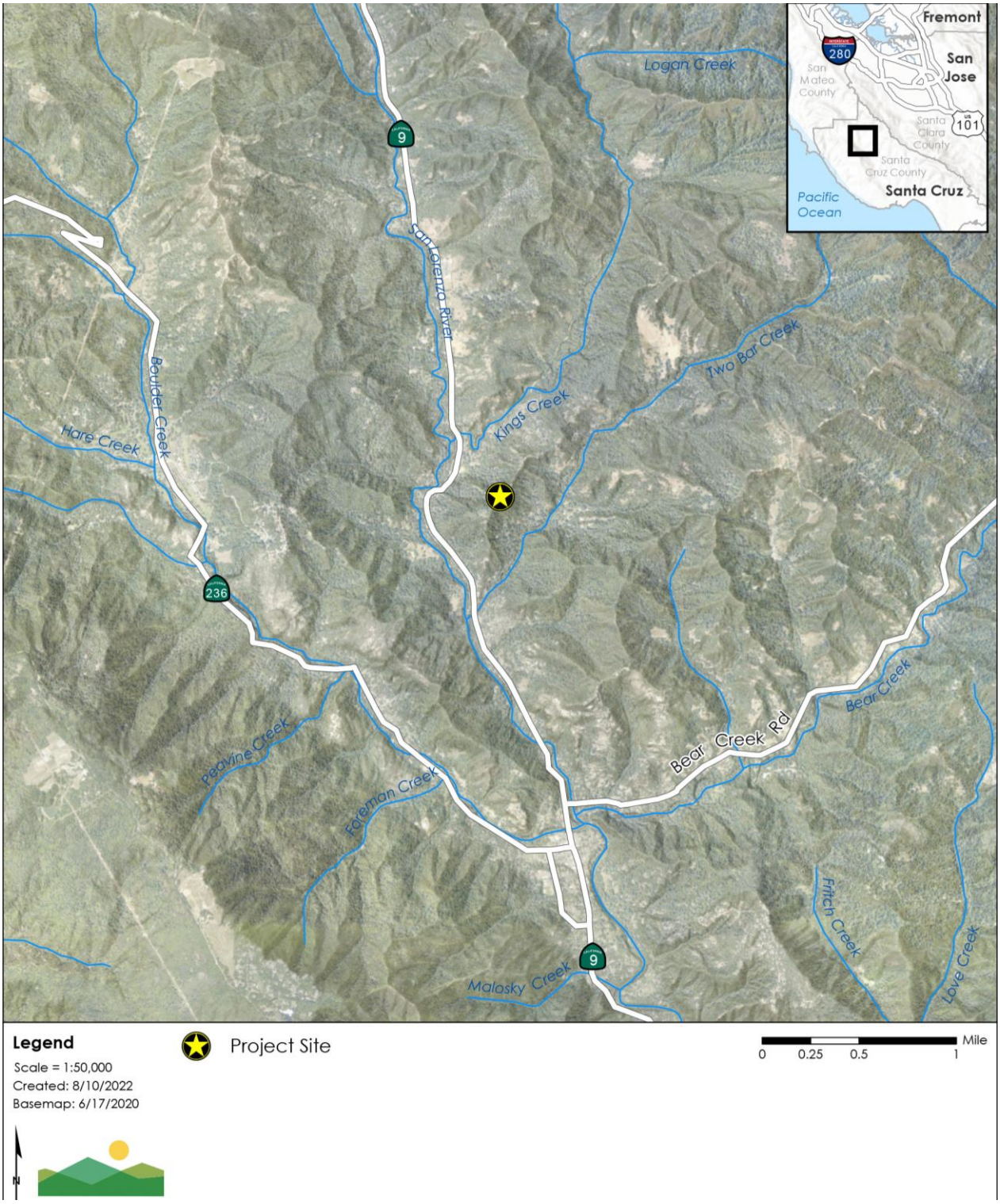

San Lorenzo Valley WATER DISTRICT

August 30, 2022

Costanoan Ohlone Rumsen-Mutsen Tribe
Patrick Orozco, Chairman
644 Peartree Drive
Watsonville, CA, 95076

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Chairman Orozco:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

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The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated. The input of the Costanoan Ohlone Rumsen-Mutsen Tribe is important to the SLVWD's planning process.

Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

Enclosure: Project Location Map

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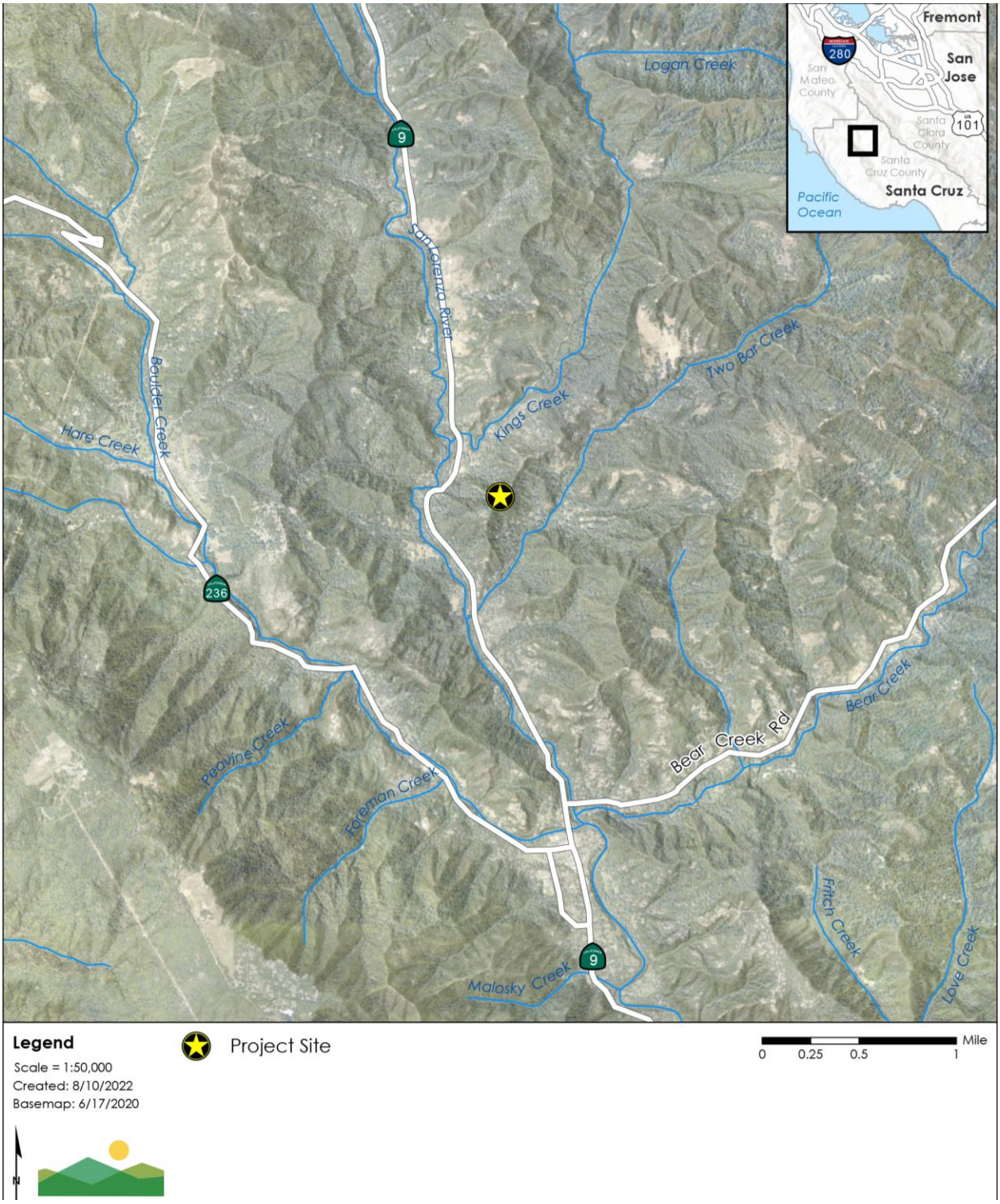

San Lorenzo Valley WATER DISTRICT

August 30, 2022

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA, 95024

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Chairperson Sayers:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

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The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated. The input of the Indian Canyon Mutsun Band of Costanoan is important to the SLVWD's planning process.

Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

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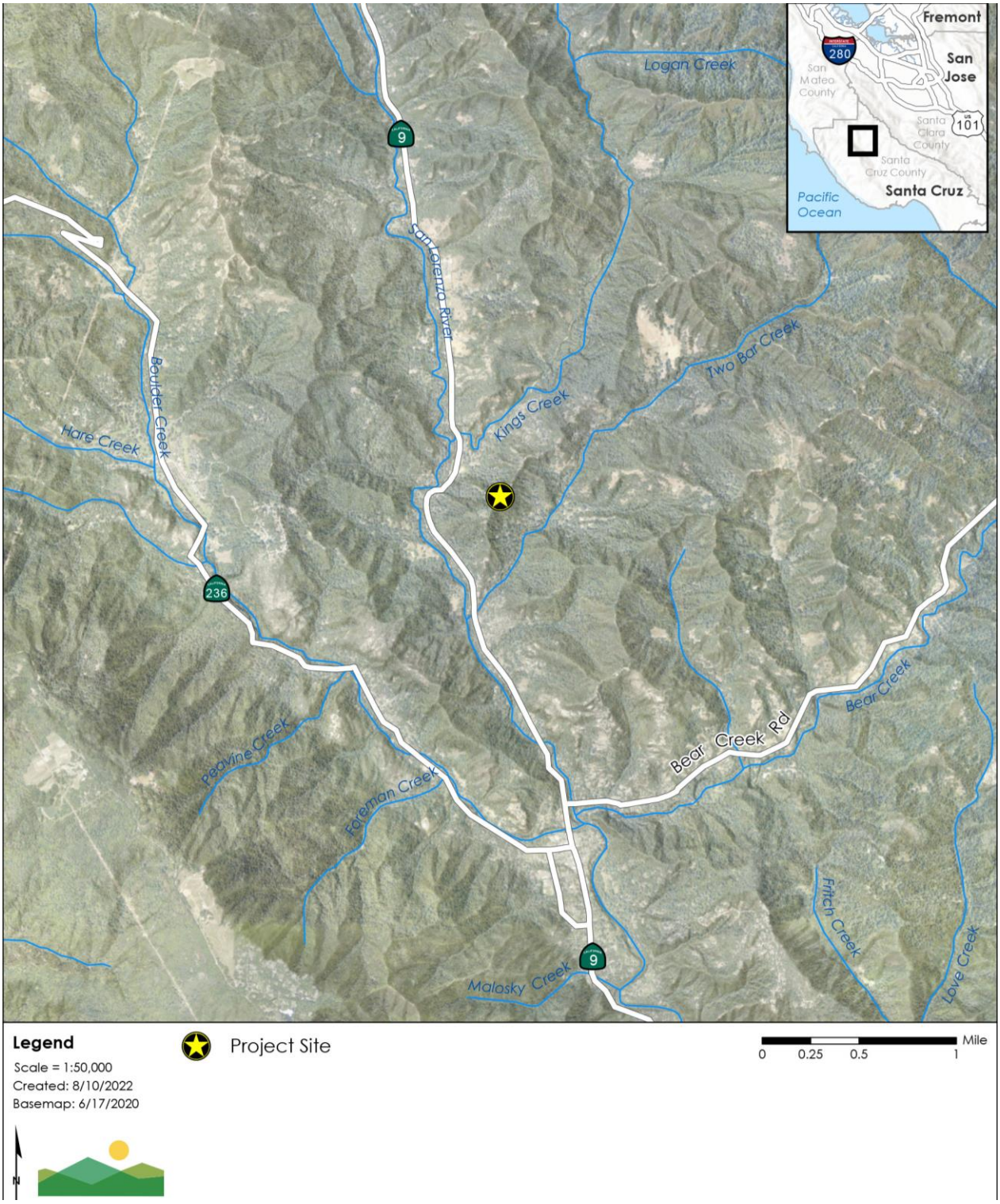

San Lorenzo Valley
WATER DISTRICT

August 30, 2022

Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods, MLD Contact
1615 Pearson Court
San Jose, CA, 95122

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Ms. Sayers-Roods:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

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The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated. The input of the Indian Canyon Mutsun Band of Costanoan is important to the SLVWD's planning process.

Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

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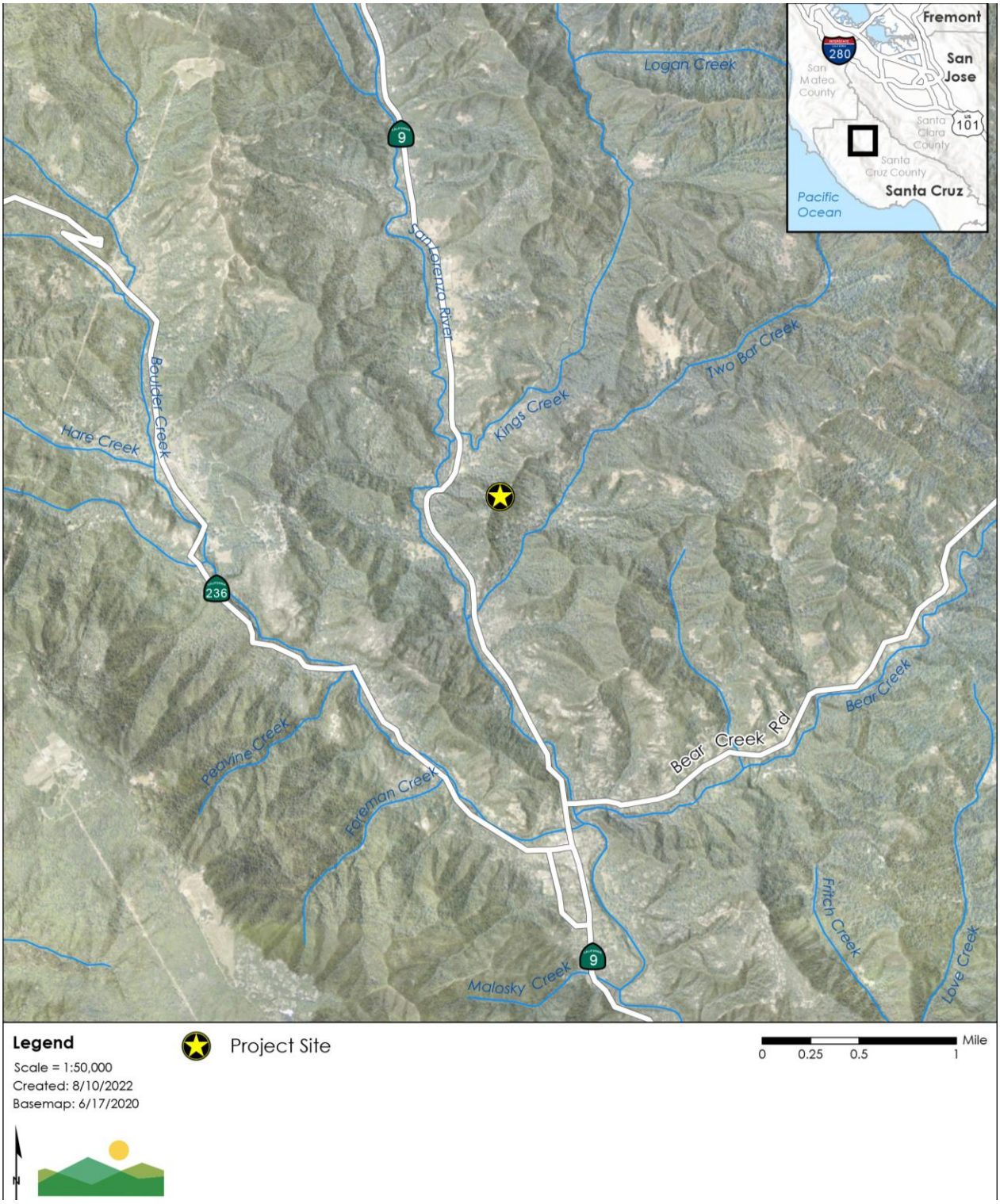

San Lorenzo Valley WATER DISTRICT

August 30, 2022

Muwekma Ohlone Indian Tribe of the SF Bay Area
Monica Arellano, Vice Chairwoman
20885 Redwood Road, Suite 232
Castro Valley, CA, 94546

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Vice Chairwoman Arellano:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

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Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

Enclosure: Project Location Map

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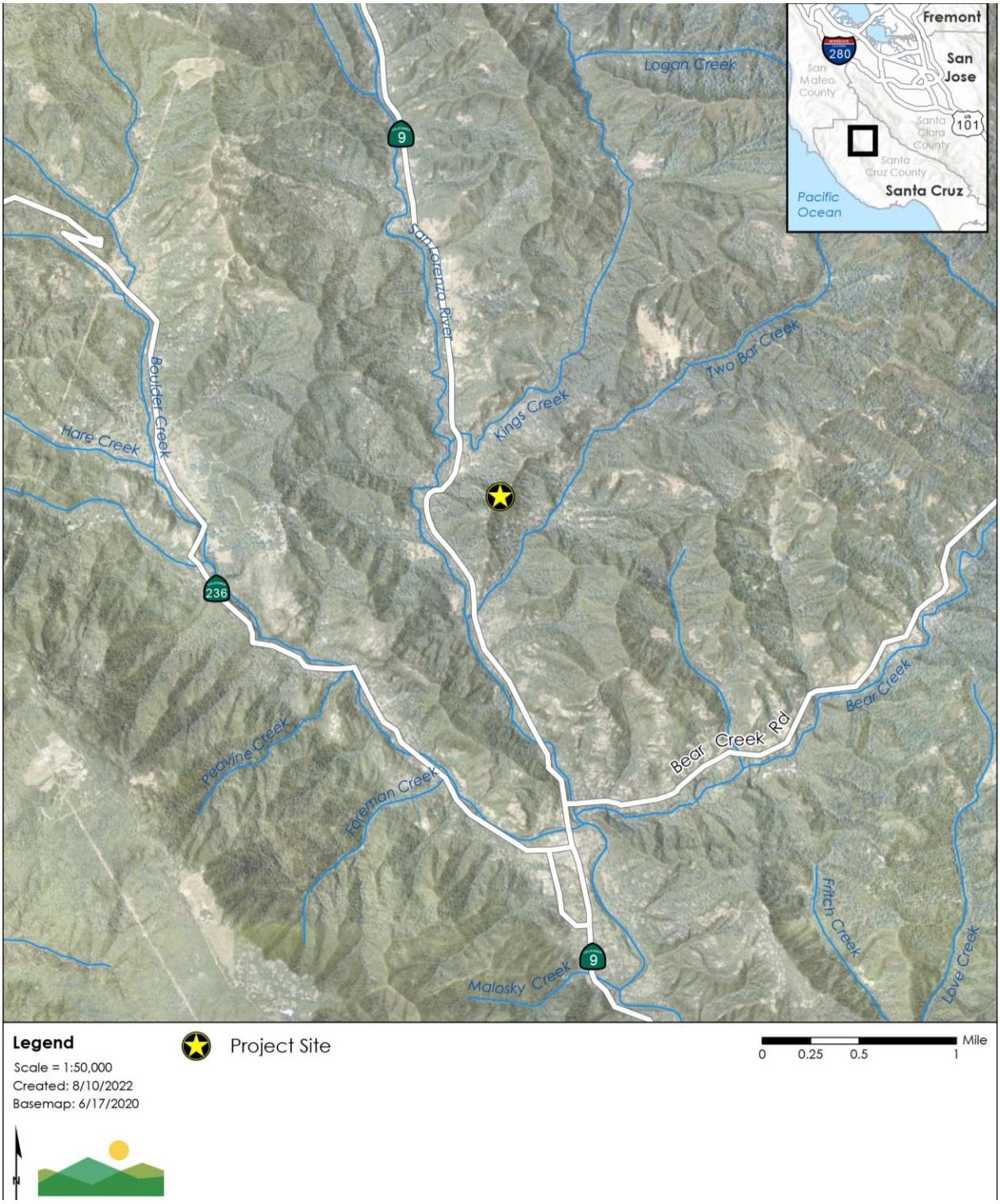

San Lorenzo Valley WATER DISTRICT

August 30, 2022

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA, 93906

Subject: AB 52 Consultation, San Lorenzo Valley Water District Blue Ridge Tank Replacement Project, Boulder Creek, Santa Cruz County, California

Dear Chairperson Woodrow:

The San Lorenzo Valley Water District (SLVWD) is preparing an Initial Study – Mitigated Negative Declaration for the proposed SLVWD Blue Ridge Tank Replacement Project. The project consists of the replacement of the existing redwood 40,000-gallon Blue Ridge Tank with a new 160,000-gallon tank providing 120,000-gallons of effective storage (Assessor's Parcel Numbers 084-261-13 and APN 084-261-14. These parcels are contiguous and are 0.095 acres and 0.241-acres respectively) located on the south and east of Blue Ridge Drive and north of Short Street in the community of Boulder Creek, California. The existing tank is currently undersized and leaking. The project would involve demolition and removal of the existing Blue Ridge Tank, electrical panel, and utility connections. Site preparation would involve grading and removal of nineteen mature trees (8 redwoods, 2 oaks, 8 fir and 1 madrone) to accommodate the larger replacement tank. The project is subject to the California Environmental Quality Act.

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The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated. The input of the Wuksache Indian Tribe/Eshom Valley Band is important to the SLVWD's planning process.

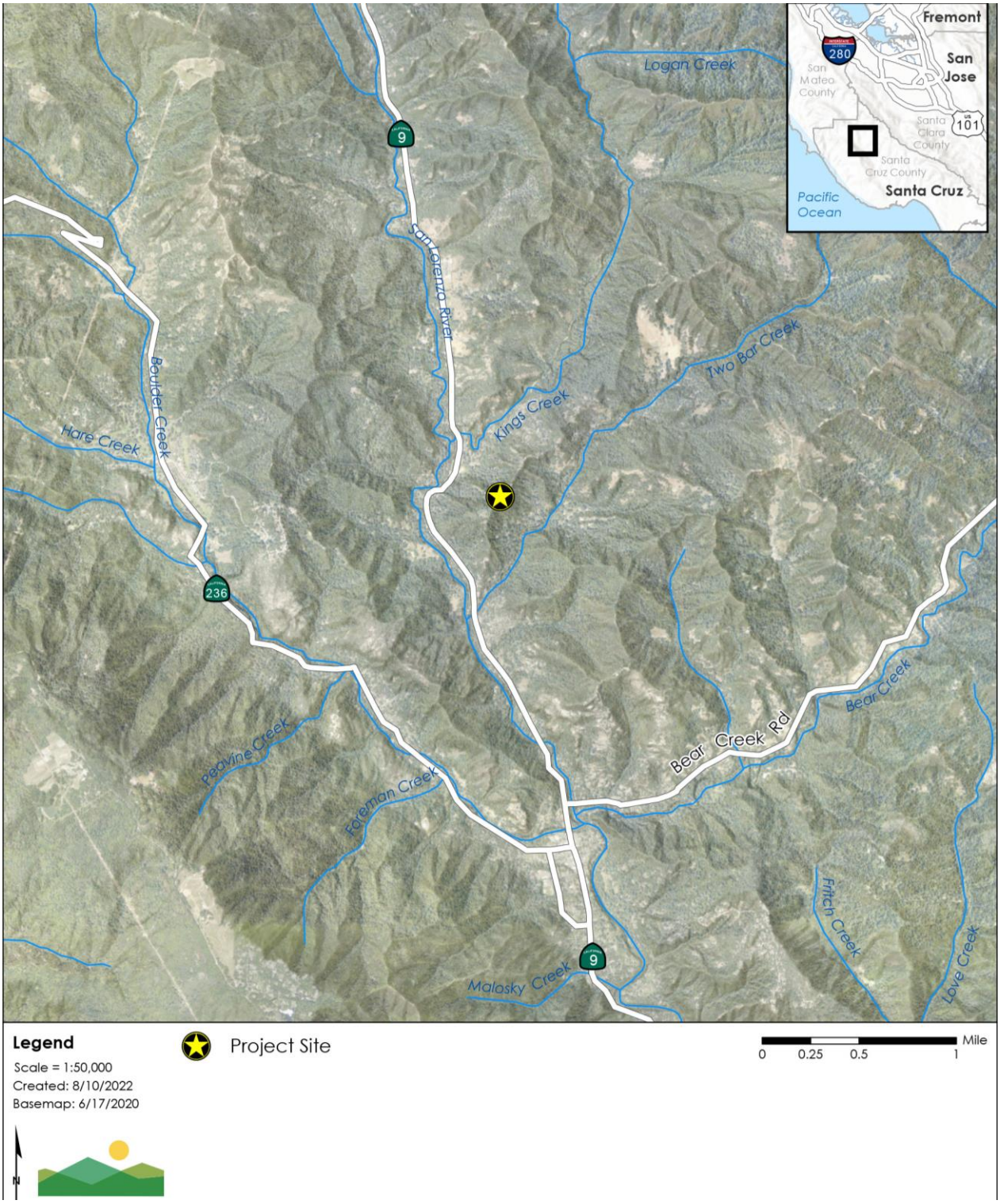
Under AB 52, contacts are afforded 30 days to respond. If you require any additional information or have any questions, please contact me at 831-430-4639 or via e-mail at CBLANCHARD@SLVWD.COM. Thank you for your assistance.

Sincerely,

Carly Blanchard
Environmental Planner
San Lorenzo Valley Water District

Enclosure: Project Location Map

Figure 1: Project Location



San Lorenzo Valley Water District - Blue Ridge Tank Replacement Project
AB 52 Correspondence

Contact List	Letter Transmittal Date	Response Date	Contact Log
Amah Mutsun Tribal Band Valentin Lopez, Chairperson P.O. Box 5272 Galt, CA, 95632 Phone: (916) 743 - 5833 vlopez@amahmutsun.org	August 31, 2022		Mailed by certified mail & via email on 8/31/22 Sent follow-up via email 9/20/22
Amah Mutsun Tribal Band of Mission San Juan Bautista Irene Zwierlein, Chairperson 3030 Soda Bay Road Lakeport, CA, 95453 Phone: (650) 851 - 7489 Fax: (650) 332-1526 amahmutsuntribal@gmail.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22 Sent follow-up via email 9/20/22
Costanoan Ohlone Rumsen-Mutsen Tribe Patrick Orozco, Chairman 644 Peartree Drive Watsonville, CA, 95076 Phone: (831) 728 - 8471 yanapvoic97@gmail.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22 Sent follow-up via email 9/20/22
Indian Canyon Mutsun Band of Costanoan Ann Marie Sayers, Chairperson P.O. Box 28 Hollister, CA, 95024 Phone: (831) 637 - 4238 ams@indiancanyons.org	August 31, 2022		Mailed by certified mail & via email on 8/31/22 Sent follow-up via email 9/20/22

Indian Canyon Mutsun Band of Costanoan Kanyon Sayers-Roods, MLD Contact 1615 Pearson Court San Jose, CA, 95122 Phone: (408) 673 - 0626 kanyon@kanyonkonsulting.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22 Sent follow-up via email 9/20/22
Muwekma Ohlone Indian Tribe of the SF Bay Area Monica Arellano, Vice Chairwoman 20885 Redwood Road, Suite 232 Castro Valley, CA, 94546 Phone: (408) 205 - 9714 marellano@muwekma.org	August 31, 2022		Mailed by certified mail & via email on 8/31/22 Sent follow-up via email 9/20/22
Wuksache Indian Tribe/Eshom Valley Band Kenneth Woodrow, Chairperson 1179 Rock Haven Ct. Salinas, CA, 93906 Phone: (831) 443 - 9702 kwood8934@aol.com	August 31, 2022		Mailed by certified mail & via email on 8/31/22 Sent follow-up via email 9/20/22