Draft Initial Study and
Proposed Mitigated Negative Declaration

Yuba River North Training Wall Phase 2 Project

Prepared for:

Three Rivers Levee Improvement Authority

Prepared by:

GEI Consultants

November 2022

Draft Initial Study and Proposed Mitigated Negative Declaration

Yuba River North Training Wall Phase 2 Project

Prepared for:

Three Rivers Levee Improvement Authority
1114 Yuba Street, Suite 218
Marysville, CA 95901

Contact:

Leslie Wells
Executive Assistant
530-749-7841

Prepared by:

GEI Consultants, Inc.
2868 Prospect Park Drive, Suite 400
Sacramento, CA 95670

Contact:

Anne King
Environmental Compliance Project Manager
916-382-7833

November 7, 2022

Project No. 050115, 4.8

Date: November 9, 2022

To: Interested Parties

From: Kevin Mallen, Executive Director, Three Rivers Levee Improvement Authority

Subject: Notice of Availability and Intent to Consider Adoption of a Proposed Mitigated Negative Declaration for the Yuba River North Training Wall Phase 2 Project

Attached for review is an Initial Study (IS) and a proposed Mitigated Negative Declaration (MND) evaluating the potential environmental effects of the proposed Yuba River North Training Wall Phase 2 Project (project). The Three Rivers Levee Improvement Authority (TRLIA) has prepared this IS/MND in accordance with the requirements of the California Environmental Quality Act (CEQA) and State CEQA Guidelines.

The project is located along the Yuba River, approximately 8 miles northeast of the City of Marysville, in Yuba County. The project includes constructing a high ground tie-in embankment to extend the north end of the North Training Wall upstream and form a contiguous line of protection that further reduces flood risk to the Hallwood community, the City of Marysville, and portions of Reclamation District 10. The proposed project also includes potential ecological enhancement components: riparian/aquatic habitat creation, fish passage enhancement, and salmonid foraging enhancement.

The IS/MND identifies potentially significant impacts related to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and Tribal cultural resources. All potentially significant impacts are reduced to less-than-significant levels with implementation of mitigation measures identified in the IS/MND.

The IS/MND is hereby circulated for public review and comment for a 45-day period beginning November 9, 2022 and ending December 23, 2022. The IS/MND is available at TRLIA's Web site, http://www.trlia.org/. The IS/MND and all cited references are available for review by appointment (530-749-7841) at the TRLIA office (address below). The IS/MND is also available for review at the Yuba County Public Library, 303 Second Street, Marysville. Contact Anne King at 916-382-7833 or aking@geiconsultants.com if you have questions regarding the IS/MND, require a hard copy of the IS/MND, or require a cited reference.

Please send written comments on the IS/MND to Ms. Leslie Wells, Executive Assistant, Three Rivers Levee Improvement Authority, 1114 Yuba Street, Suite 218, Marysville, CA 95901. Comments may also be sent via e-mail to lwells@co.yuba.ca.us. For e-mailed comments, please

include the project title in the subject line, attach comments in Microsoft Word format, and include the commenter's name and U.S. Postal Service mailing address. **All written comments must be received by December 23, 2022**.

TRLIA intends to consider adoption of the proposed MND and a Mitigation Monitoring and Reporting Program at its regularly scheduled board meeting on February 7, 2023 at 2:00 p.m. This meeting is open to the public and will be held at the Yuba County Government Center Board Chambers at 915 Eighth Street, Marysville. Attendance may also be available via Zoom; instructions on how to join via Zoom, if applicable, will be available on the meeting agenda posted at TRLIA's Web site, http://www.trlia.org/ by February 6, 2023.

PROPOSED MITIGATED NEGATIVE DECLARATION

Project: Yuba River North Training Wall Phase 2 Project

Lead Agency: Three Rivers Levee Improvement Authority

PROJECT LOCATION

The Yuba River North Training Wall Phase 2 Project (project) site is located on the north bank of the Yuba River, approximately 8 miles northeast of the City of Marysville, in Yuba County, California. The project site can be accessed via State Route 20 and Walnut Avenue.

PROJECT DESCRIPTION

The North Training Wall (NTW) is an approximately 2.25-mile-long cobble embankment that was constructed by the California Debris Commission in the early 1900s to confine the Yuba River and facilitate downstream movement of mining debris within the floodway. Flood control was not an authorized purpose, but the NTW has historically provided and continues to provide flood risk reduction to the surrounding area. However, the height and width of the NTW have decreased over time. This reduction and ongoing, persistent erosion from storm events have combined to increase the flood risk to the Hallwood community, the City of Marysville, and portions of Reclamation District 10 (D-10).

In early 2022, the Three Rivers Levee Improvement Authority (TRLIA) completed the NTW Phase 1 Project, which included reshaping the NTW embankment to provide a more stable geometry and address height and width reductions that had occurred over time and ongoing, persistent erosion from storm events. Completing this reshaping improved flood protection for the City of Marysville and portions of D-10 and substantially reduced flood risk to the community of Hallwood. The NTW reshaping was evaluated separately under the California Environmental Quality Act (CEQA) because it had independent utility and resources were available to complete the work.

The proposed project would include constructing a high ground tie-in embankment to extend the north end of the NTW upstream and form a contiguous line of protection that further reduces flood risk to the Hallwood community, the City of Marysville, and portions of D-10. The proposed project also includes potential ecological enhancement components: riparian/aquatic habitat creation, fish passage enhancement, and salmonid foraging enhancement.

FINDINGS

TRLIA has prepared an Initial Study (IS) and proposed Mitigated Negative Declaration (MND), in accordance with CEQA requirements and the State CEQA Guidelines, to assess the project's potential effects on the environment and the significance of those effects. Based on the IS, it has been determined that the proposed project would not result in significant adverse effects on the

physical environment after implementation of proposed mitigation measures. This conclusion is supported by the following findings:

1. The proposed project would have no impacts on land use and planning, population and housing, and public services.

2. The proposed project would have less-than-significant impacts on aesthetics, agriculture and forestry resources, energy, mineral resources, noise, recreation, transportation, utilities and service systems, and wildfire.

3. The proposed project would have potentially significant impacts on air quality, biological resources, cultural resources, geology and soils, greenhouse gas (GHG) emissions, hazards and hazardous materials, hydrology and water quality, and Tribal cultural resources, but mitigation measures are proposed to avoid or reduce these effects to less-than-significant levels.

4. The proposed project would not have the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

5. The proposed project would have beneficial impacts by reducing the flood risk in the local area, restoring and enhancing habitat in and adjacent to the Yuba River and improving conditions for returning fish from the existing Hallwood-Cordua Canal bypass to the Yuba River, and indirectly making available up to approximately 2.2 million cubic yards of aggregate materials for production.

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

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

8. The environmental effects of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly, and would reduce flood risks to the Hallwood Community, the City of Marysville, and portions of D-10.

Following are the proposed mitigation measures that would be implemented to avoid or minimize potentially significant environmental impacts. Implementation of these mitigation measures would reduce the potentially significant environmental impacts of the proposed project to less-than-significant levels. The responsibility for implementation of each mitigation measure is identified; however, TRLIA is ultimately responsible for ensuring each measure is implemented.

Mitigation Measure AQ-1: Implement Best Management Practices to Reduce Emissions during Construction.

TRLIA and its construction contractors will implement the following measures consistent with established Feather River Air Quality Management District (FRAQMD) *Construction Phase Mitigation Measures* (FRAQMD 2016):

- Develop and submit a fugitive dust control plan to minimize fugitive dust emissions during project construction to FRAQMD for approval.
- Ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation.
- Utilize existing power sources (e.g., line power) or clean fuel generators rather than temporary power generators to the extent feasible and practicable.
- Suspend all project grading operations when winds exceed 20 miles per hour or when winds carry dust beyond the property line despite implementation of all feasible dust control measures.
- Water or treat work areas with dust suppressants as necessary to prevent fugitive dust violations. Incorporate the use of FRAQMD-approved non-toxic soil stabilizers (e.g., as indicated in the most recent California Stormwater Quality Association Construction BMP Handbook) according to manufacturer's specifications to all inactive construction areas.
- Apply water to control dust as needed to prevent visible emissions violations and offsite dust impacts. Travel time to water sources should be considered and additional trucks used if needed.
- Minimize the free fall distance and fugitive dust emissions associated with all transfer processes involving a free fall of soil or other particulate matter.
- Install wheel washers where project vehicles and/or equipment exit onto paved streets from unpaved roads. Vehicles and/or equipment will be washed prior to each trip. Alternatively, a gravel bed may be installed as appropriate at vehicle/equipment site exit points to effectively remove soil buildup on tires and tracks to prevent/diminish track-out.

- Frequently sweep paved streets (water sweeper with reclaimed water recommended; wet broom) if soil material has been carried onto adjacent paved, public thoroughfares from the project site.
- Reduce traffic speeds on all unpaved surfaces to 15 miles per hour or less and reduce unnecessary vehicle traffic by restricting access. Provide appropriate training, onsite enforcement, and signage.
- Reestablish ground cover on the construction site as soon as possible and prior to final occupancy, through seeding and watering.

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Mitigation Measure AQ-2: Contribute to FRAQMD Off-Site Mitigation Program, Develop Equipment Inventory that Reduces Exhaust Emissions, and Document Equipment Use and Worker Vehicle Trips during Construction.

For project components that are estimated to exceed FRAQMD emissions thresholds, TRLIA and its construction contractors will implement the following measures to reduce, track, and offset construction-related project emissions, consistent with established FRAQMD Construction Phase Mitigation Measures (FRAQMD 2016).

- Before construction activities begin, TRLIA will pay a deposit to FRAQMD for contribution to the FRAQMD Off-site Mitigation Fund. This deposit will be held by FRAQMD and applied toward the final off-site mitigation amount to be paid after project construction is complete.
- Before construction activities begin, TRLIA and its construction contractors will compile a comprehensive inventory list (i.e., make, model, engine year, horsepower) of all heavy-duty off-road equipment (50 horsepower and greater) that will be used an aggregate of 40 or more hours. To the extent feasible, this equipment inventory will demonstrate that the heavy-duty off-road equipment to be used during construction (including owned, leased and subcontractor equipment) will achieve a target project-wide fleet average emission reduction for pollutants that are estimated to exceed FRAQMD thresholds (5 percent reactive organic gases reduction, 20 percent nitrogen oxide reduction, and/or 45 percent particulate matter reduction) compared to the most recent California Air Resources Board (CARB) fleet average at time of construction. Acceptable options for reducing emissions may include use of late model engines (Tier 4), CARB-approved low-emission diesel products, alternative fuels, engine retrofit technology (Carl Moyer Guidelines), aftertreatment products, and/or other options as they become available.

- Data regarding construction activities will be collected and used to calculate project emissions after construction activities are complete. Data collected during project construction will include the following items:
    - Construction equipment
        - Number of pieces of each equipment type
        - Model year, engine horsepower and tier, hours of operation for each type
    - Haul trucks (heavy-duty trucks)
        - Number of heavy-duty haul truck trips
        - On-road and off-road trip distance for haul truck trips
    - Number of construction workers per day
    - Total volume (cubic yards) of cut/fill

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Mitigation Measure AQ-3: Calculate Construction Emissions and Further Contribute to FRAQMD Off-Site Mitigation Program

Total construction emissions will be calculated at the end of construction activities. Using these calculations, TRLIA will make a final payment to the FRAQMD Off-Site Mitigation Fund, if necessary to further offset construction pollutant emissions that exceeded FRAQMD thresholds.

Timing: After construction activities are complete.

Responsibility: TRLIA.

Mitigation Measure BIO-1: Minimize Impacts on Valley Elderberry Longhorn Beetle.

TRLIA and its construction contractor(s) will implement the following measures consistent with the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017) to avoid and minimize impacts on elderberry shrubs and compensate for unavoidable impacts:

- Before project activities begin, worker awareness training will be provided by a qualified biologist to inform on-site project personnel of the need to avoid and minimize potential impacts on elderberry shrubs. The training will include, at a minimum, a discussion of valley elderberry longhorn beetle, its conservation status, its host plant, its habitat, measures to be implemented for its protection, and possible

penalties for non-compliance. An appointed representative will be identified and available to project personnel to ensure that questions regarding avoidance and protection measures are addressed in a timely manner.

- Before project activities near elderberry shrubs begin, stakes and/or flagging (substrate and slopes likely preclude use of fencing) will be placed to clearly delineate the extent of material excavation and other construction and restoration activities. A buffer will be provided around elderberry shrubs/clusters to prevent accidental damage during project activities. To the maximum extent feasible, buffers will be a minimum of 20 feet from the dripline of elderberry shrubs/clusters.

- A qualified biological monitor will supervise buffer establishment and conduct periodic inspections during project construction and restoration activities to ensure that impact avoidance and minimization measures are properly implemented.

- To the maximum extent feasible, trimming of elderberry shrub branches and stems will occur between November and February and will avoid removal of those greater than 1 inch in diameter. Other project activities involving heavy equipment use within 165 feet of an elderberry shrub will be conducted outside of the valley elderberry longhorn beetle flight season (March through July) to the extent feasible.

- Elderberry shrubs that require removal during project implementation will be transplanted. The shrubs are anticipated to be transplanted to one or more of the potential habitat restoration areas. A qualified biologist will identify transplant locations that are suitable for elderberry growth and reproduction and ideally in the vicinity of other existing elderberry shrubs that would not be removed by the project. Transplanting will be implemented as follows:

    - To the maximum extent feasible, elderberry shrubs will be transplanted when they are dormant (November through the first 2 weeks in February) and after they have lost their leaves.

    - A qualified biologist will conduct an exit hole survey immediately before each shrub is transplanted and will be onsite during transplanting activities. The biologist will record the number of exit holes found on each shrub, the precise location of each shrub that is removed, and the precise transplant location for each shrub.

- Compensatory mitigation will be provided for removal of isolated elderberry shrubs and/or riparian vegetation that includes elderberry shrubs. An appropriate mitigation strategy will be developed in consultation with USFWS and is anticipated to include elderberry shrub/habitat replacement at a 2:1 to 3:1 ratio for each elderberry shrub or extent of riparian habitat that is removed. Mitigation is anticipated to be implemented in an on-site habitat restoration area but could be implemented at an appropriate

alternative location agreed to by U.S. Fish and Wildlife Service (USFWS) or through purchase of credits at a USFWS-approved mitigation bank. If mitigation is not provided at a mitigation bank, the mitigation strategy will specify monitoring, maintenance, and protection requirements to ensure the mitigation habitat is successfully established and adequately protected.

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Mitigation Measure BIO-2: Conduct Focused Surveys for Nesting Birds and Implement Buffers Around Active Nests.

To minimize potential effects of project construction and maintenance on special-status birds and avoid violation of the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC), TRLIA will ensure that the following measures are implemented:

- To the extent feasible, construction activities will be timed to avoid the primary bird nesting season (February-August).
- If construction activity would begin during the Swainson's hawk nesting season (March 15-August 31), focused surveys for active Swainson's hawk nests will be conducted within 0.5 mile of the project site by a qualified biologist, in accordance with *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). To meet the minimum level of protection for the species, surveys will be completed for the two survey periods immediately before construction activities begin. If a lapse in project-related activities of 14 days or longer occurs, another focused survey will be conducted before project activities resume.
- If construction activity would begin during the white-tailed kite nesting season (March 1-August 31), a focused survey for active white-tailed kite nests will be conducted by a qualified biologist. The survey will cover all potential on-site and off-site nesting habitat within 0.25 mile of the project site. The survey will be conducted no more than 14 days before the start of project activities. If a lapse in project-related activities of 14 days or longer occurs, another focused survey will be conducted before project activities resume.
- If construction activity would begin during the nesting season for other birds protected by the MBTA and CFGC (February 1- September 15), a survey for active bird nests will be conducted by a qualified biologist. The survey will cover all potential on-site and off-site nesting habitat within 500 feet of the construction footprint. The survey will be conducted no more than 14 days before the start of

project activities. If a lapse in project-related activities of 14 days or longer occurs, another focused survey will be conducted before project activities resume.

- If any active nests are found, a qualified biologist will prepare a site-specific take avoidance plan to comply with the California Endangered Species Act, MBTA, and/or CFGC. Measures may include but are not limited to rescheduling project activities around sensitive periods for the species (e.g., nest establishment), implementing construction best practices such as staging equipment out of the species' line of sight from the nest, and establishing nest-specific no-disturbance buffers. The prescribed avoidance/protection measures will be implemented before construction activities begin within 0.5 mile of an active Swainson's hawk nest, 0.25 mile of an active white-tailed kite nest, and 500 feet of other identified active nests and will continue until the nests are no longer active. A qualified biologist will monitor construction activities and behavior of the nesting birds and young to ensure project activities do not cause disturbance that could result in nest abandonment, reduced care of eggs or young, or premature fledging.

Timing: Before and during construction activities.

Responsibility: TRLIA and its construction contractor(s).

Mitigation Measure BIO-3: Minimize and Compensate for Loss of Mixed Riparian Woodland.

TRLIA and its construction contractor(s) will implement the following measures to reduce effects of the project on mixed riparian woodland:

- Impacts on riparian habitat will be avoided wherever possible by considering locations of riparian vegetation during development of the final project design, including restoration areas, maintenance zones, and construction staging areas and access routes.
- Unavoidable impacts on riparian habitat will be compensated at a minimum 1:1 replacement ratio based on the acreage removed to ensure no net permanent loss. Compensation may occur through purchase of credits from a mitigation bank or through restoration, monitoring, maintenance, and preservation of riparian habitat onsite or at an appropriate alternative location in the watershed.
- A mitigation plan will be prepared and implemented addressing how the loss of riparian habitat that cannot be avoided will be compensated. The mitigation plan will identify compensation ratios for acres lost and mitigation sites.
- If mitigation is not provided via purchase of credits at an established mitigation bank, the mitigation plan will also describe habitat compensation methods and location, monitoring protocol, performance standards for restored habitat, corrective measures

to be applied if performance standards are not met, and management and protection measures to ensure long-term habitat viability and protection.

Timing: Before ground-disturbing activities in areas containing riparian vegetation and throughout mitigation implementation.

Responsibility: TRLIA and its construction contractor(s).

Mitigation Measure CUL-1: Prepare and Implement Inadvertent Discovery Plan and Other Measures to Avoid and Minimize Impacts on Cultural Resources.

TRLIA and its construction contractor(s) will implement the following measures to avoid and minimize project-related impacts on potential archaeological or other cultural resources, including Tribal cultural resources (TCRs), during ground-disturbing project activities and address the evaluation and treatment of inadvertent/unanticipated discoveries of such resources:

- An inadvertent discovery plan will be developed before project-related construction activities begin and will be implemented in the event of a discovery during project construction.
- TRLIA will provide a cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training will be developed in coordination with an archaeologist meeting Secretary of the Interior Professional Qualifications Standards for Archaeology. The training will be conducted before ground-disturbing project construction activities begin on the project site and will include relevant information regarding sensitive cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating Federal and State laws and regulations. The training will also describe what to do and who to contact if any potential cultural resources are encountered. The training will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American Tribal values.
- A minimum of 7 days before clearing and grubbing, grading, or other soil disturbing project-related activities begin, TRLIA will notify Native American Tribes that are traditionally and culturally affiliated with the geographic area of the proposed start date and invite Tribal Representatives or Tribal Monitors to inspect the project site, including any soil piles, trenches, or other disturbed areas, within the first 5 days of beginning such activities. During this inspection, the Tribal Representative(s) or Tribal Monitor(s) will be given an opportunity to present construction personnel with information on TCRs and provide a worker awareness brochure.

- If any TCRs are encountered during this initial inspection or if an inadvertent discovery of buried or otherwise previously unidentified cultural resources, including archaeological resources and other suspected TCRs (e.g., unusual amounts of shell, animal bone, any human remains, ceramics, building remains) are discovered during project-related construction activities, all work will cease within 100 feet of the find and measures included in the inadvertent discovery plan will be implemented. TRLIA will retain a professional archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists to assess the discovery. Representatives from the traditionally and culturally affiliated Tribes will be immediately notified if the find includes suspected TCRs to determine if the find is a TCR (PRC Section 21074). The archaeologist and Tribal Representative will recommend what, if any, further evaluation and treatment is necessary for the find. Work at the discovery location will not resume until all necessary investigation and evaluation of the discovery is complete.
- When avoidance is infeasible, preservation in place is the preferred option for mitigation of archaeological resources and other TCRs, and every effort will be made to preserve the resources in place, including through project redesign, if feasible. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, or returning objects to a location within the project area where they will not be subject to future project-related impacts. Permanent curation of TCRs will not take place unless approved in writing by California Native American Tribes that are traditionally and culturally affiliated with the project area.
- The contractor will implement any measures deemed by TRLIA to be necessary and feasible to preserve in place, avoid, or minimize project-related impacts to the resource, including, but not limited to, the use of a paid Native American Monitor during ground disturbing activities in the vicinity of the find and facilitating the appropriate Tribal treatment of the find, as necessary. Treatment that preserves or restores the cultural character and integrity of a TCR may include Tribal monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.

Timing: Before and during project construction activities.

Responsibility: TRLIA and its construction contractor(s).

Mitigation Measure CUL-2: Avoid Potential Effects to Previously Unknown Human Remains.

If an inadvertent discovery of human remains is made at any time during project planning or project-related construction activities, TRLIA will implement the procedures listed below. If human remains are identified on the project site, the following performance standards will be met prior to implementing or continuing actions, such as construction, that may result in damage to or destruction of human remains:

- In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, TRLIA will immediately halt potentially damaging excavation in the area of the burial and notify the Yuba County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of TRLIA for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.9 et seq.
- Upon the discovery of Native American human remains, TRLIA will require that all construction work within 100 feet of the discovery stop, until consultation with the MLD has taken place. The MLD will have 48 hours to complete a site inspection and make recommendations to the landowner after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains.
- If agreed to by the MLD and the landowner, TRLIA or its authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site, TRLIA or its authorized representative may also reinter the remains at a location not subject to further disturbance if recommendation of the MLD is rejected and mediation by the NAHC fails to provide measures acceptable to TRLIA.
- If the human remains are of historic age and are determined not to be of Native American origin, TRLIA will follow the provisions of the California Health and Safety Code Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

Timing: During project construction activities.

Responsibility: TRLIA and its construction contractor(s).

Mitigation Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated Best Management Practices.

In addition to compliance with all applicable Federal, State, and local regulations, TRLIA will implement the following measures to further reduce construction-related erosion:

- Construction activities would likely be subject to construction-related stormwater permit requirements. Any permits required by the Central Valley Regional Water Quality Control Board (CVRWQCB) will be obtained by TRLIA before any ground-disturbing construction activity. TRLIA will prepare and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP), or Stormwater Management Plan (SWMP), as needed, to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP or SWMP will identify best management practices (BMPs) to prevent or minimize the introduction of contaminants into surface waters. Such BMPs could include, but would not be limited to, silt fencing, straw bale barriers, fiber rolls, storm drain inlet protection, hydraulic mulch, and a stabilized construction entrance. The SWPPP or SWMP will identify the types of materials used for equipment operation (including fuel and hydraulic fluids), measures to prevent hazardous material and waste spills, and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP will also identify emergency procedures for responding to spills. BMPs presented in either document will be clearly identified and maintained in good working condition throughout the construction process. The construction contractor will retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions.

- Water (e.g., trucks, portable pumps with hoses) will be used to control fugitive dust during construction activities that could cause substantial wind erosion.

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Mitigation Measure GHG-1: Acquire Carbon Offset Credits that are Demonstrably Real, Permanent, Additional, Quantifiable, Verifiable, and Enforceable for Emissions that Exceed the SMAQMD Threshold.

TRLIA will acquire carbon offset credits equal to construction related GHG emissions that exceed the annual Sacramento Metropolitan Air Quality Management District significance threshold of 1,100 metric tons of carbon dioxide equivalents, based on actual construction emissions calculated after project construction is complete. Carbon offset credits will comply with CARB's Cap-and-Trade program and will be purchased from an accredited carbon credit market. Offset credits must be

registered with, and retired by an Offset Project Registry, as defined in 17 California Code of Regulations (CCR) Section 95802(a), that is approved by CARB, such as, but not limited to, Climate Action Reserve, American Carbon Registry, or Verra (formerly Verified Carbon Standard), that is recognized by the Climate Registry, a non-profit organization governed by U.S. states and Canadian provinces and territories. To demonstrate that the carbon offset credits provided are real, permanent, additional, quantifiable, verifiable, and enforceable, as those terms are defined in 17 CCR Section 95802(a), TRLIA will document the protocol used to verify the credits and submit the documentation for approval to a CARB-accredited third-party verification entity. If the verification entity finds that any credits purchased did not meet these criteria, TRLIA will purchase alternative credits and submit a follow-up report to the verification entity for concurrence. All carbon offsets purchased will be tracked through the Climate Registry.

Timing: Before construction activities begin, during construction activities, and after construction activities are complete.

Responsibility: TRLIA and its construction contractor(s).

Mitigation Measure HAZ-1: Implement a Spill Prevention and Control Plan and Other Measures to Reduce the Potential for Environmental Contamination during Construction Activities.

TRLIA and all contractors will abide by regulations governing hazardous materials transport included in CCR Title 22, the California Vehicle Code (CCR Title 13), and the State Fire Marshal Regulations (CCR Title 19). Transport of hazardous materials will only be conducted under a registration issued by the California Department of Toxic Substance Control. Construction contractors will be required to use, store, and transport hazardous materials in compliance with all Federal, State, and local regulations. In addition, TRLIA will implement the measures described below to further reduce the risk of accidental spills and protect the environment.

- A written spill prevention and control plan will be prepared and implemented. This plan and all material necessary for its implementation will be accessible onsite before project construction begins and throughout the construction period. The plan will provide direction on emergency cleanup of any spills of fuel or other material. Construction personnel will be provided the necessary information from the plan to prevent or reduce the discharge of pollutants from construction activities to waters and to use the appropriate measures should a spill occur. In the event of a spill in aquatic habitat, work will stop, and the spill will be addressed immediately with equipment such as booms to contain and absorb the spilled material. CVRWQCB will be notified within 24 hours of an in-water spill.

- Every reasonable precaution will be exercised to protect waters from pollution with fuels, oils, and other harmful materials. Safer alternative products (such as biodegradable hydraulic fluids) will be used where feasible.
- Petroleum products, chemicals, fresh cement, and construction by-products containing, or water contaminated by, any such materials will not be allowed to enter flowing waters and will be collected and transported to an authorized upland disposal area.
- Gas, oil, other petroleum products, or any other substances that could be hazardous to aquatic life and resulting from project-related activities, will be prevented from contaminating the soil and/or entering waters.
- Construction vehicles and equipment will be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Vehicles and equipment will be checked daily for leaks. If leaks are found, the equipment will be removed from the site and will not be used until the leaks are repaired.
- Equipment will be refueled and serviced at designated refueling and staging sites. All refueling, maintenance, and staging of equipment and vehicles will be conducted in a location where a spill will not drain directly toward aquatic habitat. Appropriate containment materials will be installed to collect any discharge, and adequate materials for spill cleanup will be maintained onsite throughout the construction period.
- All heavy equipment, vehicles, and supplies will be stored at the designated staging areas at the end of each work period.

Storage areas for construction material that contains hazardous or potentially toxic materials will have an impermeable membrane between the ground and the hazardous material and will be bermed as necessary to prevent the discharge of pollutants to groundwater and runoff water.

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Mitigation Measure WQ-1: Ensure Rice Field Discharge Meets CVRWQCB Requirements.

TRLIA will ensure that rice field discharge entering the Yuba River meets requirements of the Basin Plan and the Waste Discharge Requirements General Order for Sacramento Valley Rice Growers (Order R5-2014-0032-02) or is covered by and meet requirements of other waste discharge requirements or waivers issued by the CVRWQCB. All monitoring and reporting requirements of the applicable WDRs will be implemented to

ensure that water discharged from the fish food pipeline does not cause or contribute to an exceedance of applicable water quality objectives in surface water or a trend of degradation that may threaten applicable Basin Plan beneficial uses, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance.

Timing: During fish food pipeline operation.

Responsibility: TRLIA.

[This page intentionally left blank.]

Table of Contents

List of Tables

List of Figures

List of Appendices

Abbreviations and Acronyms

ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
Basin Plan	Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin
B.C.E.	Before Common Era
BMPs	best management practices
CAAQS	California Ambient Air Quality Standards
Cal	calibrated radiocarbon date
CARB	California Air Resources Board
CCR	California Code of Regulations
CDC	California Debris Commission
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
C.E.	Common Era
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CID	Cordua Irrigation District
CNDDB	California Natural Diversity Database
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CSD	Community Services District
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
cy	cubic yard
D-10	Reclamation District 10
dB	Decibels
DTSC	California Department of Toxic Substance Control
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
Enterprise Rancheria	Estom Yumeka Maidu Tribe of the Enterprise Rancheria
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code

FRAQMD	Feather River Air Quality Management District
GHG	greenhouse gas
Goldfields	Yuba Goldfields
H:V	horizontal:vertical
Hallwood Facility	Teichert Aggregates Hallwood Facility
Hallwood Restoration Project	Hallwood Side Channel and Floodplain Restoration Project
Historic District	Yuba Goldfields Historic Mining District
HSC	California Health and Safety Code
IS	Initial Study
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central California Information Center
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_x	nitrogen oxide
NRHP	National Register of Historic Places
NTW	North Training Wall
O&M	operations and maintenance
OHWM	ordinary high-water mark
PG&E	Pacific Gas and Electric Company
PM_{10}	particulate matter less than 10 microns in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	California Public Resources Code
project	Yuba River North Training Wall Phase 2 Project
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SR	State Route
SRA	shaded riverine aquatic
TCRs	Tribal Cultural Resources
TRLIA	Three Rivers Levee Improvement Authority
UAIC	United Auburn Indian Community of the Auburn Rancheria
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles travelled
WDRs	Waste Discharge Requirements

Chapter 1. Introduction

The Three Rivers Levee Improvement Authority (TRLIA) has prepared this Initial Study (IS) and proposed Mitigated Negative Declaration (MND) in compliance with the California Environmental Quality Act (CEQA) to address the potentially significant and significant environmental impacts of the proposed Yuba River North Training Wall Phase 2 Project (project) in Yuba County, California. TRLIA is the lead agency under CEQA.

To satisfy CEQA requirements, this document includes:

- a Notice of Intent to adopt an MND for the proposed project
- a proposed MND
- an IS

After the required public review of this document is complete, TRLIA will consider adopting the MND, adopting a Mitigation Monitoring and Reporting Program, and approving the proposed project at a public hearing.

1.1 Purpose of the Initial Study

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

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

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

agency for CEQA compliance (State CEQA Guidelines, CCR Section 15367). TRLIA has principal responsibility for carrying out this project and is therefore the CEQA lead agency for this IS/MND.

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

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

1.2 Summary of Findings

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

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

- Land use and planning
- Population and housing
- Public services

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

- Aesthetics
- Agriculture and forestry resources
- Energy
- Mineral Resources
- Noise
- Recreation
- Transportation
- Utilities and service systems
- Wildfire

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

- Air quality
- Biological resources
- Cultural resources

- Geology and soils
- Greenhouse gas (GHG) emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Tribal cultural resources (TCRs)
- Mandatory findings of significance (including cumulative impacts)

The proposed project would result in the following specific beneficial impacts:

- Hydrology and water quality – reduce flood risk to the Hallwood community, the City of Marysville, and portions of Reclamation District 10 (D-10)
- Biological resources – enhance fish foraging and passage in the lower Yuba River and restore riparian and/or aquatic habitat
- Mineral resources – indirectly make up to approximately 2.2 million cubic yards (cy) of aggregate material available for production

1.3 Document Organization

This document is divided into five key sections:

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

Chapter 2, "Project Description," describes the project location, project purpose, project components, construction activities, project operations and maintenance (O&M), and discretionary actions and approvals that may be required.

Chapter 3, "Environmental Checklist," presents an analysis of environmental issues identified in the CEQA Environmental Checklist and determines whether project implementation would result in a beneficial impact, no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, potentially significant impact, or significant impact, on the physical environment in each issue area. For this project, mitigation measures have been developed to reduce all potentially significant impacts to less-than-significant levels.

Chapter 4, "References Cited," lists the references used to prepare this IS.

Chapter 5, "Report Preparers," identifies individuals who helped prepare or review this IS.

[This page intentionally left blank.]

Chapter 2. Project Description

This chapter describes the project location and background, along with the project objectives, project components and characteristics, construction activities, project operations, and discretionary actions and approvals that may be required.

2.1 Project Location and Background

The project site is located north of theYuba River, approximately 8 miles northeast of the City of Marysville, in Yuba County (**Figure 2-1**). The North Training Wall (NTW) forms the southern boundary of the Teichert Aggregates Hallwood Facility (Hallwood Facility) and is immediately north of the Yuba River. The NTWis a cobble embankment that was constructed by the California Debris Commission (CDC) in the early 1900s to confine the Yuba River and facilitate migration of mining debris within the floodway. Flood control was not an authorized purpose, but the NTW has historically provided and continues to provide flood protection to the surrounding area.

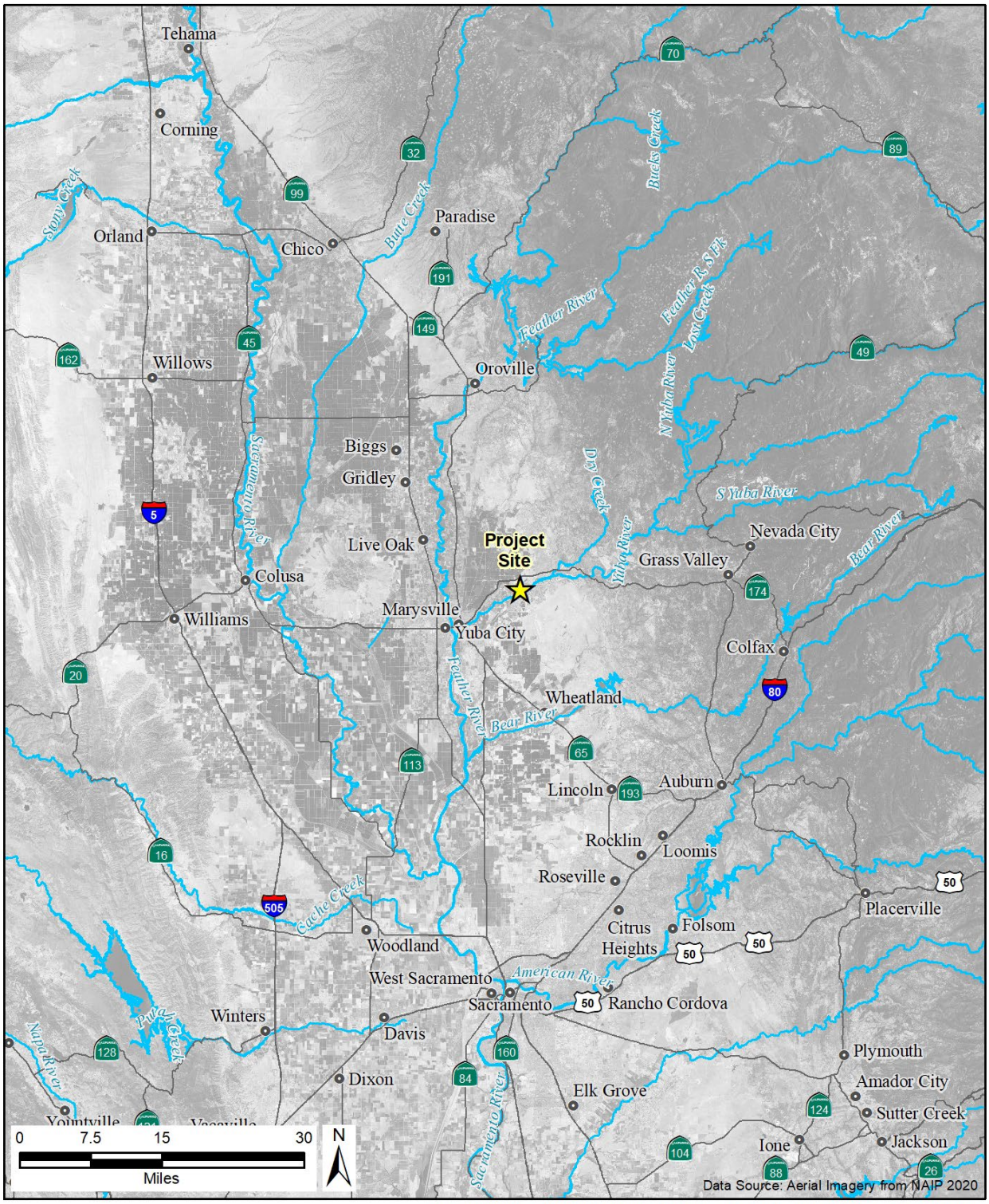
In early 2022, TRLIA completed the NTW Phase 1 Project, which included reshaping the NTW embankment to provide a more stable geometry and address height and width reductions that had occurred over time and ongoing, persistent erosion from storm events. Completing this reshaping improved flood protection for the City of Marysville and portions of D-10 and substantially reduced flood risk to the community of Hallwood. The NTW reshaping was evaluated separately (TRLIA 2021) because it had independent utility and resources were available to complete the work.

The current proposed project would include constructing a high ground tie-in embankment to extend the north end of the NTW upstream and form a contiguous line of protection that further reduces flood risk to the Hallwood community, the City of Marysville, and portions of D-10. The proposed project also includes potential ecological enhancement components: riparian/aquatic habitat creation, fish passage enhancement, and salmonid foraging enhancement.

2.2 Project Purpose and Objectives

The primary purpose of the proposed project is to meet Federal Emergency Management Agency (FEMA) 100-year flood protection certification requirements for the Hallwood community. The Phase 1 Project contributed to providing 100-year protection, but Phase 2 must be completed to fully meet this objective by constructing the high-ground tie-in embankment to form a continuous line of protection. The secondary project purpose is to enhance ecological conditions in the project area by increasing riparian/aquatic habitats, enhancing conditions for return of fish from the existing Hallwood-Cordua Canal bypass back to the Yuba River, and improving nutrient availability for salmonids in this reach of the Yuba River.

Figure 2-1. North Training Wall Phase 2 Project Location



Z:\Projects\050115_TRLIA\050115_NorthTrainingWall\G018_050115_NTW_ProjectLocation_20220815.mxd
15Aug2022 RS/SI

Source: Created by GEI Consultants, Inc. in 2022

The project objectives are as follows:

- complete the line of protection needed to meet FEMA 100-year flood protection certification requirements for the Hallwood community
- further reduce flood risk via stage reduction for the City of Marysville and portions of D-10
- increase riparian/aquatic habitat acreage in the region
- enhance fish return passage from the Hallwood-Cordua Canal fish bypass
- enhance nutrient/food source for salmonids in the adjacent Yuba River reach
- design, permit, and construct the project components within the authorized project budget and at the lowest feasible cost
- initiate tie-in embankment construction by 2024 and complete all project components by 2026

2.3 Project Components

An overview of all the proposed project components is shown in **Figure 2-2**; these include the tie-in embankment, potential habitat restoration areas, fish bypass discharge pipe and associated weir modifications, fish food pipeline alignment and degrade area, and potential staging areas. **Figure 2-3** provides a close-up view of the tie-in embankment, fish passage enhancement areas, and adjacent portions of the other project components. The total project footprint would be up to approximately 110 acres.

2.3.1 *Tie-in Embankment*

The tie-in embankment would be constructed in a similar manner to the Phase 1 reshaping of the existing NTW that was completed in early 2022. The embankment would extend for approximately 1,000 feet upstream from the east end of the existing NTW embankment to connect the NTW to high ground and provide a complete, stable embankment. The embankment crest would be 5 feet above the 200-year design water surface elevation. This crest elevation has been selected as a conservative approach to achieve 100-year FEMA certification and account for changes in hydraulics and hydrology that could result from climate change. The embankment would have a 30-foot-wide crest, 3H:1V (horizontal:vertical) waterside slope, and 5H:1V landside slope. An approximately 12-foot-wide landside toe access road and 10- to 16-foot-wide waterside access ramps would be constructed to provide access during construction and O&M.

Tie-in embankment construction activities would include:

- excavating cobble from potential habitat restoration areas
- hauling and placing cobble borrow material along approximately 800 feet of the embankment centerline to achieve the design cross section and construct the landside toe access road

- finish-grading the cobble embankment to the design elevation and side slopes and track-walking side slopes to interlock the cobble material and improve erosion resistance
- installing a temporary bypass and dewatering Hallwood-Cordua Canal at the existing crossing, if needed
- removing the existing canal crossing embankment and stockpiling fill material for use in the new embankment
- constructing approximately 300 feet of earthen embankment with two concrete box culverts across the Hallwood-Cordua Canal
- removing the temporary bypass, if needed, and rewatering the canal

2.3.2 *Ecological Enhancements*

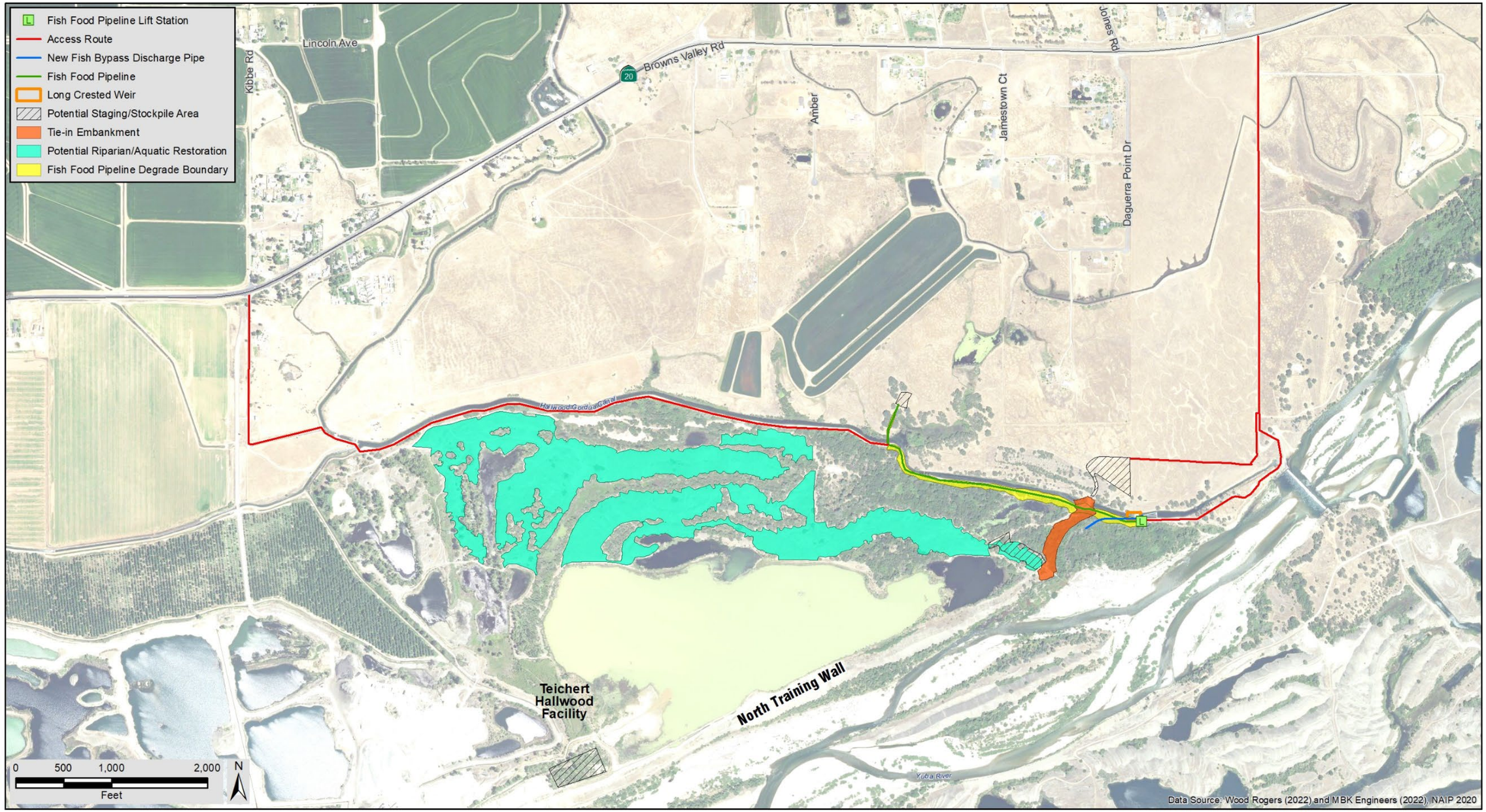
Riparian/Aquatic Habitat Creation

Ecological enhancements would include restoring riparian habitat and/or riparian/aquatic habitat complexes in at least a portion of the approximately 87 acres of potential restoration areas landside of the NTW identified in Figure 2-2. This would be accomplished by excavating and removing existing mine tailings to match elevations of adjacent reference riparian habitat and aquatic habitats, ensuring a suitable soil substrate is present to support woody plant growth, and establishing appropriate native riparian species. Isolated areas of native woody vegetation with mature trees that are within the restoration areas would be preserved to the extent feasible. Impacts on riparian and aquatic habitat adjacent to the restoration areas would be avoided by excavating the tailing material in a manner that pulls it outward and away from these habitat boundaries. In some cases, small berms may be left in place to ensure adjacent vegetation is not damaged by material excavation.

Some of the excavated material would be used to construct the tie-in embankment, and excess material would be made available for aggregate processing at a nearby facility. A minimum of approximately 8 acres of riparian habitat would be created as part of project activities, but as much as 87 acres of riparian/aquatic habitat could be restored, depending on available funding and landowner negotiations.

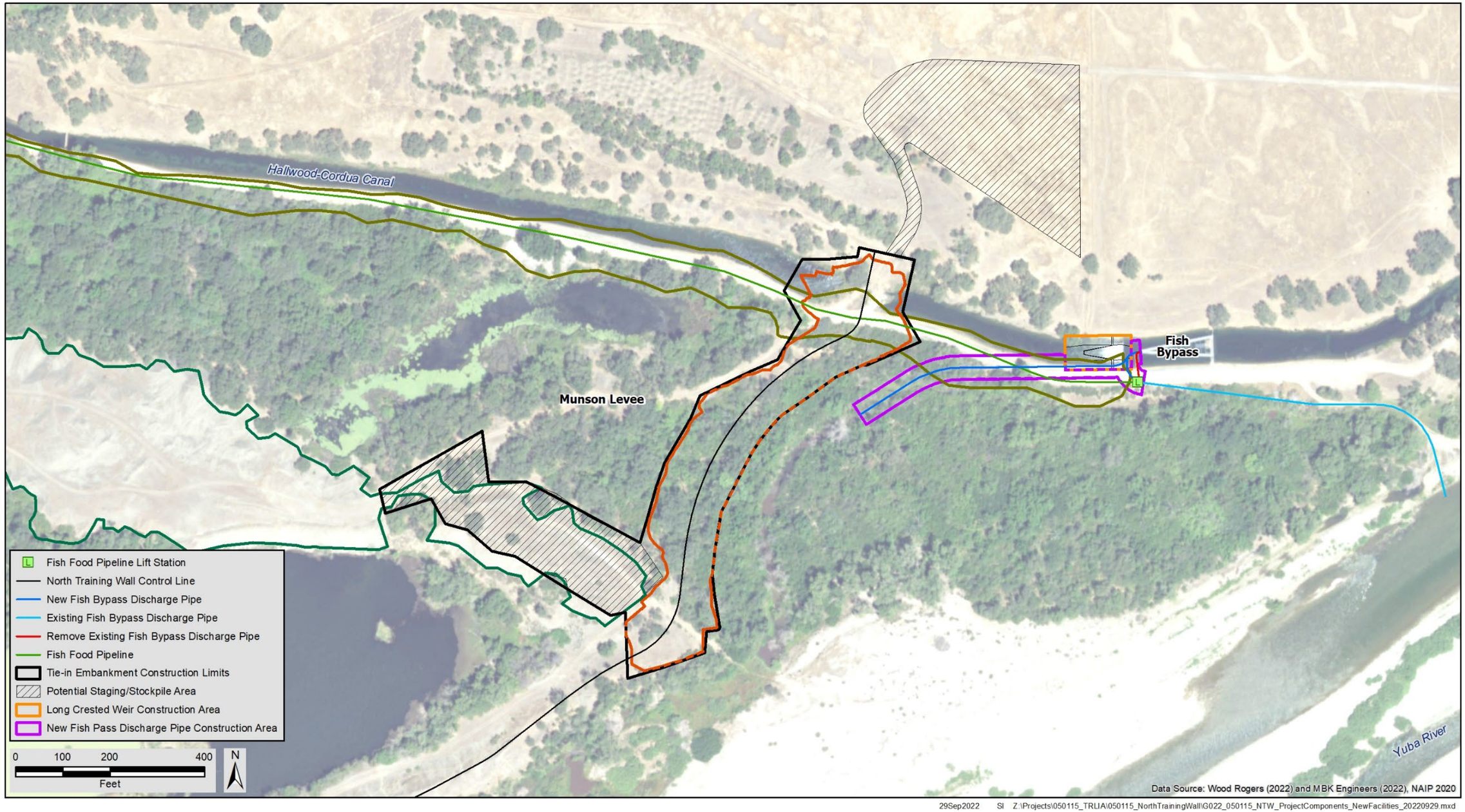
Dredge tailings in the Yuba Goldfields (Goldfields) are predominantly composed of large river cobble and coarse gravels, particularly toward the top of the tailing mounds, which currently support very sparse and primarily herbaceous vegetation. Finer sediments more suitable for supporting rooting and growth of woody riparian species may be more prevalent in the lower portions of the tailing mounds and in the native soils beneath tailings. Suitable substrate would be established by excavating the tailings, at a minimum, and potentially over-excavating the material, sorting and screening it to remove larger cobble and gravel materials, and replacing the fine sediment in the planting areas.

Figure 2-2. North Training Wall Phase 2 Project Site



Sources: Project components developed by Wood Rodgers and MBK Engineers in 2022

Figure 2-3. North Training Wall Phase 2 Project Tie-in Embankment and Fish Passage Enhancement Components



Sources: Project components developed by Wood Rodgers, Inc., M-H-M Incorporated, and MBK Engineers in 2022

Vegetation establishment may be achieved via natural recruitment and/or active planting. Expected target habitat and potential planting palette at a given location would vary depending on conditions after tailing material has been excavated, including depth to groundwater and substrate composition. If any aquatic features with emergent wetland habitats are established, natural recruitment may be supplemented with active plantings of nursery-grown emergent wetland plants, such as tules, rushes, and sedges. If riparian planting is conducted, it would be most efficiently accomplished by installing dormant pole cuttings of hardwood species such as Fremont's cottonwood (*Populus fremontii*) and a variety of locally native willows, including Goodding's willow (*Salix gooddingii*), arroyo willow (*S. lasiolepis*), dusky willow (*S. melanopsis*), sandbar willow (*S. exigua*), red willow (*S. laevigata*), and shining willow (*S. lasiandra*). Pole cuttings would be planted where the lowest water table of the year is sufficiently shallow to provide constant water availability without irrigation. Locally collected acorns from oak species occurring on site, including valley oak (*Quercus lobata*), interior live oak (*Q. wislizeni*), and blue oak (*Q. douglasii*) may also be direct planted in higher elevation upland zones. Depending on the restored site hydrology, natural recruitment of native species from local seed sources may significantly contribute to vegetation establishment.

If establishing riparian habitat via natural recruitment or planting dormant pole cuttings and acorns cannot be accomplished (e.g., if the low water table is greater than 7 feet below the ground surface, or if planting nursery plant material is deemed necessary for other reasons) temporary irrigation may need to be provided to support riparian vegetation establishment for the first 2-3 years after planting.

Habitat creation activities would include:

- removing cobble from the restoration area(s)
- finish grading to establish an elevation amenable to support riparian plantings and/or emergent aquatic vegetation (designed based on adjacent reference habitats)
- if appropriate and necessary, over-excavating planting areas and sorting and screening excavated materials to backfill planting areas or importing material to provide a greater proportion of fines
- installing native riparian plantings and potentially installing emergent wetland plantings
- maintaining restoration sites as necessary and appropriate for a 3-year establishment period

Fish Foraging Enhancement

A rice field is present north of Hallwood-Cordua Canal, adjacent to the project site. The rice farm utilizes flood irrigation for crop cultivation. Depending on how the rice fields are managed, water drained from the fields can contain high amounts of zooplankton and phytoplankton that could subsidize the riverine aquatic food web to benefit numerous native fish species, including salmonids. The project proposes to construct an approximately 3,300-foot-long pipe along the

alignment shown in Figure 2-2 to transport zooplankton-rich water drained from the flooded rice fields to the existing pipe that returns fish from the Hallwood-Cordua Canal fish bypass to the Yuba River. The intent is to enhance foraging habitat for salmonids and other species at and downstream of the existing fish bypass outfall.

Fish food pipeline construction activities may require temporarily installing a bypass and dewatering approximately 3,500 feet of Hallwood-Cordua Canal. The canal southern embankment would be degraded to the extent necessary to install a 24-inch pipeline at an elevation that facilitates gravity drainage. The degrade area shown in Figure 2-2 is the maximum potential extent, but the actual extent may be substantially less, depending on the elevation at which the pipeline crosses Hallwood-Cordua Canal. The degrade area could also be reduced if a 12-inch force main pipeline is installed instead of a 24-inch gravity drain pipeline. A force main pipeline would require installing a pump station near where the pipeline crosses the canal. A gravity drain pipeline would require installing a lift station at the connection to the existing fish bypass discharge pipe to lift the rice field drain water to the level of the discharge pipe. Under either scenario, embankment material would be stockpiled and reused to reconstruct the embankment after the pipeline is installed.

Fish Passage Enhancement

An existing high-flow side channel is located between the Yuba River channel and the proposed tie-in embankment. This channel inundates at flows of approximately 3,000 cubic feet per second (cfs), typically every 1-3 years. An existing fish bypass collects fish that are diverted from the Yuba River into the Hallwood-Cordua Canal and returns the fish to the Yuba River channel via a discharge pipe. The fish bypass is located immediately upstream of the tie-in embankment crossing. Angles and joints of the existing pipe are thought to negatively impact fish, particularly juveniles, that pass through the pipe. To alleviate this impact, the project would replace a portion of the existing angled discharge pipe with a curved section of a smoother interior. In addition, a new pipe would be installed to discharge fish to the existing side channel during high flows, which provides a safer environment than the Yuba River channel for juvenile fish under high-flow conditions. A new long crested weir would be installed downstream of the existing weir to accommodate the new curved section of discharge pipe. The existing weir is too close to the fish bypass to provide adequate spaced for the new pipe configuration; the existing weir will be removed and disposed of at an approved facility.

2.4 Construction Methods, Materials, and Transport

2.4.1 *Tie-In Embankment Construction*

Approximately 25,000 cy of cobble material and approximately 6,000 cy of earthen fill would be required to construct the tie-in embankment. Cobble fill would be excavated from the on-site habitat restoration area. Earthen fill would primarily be generated by removing the existing Hallwood-Cordua Canal crossing, but additional earthen fill may need to be imported. If off-site material is required, up to approximately 3,000 cy would be imported in approximately 250 haul truck trips from within approximately 30 miles of the project site. If this material is

obtained from a site that is not currently permitted, the contractor would be responsible for obtaining all necessary permits before the project-related borrow material is removed. Blending of material from the earthen fill borrow sources is anticipated to be required to ensure proper gradation within the new canal crossing embankment and reduce potential to concentrate flows at a particular location.

Open-bowl scrapers are anticipated to be used to degrade, haul, and initially place material for the cobble portion of the tie-in embankment. Up to approximately 1,250 round trips would be completed each day. The average round-trip haul distance for material redistribution is anticipated to be up to approximately 2 miles. After material is placed by the scrapers, dozers would be used to grade the material to design geometry and track-walk the area. Additional equipment, including a motor grader and compactors, would be used for finish-grading activities. Material placement and grading are anticipated to take approximately 25 days. This work would be conducted outside the flood season.

Constructing the earthen/culvert portion of the tie-in embankment across Hallwood-Cordua Canal would occur after water delivery obligations have been met to for the year and the system can be taken out of operation without requiring a temporary diversion to maintain water deliveries, typically December-March. If construction must occur when deliveries are required, a temporary diversion would be installed and the canal would be temporarily dewatered. When the canal is dry, the invert subgrade would be graded and compacted, and two pre-cast concrete culverts would be placed at the canal invert. Head walls would be constructed at each end of the culverts, and earth fill would be placed, compacted, and graded above and around the culverts to meet project design geometry. The temporary diversion, if required, would then be removed. Constructing this portion of the tie-in embankment is anticipated to take approximately 25 days.

2.4.2 *Ecological Enhancements*

Riparian/Aquatic Habitat Restoration

Riparian/aquatic habitat restoration area(s) would be initially prepared by excavating dredge mining tailings and grading the restoration area(s) to establish a specified restoration design elevation and topography. Up to approximately 2.2 million cy of material would be removed from the restoration areas if all 87 acres are included; approximately 110,000 truck/scraper trips would be required for this material removal. This material would be made available for processing at an existing aggregate facility. If the material cannot be processed as it is removed, it would be stored in the potential restoration area(s) and/or staging/stockpile area at the Hallwood Facility shown in Figure 2-2. The average round-trip haul distance for material removal to the processing or stockpile area is anticipated to be up to approximately 4 miles. Material removal would take up to approximately 250 days.

The riparian/aquatic habitat restoration area(s) would be excavated to elevations expected to support and establish riparian and/or wetland habitats, likely an average of approximately 101 feet NAVD88 (North American Vertical Datum of 1988) based on initial evaluation of

elevations of on-site reference habitats. Excavation would likely be completed using open-bowl scrapers, dozers, and a grader to establish lines and grades. After the habitat areas have been excavated to appropriate elevations, the substrate would be evaluated to determine if sufficient fines are present to support riparian and wetland plant growth. If the substrate is still predominantly cobble and large gravel with insufficient fine sediments, the planting sites may be over-excavated and the upper 2-3 feet backfilled with fine material that has been sorted and screened to include sufficient proportion of soil to support plant growth. If any additional soil amendments are deemed appropriate based on potential agronomic testing, they would be incorporated into the habitat planting areas at this time.

Riparian plantings (expected to primarily consist of locally collected dormant pole cuttings of willows and cottonwoods) would be installed during the subsequent late fall/early winter. Because planting areas are likely to have cobbly soils that may preclude manual plant installation, heavy equipment may be required to excavate planting holes for riparian plantings. Where practical, an excavator or backhoe equipped with a stinger or auger can efficiently install pole plantings; in more cobbly soils a backhoe may be appropriate to dig and backfill planting holes, with each planting hole receiving multiple cuttings (Hoag 2009). These approaches have been used successfully to plant riparian vegetation in other coarse gravel and cobble substrate sites, including on the Lower Yuba River. Substrate preparation and planting are anticipated to take approximately 40 days.

Cuttings of willows and cottonwoods are anticipated to be collected from existing riparian habitat adjacent to the project site. Nursery-grown container plants, soil amendment materials, and other supplies may be imported for habitat restoration use, requiring up to approximately three truck trips, from locations within approximately 100 miles of the project site.

Fish Passage Enhancement

Fish bypass passage enhancement activities that require work in the Hallwood-Cordua Canal would occur in January-March, when the water delivery system is non-operational and routine maintenance activities occur. The existing weir and sharply angled portion of the existing fish bypass discharge pipe would be removed and the new weir and fish bypass discharge pipe segments within the canal and canal embankment would be installed. The portion of the new discharge pipe to the side channel that is waterside of the canal embankment would be installed outside the flood season. A total of approximately 300 cy of rock erosion protection would be installed at the at the downstream end of the new weir and the new discharge pipe outlet to the side channel. In addition, approximately 3,000 cy of aggregate base and 400 cy of concrete would be imported to the site to complete this project component. These materials are expected to be imported in approximately 100 haul truck trips from local sources within an average of approximately 20 miles of the project site. Approximately 700 feet of 24-inch pipe would be imported in up to three truck loads from up to approximately 50 miles away. Debris export is anticipated to be minimal and completed in approximately five truck trips to an approved disposal facility within approximately 30 miles. Fish bypass passage enhancements are anticipated to be completed in a total of approximately 50 days.

Fish Foraging Enhancement

Construction activities necessary to install the fish food pipeline, would include excavating up to approximately 40,000 cy of material, installing approximately 3,300 linear feet of 24-inch corrugated plastic pipe, installing a minimum of one access portal along the pipe alignment, constructing a lift station, and connecting the pipe to the existing Hallwood-Cordua Canal fish bypass discharge pipe. Equipment used to construct this project component would be similar to the tie-in embankment construction. If feasible, pipeline installation would occur after water delivery obligations have been met for the year and a temporary diversion is not required. Otherwise, a temporary diversion would be installed to dewater the canal and maintain water delivery during construction activities.

The fish food pipeline would be installed by degrading the southern canal embankment and excavating an approximately 24- to 44-foot-wide (top width) and 10 to 20-foot-deep trench (varying per original grade) in which the pipe would be placed. The canal embankment degrade area shown in Figures 2-2 and 2-3 is based on the pipeline crossing the Hallwood-Cordua Canal below grade and being installed deep enough for gravity drainage. If the pipeline crosses under the Hallwood-Cordua Canal, an approximately 7 to 10-foot-wide and 5 to 10-foot-deep open trench would be excavated, the pipeline would be installed, and the trench would be backfilled with excavated material to meet pre-project canal invert conditions. This would include installing a new concrete canal lining similar to other locations along the Hallwood-Cordua Canal. Alternatively, the crossing may be installed above the maximum water surface level, allowing for a shallower trench in the canal embankment and smaller degrade area. After installing the pipe, the trench would be backfilled and canal embankment reconstructed with the excavated material. The lift station would be constructed when the pipeline is connected to the existing fish bypass discharge pipe. Pipe would be imported in approximately 10 truck loads from up to approximately 50 miles away. Excess excavated embankment material would be used in the habitat creation areas or exported for other uses; maximum material export would be approximately 400 cy transported up to 30 miles in approximately 30 truck trips. Installing the fish food pipeline and lift station is anticipated to take approximately 30 days.

2.5 Construction Equipment and Personnel

Table 2-1 lists the construction components and the types and number of equipment anticipatedto be used for each project component. The construction and restoration contractors may use different equipment or more, or less, equipment, based on the construction/restoration schedule, the contractors' capabilities, and equipment availability. For example, it is possible a conveyor system would be used to transport some, or all, excess material excavated from the restoration area(s) to the Hallwood Facility processing area or potential stockpile area.

The number of construction personnel would vary depending on project activities. Up to approximately 20 personnel are estimated to be onsite daily during when multiple components are under construction. Construction workers would most likely come from the local workforce in the Marysville, Yuba City, and Sacramento areas.

Table 2-1. Construction Components, Equipment, and Anticipated Work Durations

Project Component	Anticipated Types of Equipment and Number of Pieces*	Anticipated Use Duration (days)
Tie-In Embankment	Scraper	17
	Grader	15
	Dozer	15
	Front-end Loader	5
	Haul Trucks (2)	5
	Crane	1
	Compactor	15
Riparian/aquatic Habitat Restoration (up to 87 acres)	Scraper (4)	250
	Grader (2)	250
	Dozer	250
	Compactor	250
	Front-end Loader	40
	Backhoe	40
	Tractor Trailer	3
	Haul Truck	40
Fish Passage Enhancement	Excavator	8
	Backhoe	8
	Front-end Loader	8
	Crane	8
	Forklift	8
	Dozer	8
	Compactor	8
	Haul Truck (15)	8
	Concrete Truck (15)	8
	Generators (2)	8
Fish Foraging Enhancement	Scraper	30
	Dozer	30
	Front-end Loader	30
	Grader	30
	Excavator	30
	Tractor Trailer	1
	Haul Truck	30

Notes: One piece of each equipment type is anticipated to be used, unless specified in parentheses; equipmentmay be used concurrently.

Source: Project components developed by Wood Rodgers, Inc., M-H-M Incorporated, and MBK Engineers in 2022

2.6 Material Transport, Site Access, and Staging Areas

Table 2-2 summarizes the estimated number of haul trips (truck/scraper) required to transport materials to and from the project site, hauling duration, number of trips per day, and haul distance.

Table 2-2. Anticipated Maximum Material Transport

Project Component	Number of Trips	Duration (days)	Trips per Day	Distance (round-trip miles)
Tie-in Embankment	1,250 (cobble transport)	17	75	2
	250 (dirt fill import)	5	50	60
	2 (culvert import)	1	1	100
Habitat Restoration (87 acres)	110,000 (tailing export)	250	440	4
	3 (plant import)	3	1	200
Fish Passage Enhancement	100 (rock/concrete import)	20	5	40
	2 (pipe import)	1	2	100
	5 (debris export)	1	5	60
Fish Foraging Enhancement	10 (pipe import)	5	2	100
	30 (material export)	5	6	60

Source: Project components developed by Wood Rodgers, Inc., M-H-M Incorporated, and MBK Engineers in 2022

Access to the project site for personnel, equipment, and material delivery would be via State Route (SR) 20, Kibbe Road, the Hallwood-Cordua Canal Maintenance Road, and private roads; anticipated access routes from SR 20 the site are shown in Figure 2-2. Temporary haul routes and staging areas are anticipated to be established along the Hallwood-Cordua Canal maintenance road and within and between the different portions of the project site. Specific on-site routes and staging areas would be determined by the contractor to optimize efficiency and reduce haul times and lengths but are anticipated to be within the general project site shown in Figure 2-2. Staging areas in grassland habitat would be evaluated by a qualified biologist to ensure they do not support vernal pools or other sensitive wetland habitats. If such habitats are present on or adjacent to a staging area, the staging area location or boundaries would be adjusted to ensure no impacts on wetland habitats or the species they may support would occur.

2.7 Construction Schedule

The earliest start date for project construction is anticipated to be December 2023, and the latest end date is anticipated be November 2026. Tie-in embankment construction is anticipated to be completed in approximately 7 months, and the ecological enhancement components are anticipated to be completed in approximately 24 months. The overall construction timeline may or may not be contiguous, based on availability of construction resources and other factors. Construction activities associated with the cobble portion of the tie-in embankment and fish passage enhancement activities associated with the side channel would occur outside the flood season, when the relevant areas are most likely to be dry. In the unlikely event in-water work is required in these areas, it would be conducted during an appropriate summer work window (e.g., July-October), to minimize potential impacts on water quality and aquatic species. Riparian and/or wetland plantings would occur in late fall or early winter to optimize plant establishment success. Work within the Hallwood-Cordua Canal (including the embankment) would occur in December-March to the maximum extent feasible.

Project activities, including equipment operation, would typically occur 6 days a week (Monday through Saturday) but may also occur on Sunday. Activities would typically occur 12 hours per day (daylight hours). The specific number of hours that each piece of equipment would be used during the day is not known and would be up to the construction contractor. Equipment maintenance and other associated actions may occur outside normal working hours, including on Sundays.

2.8 Utilities and Other Considerations

TRLIA would coordinate with Cordua Irrigation District (CID) to address operational impacts on the Hallwood-Cordua Canal during tie-in embankment and fish food pipeline construction. CID operates and maintains the fish bypass and discharge pipe to the Yuba River and is anticipated to implement the associate fish passage enhancement project component. Construction activities would be timed and closely coordinated with CID to minimize potential water delivery disruptions, impacts on day-to-day facility operations, and/or damage to existing facilities.

2.9 Operations and Maintenance

After construction is complete, TRLIA (the local maintaining agency) will conduct approximately four visual inspections of the tie-in embankment per year. Additional patrols and monitoring may be conducted during high-water periods. Routine tie-in embankment maintenance activities are anticipated to include repair of sloughing, or slope instabilities, as necessary following high-water events. Such maintenance is likely to include grading and fill placement, typically completed by large-scale construction equipment including front-end loaders and bull dozers.

Restored habitats would be maintained and monitored to assess habitat establishment success. Annual monitoring and maintenance are anticipated to be conducted for 3 years. Up to four monitoring visits would be conducted each year to inspect the habitat areas, identify maintenance needs, and assess establishment success. If necessary and appropriate, depending on plant materials used and depth to groundwater, temporary irrigation may be necessary for 2-3 years after planting; irrigation may be provided by water truck or directly from a nearby water source.

The new weir and fish bypass discharge pipes would be monitored and maintained in the same manner as under existing conditions. The side channel fish passage enhancement area would be monitored at least once annually for 5 years to determine if the side channel is draining as intended. Monitoring of it and the new fish bypass discharge outlet would be conducted during receding flows following side channel inundation (i.e., when flows are receding below 3,000 cfs). Minor grading or additional material placement or removal may be conducted, if deemed necessary based on monitoring observations.

Fish foraging enhancement is anticipated to include a minimum rice field flood irrigation period of 3 weeks in late winter/early spring to allow sufficient food sources to develop. Fish food pipeline pumping operations would be manually initiated when the rice fields are ready to be

drained. Drainage is anticipated to occur over a 1- to 2-week period in spring. Water on flooded rice fields would be tested to ensure compliance with water quality standards before initiating discharge to the river.

2.10 Regulatory Requirements, Permits, and Approvals

As the lead agency under CEQA, TRLIA has the principal responsibility for approving and carrying out the proposed project and for ensuring that CEQA requirements and other applicable regulations are met. The following permits are anticipated to be required for the project:

- **Central Valley Flood Protection Board Encroachment Permit**. For work or uses which encroach into rivers, waterways, and floodways, within and adjacent to Federal and State authorized flood control projects.
- **Central Valley Regional Water Quality Control Board (CVRWQCB) Clean Water Act (CWA) Section 401 Water Quality Certification and Waste Discharge Requirements (WDRs)**. For discharge of dredge and fill materials and agricultural discharge from rice fields into waters of the State.
- **California Department of Fish and Wildlife (CDFW) Lake/Streambed Alteration Agreement.** For changing the bed, channel, or bank, of any river, stream, or lake.
- **U.S. Army Corps of Engineers (USACE) CWA Section 404 Permit.** For discharge of dredge and fill material into waters of the United States.
- **National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife (USFWS) Endangered Species Act (ESA) Section 7 Consultation.** Consultation for possible effects on Federally listed species.
- **State Historic Preservation Officer (SHPO) and National Historic Preservation Act Section 106 Consultation.** Consultation and Programmatic agreement or Memorandum of Agreement regarding effects on cultural resources pursuant to Section 106 of the National Historic Preservation Act.

[This page intentionally left blank.

Chapter 3. Environmental Checklist

Project Information

1. Project title:	Yuba River North Training Wall Project – Phase 2
2. Lead agency name and address:	Three Rivers Levee Improvement Authority 1114 Yuba St. Ste. 218 Marysville, CA 95901
3. Contact person and phone number:	Leslie Wells Executive Assistant 530-749-7841 lwells@co.yuba.ca.us
4. Project location:	3331 Walnut Avenue Marysville, Yuba County, CA 95901
5. Project sponsor's name and address:	*See* #2, above.
6. General plan designation:	Natural Resources; Rural Community
7. Zoning:	AR-40 (Agricultural/Residential District 40 Acres); AR-10 (Agricultural/Residential District 10 Acres); EX (Extractive District)
8. Description of project:	The project would construct approximately 1,000 feet of new embankment upstream from the east end of the existing North Training Wall to connect to high ground and provide a complete, stable embankment that reduces flood risk to the Hallwood community, City of Marysville, and portions of Reclamation District 10. The project also includes habitat restoration and fish passage and foraging enhancements. *See* Chapter 2, "Project Description," for additional details.
9. Surrounding land uses and setting:	The project site is located immediately north of the Yuba River, approximately 8 miles northeast of the City of Marysville, in Yuba County. Surrounding land uses are aggregate mining, open space, and rural community. *See* "Environmental Setting" under each issue area for resource-specific setting information. Access is via State Route 20, Kibbe Road, Hallwood-Cordua Canal Maintenance Road, and private roads.

10. Other public agencies whose approval may be required or requested (e.g., permits, financing approval, or participation agreement):	U.S. Army Corps of Engineers U.S. Fish and Wildlife Service National Marine Fisheries Service California Department of Fish and Wildlife Central Valley Flood Protection Board Central Valley Regional Water Quality Control Board
11. 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, has consultation begun?	United Auburn Indian Community has requested consultation and TRLIA is actively consulting with this Tribe. TRLIA has also notified other potentially interested Tribes of the project and invited them to provide information on cultural resources and Tribal Cultural Resources of concern to the Tribes.

Environmental Factors Potentially Affected

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

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

Determination

On the basis of this initial evaluation:

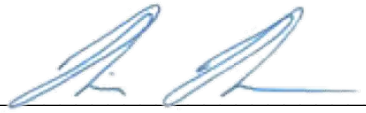
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

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

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

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

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



11/07/2022

Kevin Mallen, Executive Director
Three Rivers Levee Improvement Authority

Date

Evaluation of Environmental Impacts

The 2022 State CEQA Guidelines' Appendix G, Environmental Checklist Form, was generally followed with minor modifications. A brief explanation is provided for all resource-specific environmental checklist answers. All answers take into account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Unless specifically discussed in a resource section, O&M activities would not result in significant impacts.

The checklist answers indicate whether the impact is potentially significant, less-than-significant with mitigation, less than significant, no impact, or beneficial impact. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant after incorporation of mitigation measures.

"Less-than-Significant Impact with Mitigation Incorporated" applies where the incorporation of mitigation measures reduces an effect from "Potentially Significant Impact" to a "Less-than-Significant Impact." Mitigation measures are described and a brief explanation of how they reduce the effect to a less-than-significant level is provided.

Sources used are cited in the discussion, and complete source citations are provided in Chapter 4, "References Cited."

Each resource section identifies the State CEQA Guidelines Appendix G significance criteria or threshold used to evaluate each impact and the mitigation measure(s) identified, if any, to reduce the impact to less than significant.

3.1 Aesthetics

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
AESTHETICS – Except as provided in PRC 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 a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒	☐

3.1.1 *Environmental Setting*

The project site is in a remote area with restricted public access. The landscape at and adjacent to the project site is dominated by the Yuba River and associated riparian vegetation, the Goldfields, the Hallwood Facility, and the Hallwood-Cordua Canal. The Goldfields, including the NTW, are comprised of large river cobble mounds created by historic hydraulic mining. Reshaping of the NTW was recently completed to provide a more stable geometry and complete the first phase of providing 100-year flood protection to the Hallwood community.

A scenic vista is generally considered a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. The *Yuba County 2030 General Plan* (Yuba County 2011a) identifies local-scale scenic views of the Feather, Yuba, and Bear Rivers at bridge crossings and where roads parallel these rivers. The portion of the Yuba River adjacent to

the project site is relatively isolated and is not visible from publicly accessible roadways; therefore, there are no scenic vistas in the project vicinity. There are also no designated State scenic highways in the project vicinity (Caltrans 2015 and 2019).

The closest residence is approximately 0.25 mile northeast of the project site, and project components and construction activities would be largely obscured by intervening vegetation. Workers at the Hallwood Facility may have views of portions of the project site, but project activities would be consistent with current facility operations and these workers are not considered sensitive viewers. Portions of the project site are visible to recreationists on the Yuba River, and project-related equipment may be visible from the river when operating on high ground. However, the work areas are set back from the river channel and completely or partially obscured by intervening riparian vegetation, the NTW, mining tailings, and the Hallwood-Cordua Canal.

3.1.2 *Discussion*

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?

There are no scenic vistas or scenic highways in the project vicinity. Therefore, there would be **no impact** related to these issues.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?

Implementing the fish passage and foraging enhancements would result in minor permanent visual changes. Constructing the tie-in embankment where riparian vegetation currently exists and excavating mine tailings and creating riparian and/or aquatic habitat in the restoration area(s) would permanently alter the affected areas. However, most of the tie-in embankment would be constructed of mine tailing materials common in the areas and would have a similar appearance as the existing NTW. In addition, the embankment would be largely obscured by surrounding vegetation and existing adjacent embankments. Due to the rural nature of the site and the nature of the project features, these changes would not degrade the existing visual character or quality of views of the project site and its surroundings, and the overall visual character of the area would remain the same. In addition, public views of the site are limited to a relatively small number of people on the Yuba River, to which public access is not available in the immediate vicinity. The visual character of the project site would be temporarily degraded by the presence of heavy equipment during temporary project construction activities and infrequent O&M activities. However, these impacts would be short in duration and only experienced by a relatively small number of recreationists along this relatively remote section of the river. For these reasons, the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and this impact would be **less than significant**.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project does not include new permanent sources of light and construction would occur during daylight hours. Therefore, it would not create a new source of substantial light, and there would be **no impact**.

3.2 Agriculture and Forestry Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
AGRICULTURE AND FORESTRY RESOURCES – 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?	☐	☐	☒	☐	☐

3.2.1 *Environmental Setting*

Rice fields are present on the north side of Hallwood-Cordua Canal, immediately adjacent to the northern end of the proposed fish food pipeline. Constructing the tie-in embankment and installing the new fish bypass discharge pipe would require woodland vegetation removal; installing the fish food pipeline also may require woodland vegetation removal. This vegetation is considered forestland because it meets the PRC Section 12220(g) definition of land that can

support 10 percent native tree cover and forest vegetation of any species, including hardwoods, under natural conditions and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

3.2.2 *Discussion*

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

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?

The proposed project would not convert any Farmland to non-agricultural uses or involve other changes that could result in such conversion. The project also would not conflict with existing zoning for agricultural use, and Yuba County does not participate in the Williamson Act. The fish food pipeline would connect to adjacent rice fields that are categorized by the Farmland Mapping and Monitoring Program as Unique Farmland, but current agricultural operations would continue and would not be adversely affected by project implementation. Furthermore, continued rice cultivation would be an integral component of the fish foraging enhancement project component. Therefore, the proposed project would have **no impact** related to Farmland conversion, conflict with agricultural zoning or a Williamson Act contract or involve other changes in the existing environment that could result in conversion of Farmland to non-agricultural use.

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 forest land to non-forest use?

The project site is not zoned as forest land, timberland, or timberland zoned Timberland Production; therefore, the project would not conflict with existing zoning. Riparian vegetation that meets the CEQA definition of forest land occurs throughout the project site and adjacent areas. Constructing the tie-in embankment and installing the new fish bypass discharge pipe would require removal of approximately 2.5 acres of forest land and installing the fish food pipe may require removal of up to approximately 1.5 acres of forest land. Scattered, small areas of woody vegetation growing in the potential habitat restoration areas may be removed to facilitate restoration activities. However, this vegetation is growing in the mining tailings and is isolated

from the surrounding existing riparian habitat; therefore, it is not considered forest land. The potential Hallwood Facility stockpile site supports secondary forest that has regrown since the area was cleared during previous mining activities and is within an active mining facility; therefore, this area also does not qualify as forest land. The riparian habitat creation component of the project would offset removal of up to approximately 4 acres of forest land and is anticipated to result in a net increase in the amount of forest land on the project site. Therefore, this impact would be **less than significant**.

3.3 Air Quality

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations. Would the project:					
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?	☐	☐	☒	☐	☐

3.3.1 *Environmental Setting*

The project site is in the Sacramento Valley Air Basin. The Feather River Air Quality Management District (FRAQMD) administers local, State, and Federal air quality management programs in Yuba County. The Federal Clean Air Act and the California Clean Air Act required the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) to establish health-based air quality standards at the Federal and State levels. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) were established for the following criteria pollutants: carbon monoxide ozone, sulfur dioxide, nitrogen dioxide, particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter, and lead.

EPA and CARB designate areas of the State as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the Federal and State Clean Air Acts, respectively. An "attainment" designation for an area signifies that pollutant concentrations did not violate the NAAQS or CAAQS for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. A "maintenance" designation indicates that the area previously had nonattainment status and currently has attainment status for the applicable pollutant; the area must demonstrate continued

attainment for a specified number of years before it can be re-designated as an attainment area. An "unclassified" designation signifies that data do not support either an attainment or a nonattainment status. Under NAAQS, Yuba County does not have any criteria air pollutants designated as nonattainment; however, under CAAQS, ozone and PM_{10} are designated as nonattainment (FRAQMD 2022).

3.3.2 *Discussion*

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?

FRAQMD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of Federal and State air quality laws. Consistency with an air quality plan is determined based on whether the project would conflict with or obstruct implementation of the Federal and State air quality plans, which would lead to increases in the frequency or severity of existing air quality violations. Two criteria are used to determine whether the proposed project would conflict with or obstruct implementation of the air quality plans. The first criterion is whether the proposed project is consistent with the projections for population and vehicle miles traveled (VMT) that were used as the basis of the air quality plan. The proposed project would not increase population in the project area and would only temporarily add a relatively small number of VMT associated with worker vehicle trips and construction equipment and material import and debris export during the construction period. This temporary increase in VMT would not exceed the projections used by FRAQMD (*see* VMT estimates in "Transportation").

The second criterion is whether the proposed project would increase the frequency or severity of existing air quality violations, contribute to new violations, or delay the timely attainment of air quality standards. FRAQMD *Indirect Source Review Guidelines* (2010) identify thresholds of significance for certain criteria air pollutants to assist lead agencies in determining air quality impacts for projects located in Yuba County; these thresholds are presented in **Table 3-1**.

Table 3-1. Feather River Air Quality Management District Criteria Air Pollutant Emission Thresholds of Significance

Project Phase	Nitrogen Oxides	Reactive Organic Gases	PM_{10}	$PM_{2.5}$
Operation	25 pounds/day	25 pounds/day	80 pounds/day	Not yet established
Construction	25 pounds/day multiplied by project length*	25 pounds/day multiplied by project length*	80 pounds/day	Not yet established

Notes: *Construction emissions as nitrogen oxides and reactive organic gases may be averaged over the life of the project but may not exceed 4.5 tons/year; PM_{10} = particulate matter less than 10 microns in diameter, $PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

Source: Feather River Air Quality Management District 2010

Project construction and O&M activities would temporarily generate criteria air pollutant emissions from exhaust associated with on-site equipment operation, material hauling, and worker vehicle trips, as well as fugitive dust from ground-disturbing activities. O&M activities would be minimal and result in negligible emissions. Construction-related emissions were modeled using the California Emissions Estimator Model (CalEEMod) (GEI Consultants, Inc. 2022). **Table 3-2** provides estimates of daily and annual construction-related pollutant emissions, based on maximum anticipated material hauling, equipment usage, and numbers of workdays described in Section 2.4 "Construction Methods, Materials, and Transportation." It is uncertain at this stage in project planning and design to what extent aquatic/riparian habitat restoration and associated material removal would occur, when each project component would be constructed, and to what extent construction of multiple components may overlap. These factors can greatly affect daily and annual emissions. For purposes of this analysis, it is assumed tailing removal would occur over the maximum potential restoration area of 87 acres, restoration area tailing removal would be split relatively evenly between two construction years (2024 and 2025), tie-in embankment construction and fish passage enhancements would be constructed in 2024 and could occur concurrently, and fish foraging enhancement would be constructed in 2026. Pollutant emission estimates provided in Table 3-2 represent the maximum potential emissions anticipated to be generated by construction activities, based on these construction parameters and without implementation of standard emission reduction measures.

Table 3-2. Estimated Construction-related Criteria Pollutant Emissions

Construction Year	Daily Emissions (pounds/day)			Annual Emissions (tons/year)	
	NO_x[1]	ROG[1]	PM_{10}[2]	NO_x	ROG
Year 1 (2024)	**55.3**	5.68	**2,709**	**10.1**	1.04
Significance Threshold	25	25	80	4.5	4.5
Exceeds Threshold?	***Yes***	*No*	***Yes***	***Yes***	*No*
Year 2 (2025)	**29.9**	2.59	**2,628**	**5.46**	0.47
Significance Threshold	25	25	80	4.5	4.5
Exceeds Threshold?	***Yes***	*No*	***Yes***	***Yes***	*No*
Year 3 (2026)	2.55	0.27	25.7	0.46	0.05
Significance Threshold	25	25	80	4.5	4.5
Exceeds Threshold?	*No*	*No*	*No*	*No*	*No*

Notes: [1]Average pounds per day over total construction period, [2]maximum pounds per day

NOx = nitrogen oxide, PM10 = particulate matter less than 10 microns in diameter, ROG = reactive organic gases.

Sources: Results of air pollutant emissions modeling conducted by GEI Consultants Inc. in 2022, Feather River Air Quality Management District 2010

Under the construction scenario that was modeled, reactive organic gas (ROG) emissions would be well below daily and annual FRAQMD significance thresholds in all construction years. Nitrogen oxide (NO_x) emissions would exceed daily and annual FRAQMD significance thresholds in 2024 and 2025. PM_{10} emissions would exceed the daily FRAQMD significance

threshold in 2024 and 2025 and could therefore result in a cumulatively considerable net increase in PM_{10}, which is designated as nonattainment under CAAQS.

Because construction-related NO_x and PM_{10} emissions could exceed FRAQMD emissions significance thresholds and result in a cumulatively considerable net increase in PM_{10}, implementing the proposed project would have a **potentially significant** impact related to air quality. Mitigation Measures AQ-1, AQ-2, and AQ-3 have been developed to reduce this impact.

Mitigation Measure AQ-1: Implement Best Management Practices to Reduce Emissions during Construction.

TRLIA and its construction contractors will implement the following measures consistent with established FRAQMD *Construction Phase Mitigation Measures* (FRAQMD 2016):

- Develop and submit a fugitive dust control plan to minimize fugitive dust emissions during project construction to FRAQMD for approval.
- Ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation.
- Utilize existing power sources (e.g., line power) or clean fuel generators rather than temporary power generators to the extent feasible and practicable.
- Suspend all project grading operations when winds exceed 20 miles per hour or when winds carry dust beyond the property line despite implementation of all feasible dust control measures.
- Water or treat work areas with dust suppressants as necessary to prevent fugitive dust violations. Incorporate the use of FRAQMD-approved non-toxic soil stabilizers (e.g., as indicated in the most recent California Stormwater Quality Association Construction BMP Handbook) according to manufacturer's specifications to all inactive construction areas.
- Apply water to control dust as needed to prevent visible emissions violations and offsite dust impacts. Travel time to water sources should be considered and additional trucks used if needed.
- Minimize the free fall distance and fugitive dust emissions associated with all transfer processes involving a free fall of soil or other PM.
- Install wheel washers where project vehicles and/or equipment exit onto paved streets from unpaved roads. Vehicles and/or equipment will be washed prior to each trip. Alternatively, a gravel bed may be installed as appropriate at vehicle/equipment site exit points to effectively remove soil buildup on tires and tracks to prevent/diminish track-out.

- Frequently sweep paved streets (water sweeper with reclaimed water recommended; wet broom) if soil material has been carried onto adjacent paved, public thoroughfares from the project site.
- Reduce traffic speeds on all unpaved surfaces to 15 miles per hour or less and reduce unnecessary vehicle traffic by restricting access. Provide appropriate training, onsite enforcement, and signage.
- Reestablish ground cover on the construction site as soon as possible and prior to final occupancy, through seeding and watering.

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Table 3-3 shows estimated construction-related pollutant emissions with implementation of anticipated feasible emission reduction measures presented in Mitigation Measure AQ-1 (or similar mitigation available in CalEEMod), as well as potential adjustments to workdays and equipment operation designed to further reduce daily emissions. These adjustments include reducing the number of scrapers removing tailing material from the restoration areas from four to two per day and reducing the daily period of operation of these scrapers from 12 hours per day to 10 hours per day. Implementing these measures would substantially reduce daily PM_{10} emissions, but daily and annual emissions of NO_x and daily emissions of PM_{10} would still exceed FRAQMD thresholds in 2024 and 2025 under this scenario.

Table 3-3. Estimated Mitigated Construction-related Criteria Pollutant Emissions with Reduced Daily Material Removal from the Restoration Areas

Construction Year	Daily Emissions (pounds/day)			Annual Emissions (tons/year)	
	NO_x[1]	ROG[1]	PM_{10}[2]	NO_x	ROG
Year 1 (2024)	**55.5**	5.89	**390**	**10.1**	1.07
Significance Threshold	25	25	80	4.5	4.5
Exceeds Threshold?	***Yes***	*No*	***Yes***	***Yes***	*No*
Year 2 (2025)	**30.2**	2.79	**335**	**5.51**	0.51
Significance Threshold	25	25	80	4.5	4.5
Exceeds Threshold?	***Yes***	*No*	***Yes***	***Yes***	*No*
Year 3 (2026)	2.55	0.27	19.5	0.46	<0.1
Significance Threshold	25	25	80	4.5	4.5
Exceeds Threshold?	*No*	*No*	*No*	*No*	*No*

Notes: [1]Average pounds per day over total construction period, [2]maximum pounds per day

NOx = nitrogen oxide, PM10 = particulate matter less than 10 microns in diameter, ROG = reactive organic gases.

Sources: Results of air pollutant emissions modeling conducted by GEI Consultants Inc. in 2022, Feather River Air Quality Management District 2010

Additional or alternative adjustments to construction timing and equipment use may be implemented to further reduce pollutant emissions, but it is not known at this time if feasible adjustments can reduce all emissions levels to below the relevant thresholds. After construction schedules and other construction parameters are determined for each project component, construction-related pollutant emissions will be estimated using CalEEMod. If implementing Mitigation Measure AQ-1 and feasible adjustments to reduce daily equipment would not reduce estimated PM_{10} and NO_x emissions to below the significance thresholds, Mitigation Measures AQ-2 and AQ-3 will be implemented to further reduce emissions and offset excess emissions, as necessary.

Mitigation Measure AQ-2: Contribute to FRAQMD Off-Site Mitigation Program, Develop Equipment Inventory that Reduces Exhaust Emissions, and Document Equipment Use and Worker Vehicle Trips during Construction.

For project components that are estimated to exceed FRAQMD emissions thresholds, TRLIA and its construction contractors will implement the following measures to reduce, track, and offset construction-related project emissions, consistent with established FRAQMD Construction Phase Mitigation Measures (FRAQMD 2016).

- Before construction activities begin, TRLIA will pay a deposit to FRAQMD for contribution to the FRAQMD Off-site Mitigation Fund. This deposit will be held by FRAQMD and applied toward the final off-site mitigation amount to be paid after project construction is complete.
- Before construction activities begin, TRLIA and its construction contractors will compile a comprehensive inventory list (i.e., make, model, engine year, horsepower) of all heavy-duty off-road equipment (50 horsepower and greater) that will be used an aggregate of 40 or more hours. To the extent feasible, this equipment inventory will demonstrate that the heavy-duty off-road equipment to be used during construction (including owned, leased and subcontractor equipment) will achieve a target project-wide fleet average emission reduction for pollutants that are estimated to exceed FRAQMD thresholds (5 percent ROG reduction, 20 percent NO_x reduction, and/or 45 percent PM reduction) compared to the most recent CARB fleet average at time of construction. Acceptable options for reducing emissions may include use of late model engines (Tier 4), CARB-approved low-emission diesel products, alternative fuels, engine retrofit technology (Carl Moyer Guidelines), aftertreatment products, and/or other options as they become available.
- Data regarding construction activities will be collected and used to calculate project emissions after construction activities are complete. Data collected during project construction will include the following items:
    - Construction equipment
        - Number of pieces of each equipment type

- Model year, engine horsepower and tier, hours of operation for each type
  - Haul trucks (heavy-duty trucks)
    - Number of heavy-duty haul truck trips
    - On-road and off-road trip distance for haul truck trips
  - Number of construction workers per day
  - Total volume (cubic yards) of cut/fill

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Mitigation Measure AQ-3: Calculate Construction Emissions and Further Contribute to FRAQMD Off-Site Mitigation Program

Total construction emissions will be calculated at the end of construction activities. Using these calculations, TRLIA will make a final payment to the FRAQMD Off-Site Mitigation Fund, if necessary to further offset construction pollutant emissions that exceeded FRAQMD thresholds.

Timing: After construction activities are complete.

Responsibility: TRLIA.

Significance after Mitigation: Mitigation Measures AQ-1 and AQ-2 would reduce construction-related emissions by implementing control measures during construction and using equipment that emits less pollution. In addition, a deposit would be paid to FRAQMD for contribution to the FRAQMD Off-site Mitigation Fund and equipment use and worker trips would be calculated. Mitigation Measure AQ-3 requires additional contribution to the FRAQMD off-site Mitigation Program if necessary to further offset emissions that exceeded FRAQMD significance thresholds after implementation of AQ-1 and AQ-2. Therefore, this impact would be **less than significant with mitigation incorporated**.

c) Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during evaluation of a project's air quality impacts. These people include children, older adults, persons with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptor is a residence approximately 0.25-mile northeast of the project site. Some personnel at the Hallwood Facility may be especially sensitive to air pollutants, but project-related emissions would be similar to those to which workers are exposed during typical facility

operations and project activities would primarily be implemented approximately 1 mile from the central area of the facility, where most of the personnel work.

CARB has identified diesel particulate matter from diesel-fueled engines as a toxic air contaminant. Use of heavy-duty diesel equipment for construction and operational activities would generate diesel particulate matter. However, construction activities would be temporary and occur over a relatively short duration and not in the vicinity of sensitive receptors. O&M activities would be minor and use of heavy-duty diesel equipment during these activities would be minimal. Given the distance of sensitive receptors from the project site and temporary, short-term nature of project-related emissions, this impact would be **less than significant**.

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

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

3.4 Biological Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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 Wildlife 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, or regulations or by the California Department of Fish and Wildlife or U.S. 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?	☐	☐	☐	☒	☐

3.4.1 *Environmental Setting*

Information presented in this environmental setting is based on review of biological resource databases and publications, observations made during biological field surveys conducted by GEI Consultants, Inc. in August 2021 and January and April 2022, and information gathered for the NTW Phase 1 Project.

Habitat and Land Cover Types

The habitats and other land cover types described below occur on and/or immediately adjacent to the project site.

Barren

Barren portions of the project site are associated with the existing NTW, mining tailings in the potential habitat restoration areas, the Hallwood-Cordua Canal embankments, and unpaved roads. Vegetation is generally absent from barren areas, but occasional scattered ruderal grasses and forbs can occur at low density.

Non-native Annual Grassland

Non-native annual grassland vegetation occurs predominately in small patches on the mining tailings. Portions of the project site on the northeast side of the Hallwood-Cordua Canal and along the canal also support annual grassland. These areas are dominated by non-native annual grasses, including ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), slender oat (*Avena barbata*), foxtail barley (*Hordeum murinum*), Italian ryegrass (*Festuca perennis*), Bermudagrass (*Cynodon dactylon*), and rattail sixweeks grass (*Festuca myuros*). Non-native forbs are also common in this habitat, including black mustard (*Brassica nigra*), turkey mullein (*Croton setiger*), horseweed (*Erigeron canadensis*), wild radish (*Raphanus sativus*), and prickly lettuce (*Lactuca serriola*).

Mixed Riparian Woodland

Mixed riparian woodland occurs in portions of the tie-in embankment footprint, new fish bypass discharge pipe alignment, and fish food pipeline degrade area. This habitat also occurs adjacent to the potential habitat restoration areas. Mixed riparian woodland has a diverse assemblage of riparian trees, including Fremont's cottonwood, Goodding's black willow, valley oak, black walnut (*Juglans hindsii*), and box elder (*Acer negundo*).White alder (*Alnus rhombifolia*) and buttonwillow (*Cephanthaus occidentalis*) also may occur at lower elevations, particularly closer to the Yuba River channel. Common understory shrubs include Himalayan blackberry (*Rubus armeniacus*) and poison oak (*Toxicodendron diversilobum*). Blue elderberry (*Sambucus nigra* ssp. *caerulea*) shrubs are also scattered throughout this habitat. Small patches of woody vegetation occur on the tailing piles in some of the potential habitat restoration areas, but these areas are isolated from riparian woodland that occurs adjacent to the restoration areas.

Open Water

Areas of seasonal open water habitat occur in the Hallwood-Cordua Canal and the Yuba River high-flow side channel. Water is present in the canal throughout most of the year, except when annual routine maintenance is conducted, typically in January-March. Open water is also present in tailings ponds adjacent to the potential habitat restoration areas.

Sensitive Biological Resources

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

Special-status Species

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

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

The California Natural Diversity Database (CNDDB) (CDFW 2022a) and online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2022) were reviewed for information on special-status plants and animals that have been documented in the project vicinity. These reviews included the Browns Valley U.S. Geologic Survey 7.5-minute quadrangle on which the project site is located and the eight surrounding quadrangles. A list of resources under USFWS jurisdiction that could occur in the project vicinity was obtained from the Information for Planning and Conservation website (USFWS 2022), and the National Oceanic and Atmospheric Administration (NOAA) Fisheries West Coast Region Protected Resources App (NOAA Fisheries 2022) was reviewed. Database search results and the USFWS species list are provided in the appendix to this IS/MND, “Biological Database Information.”

Plants

Special-status plants included in the CNDDB and/or online Inventory of Rare and Endangered Vascular Plants of California search results were evaluated for their potential to occur on the project site (the USFWS species list did not include any plants). Most of these plants were determined to have no potential to occur on the project site, because they are restricted to

habitats and microhabitats that do not occur onsite, such as vernal pools, meadows, and serpentine soils. Sanford's arrowhead (*Sagittaria sanfordii*) and Brazilian watermeal (*Wolffia brasiliensis*) occur in ponds and ditches and have potential to occur in the high-flow side channel that would be disturbed by installing the new fish bypass discharge pipe and in aquatic habitat adjacent to the potential restoration areas. A protocol-level survey for these species has not been conducted, but a nearby downstream portion of the side channel was observed during the August 2021 field survey and neither species was noted, despite the survey being conducted during the blooming season for both species. Therefore, potential for them to occur in the area of disturbance is considered low.

Fish

Eight special-status fish taxa are included in the CNDDB search results, on the USFWS species list, or were otherwise determined to have potential to occur in the project vicinity. Delta smelt (*Hypomesus transpacificus*) was eliminated from evaluation because the Yuba River is far upstream of its known range and distribution. The remaining taxa are known or suspected of occurring in the lower Yuba River and are discussed below.

Fall-run Chinook Salmon and Central Valley Spring-run Chinook Salmon

Four runs of Chinook salmon (*Oncorhynchus tshawytscha*) occur in California: fall-, late-fall, winter-, and spring-run. The life histories of the runs differ primarily in the timing of their return to freshwater for spawning (Moyle 2002). The Central Valley spring-run Chinook salmon evolutionarily significant unit is State and Federally listed as threatened; fall-run Chinook salmon is a California Species of Special Concern.

Construction of Daguerre Point Dam in 1910, immediately upstream of the project site, created a partial barrier to salmon and other anadromous fish. Fishways were constructed with the dam, but they were destroyed by floods in 1927-28 (Yoshiyama et al. 2000); adequate fish ladders have since been constructed. Englebright Dam, approximately 12 miles upstream of Daguerre Point Dam, is a complete barrier and the current upstream limit for anadromous salmonids. Spring-run and fall-run Chinook salmon populations persist in the lower Yuba River, spawning in moderately sized cobble in riffles, riffle transitions, runs, and fast glides (Merz and Setka 2004).

The majority of spring-run Chinook salmon spawning occurs upstream of the SR 20 bridge, which is approximately 6 miles upstream of the project site. Fall-run Chinook salmon spawn throughout the Yuba River upstream of the Simpson Lane Bridge in Marysville, with the highest redd concentrations upstream of the SR 20 bridge. Spring-run Chinook salmon migrate into the lower Yuba River from April to June. A portion of the spring-run Chinook salmon run hold during the summer below Daguerre Point Dam before migrating upstream of the SR 20 bridge to spawn by the end of September; the other portion of the run holds over summer upstream of the SR 20 Bridge. Spring-run Chinook salmon spawning generally occurs from early September to mid-October. The annual fall-run Chinook salmon migration in the Yuba River begins in early

September, peaks in November, and tapers off in December. Spawning generally occurs soon after migration, primarily early October through mid-December. (Yuba Accord RMT 2013.)

Spring-run Chinook salmon fry emerge from the gravel in beginning in November and continuing until January; fall-run Chinook salmon emerge in January through March. After emerging, fry disperse downstream or to lateral margins of the river. Large numbers of fry have been captured at the mouth of the Yuba River in wet years. Spring-run Chinook salmon rear in the lower Yuba River from mid-November to mid-February and emigrate from mid-November through June. A small number of spring-run Chinook salmon in the lower Yuba River rear for a year before emigrating as smolts between October and March. Chinook salmon (both spring and fall-run) emigration generally peaks in late January, and 95 percent of emigration occurs by the end of April. (Yuba Accord RMT 2013.)

Central Valley Steelhead

The Central Valley steelhead (*Oncorhynchus mykiss*) distinct population segment is Federally listed as threatened. Only winter-run Central Valley steelhead currently occur in Central Valley streams (McEwan and Jackson 1996). Adult steelhead immigration and holding in the lower Yuba River occurs August through March, and spawning occurs January through April (Yuba Accord RMT 2013). Steelhead in the lower Yuba River use a variety of morphological units for spawning (e.g., riffles, riffle transitions, glides, runs, bars, and slackwater for spawning, depending on flows (Yuba Accord RMT 2013). Juvenile steelhead rearing and downstream migration occurs year-round and emigrating smolts have been observed from October through mid-April (Yuba Accord RMT 2013).

North American Green Sturgeon

The southern distinct population segment of North American green sturgeon (*Acipenser medirostris*) is Federally listed as threatened. Green sturgeon typically spawn every 3-4 years (NMFS 2015). Adults on their spawning run enter San Francisco Bay during late winter to early spring, migrate to their spawning area, and spawn from April through early July (Heublein et al. 2009). After spawning, green sturgeon typically hold for several months in the river then migrate downstream in fall or winter; some adults migrate downstream in spring and summer (Heublein et al. 2009). Spawning occurs in deep pools with medium-sized gravel, cobble, or boulder substrate; juveniles begin downstream migration when they are between 6 months and 2 years old (NMFS 2015). Spawning occurs primarily in the Sacramento River but has also been documented in the Feather River (Seesholtz et al. 2015) and lower Yuba River (CDFW 2019). In 2018, CDFW documented approximately 270 green sturgeon eggs on an egg mat deployed immediately below Daguerre Point Dam (CDFW 2019).

Pacific Lamprey

Pacific lamprey (*Entosphenus tridentata*) is a California species of special concern. These lamprey have a diverse life history, with some rivers containing two runs, one that returns in spring and spawns immediately after upstream migration and another that migrates upstream in fall and spawns the following spring (Moyle et al. 2015). Most adult Pacific lamprey spawning

migrations occur between March and late June, with upstream movement typically occurring at night (Moyle et al. 2015). Spawning typically occurs from April to July in low-gradient stream reaches, with gravel in tailouts of pools and riffles (Goodman and Reid 2012). Eggs hatch into ammocoetes that are transported downstream to a low-gradient silty area where they burrow and filter-feed (Goodman and Reid 2012, Moyle et al. 2015). After 4 to 7 years, ammocoetes metamorphose and migrate downstream to the ocean, typically during high-flow events in winter and spring (Goodman et al. 2015). Pacific lamprey has been extirpated from many California rivers, but they persist in the lower Yuba River (Yuba Accord RMT 2013).

River Lamprey

River lamprey (*Lampetra ayresi*) is a California species of special concern. This species has been studied little throughout its range, and detailed information on life history and distribution is lacking (USFWS 2004). There is little knowledge of river lamprey in California, particularly regarding habitat requirements and environmental tolerances (Moyle et al. 2015). Adults migrate to spawning areas in fall and spawn in small, gravel-bottomed tributary streams at the upstream end of riffles in winter or spring (USFWS 2004, Moyle et al. 2015). Ammocoetes filter feed in low velocity, depositional areas containing fine sediment for 3 to 5 years. Metamorphosis starts in summer and can take up to 10 months; entry into the ocean occurs in late spring (Moyle et al. 2015). The species occurs in the lower Yuba River but may be absent in some years; individuals have been captured by rotary screw immediately downstream of the project site (Campos and Massa 2010).

Riffle Sculpin

Riffle sculpin (*Cottus gulosus*) is a California species of special concern that is only found in permanent cold-water streams. These sculpin feed primarily at night and spawn under rocks in riffles or in the cavities of submerged logs in February through April (Moyle et al. 2015). Larvae and adults have poor dispersal ability; larvae are benthic and remain close to where they hatch (Moyle et al. 2015). Riffle sculpin occur in the lower Yuba River; individuals have been captured by rotary screw trap immediately downstream of the project site (Campos and Massa 2010).

Hardhead

Hardhead (*Mylopharodon conocephalus*) is a California species of special concern endemic to the Sacramento-San Joaquin and Russian River systems (Moyle 2002). This species is typically found in small to large streams in a low- to mid-elevation environment. Juvenile hardhead can occur at various depths, in shallow water and deeper lake habitats. Spawning occurs in May and June in the sand, gravel, and rocky areas of pools and side pools. Hardhead have been captured by rotary screw trap immediately downstream of the project site (Campos and Massa 2010).

Wildlife

Special-status wildlife taxa included in the CNDDB search results and/or on the USFWS species list were evaluated for potential to occur on or adjacent to the project site. As with the plant

species, most of these species were determined to have no potential to occur because of restricted distribution and/or lack of suitable habitat. For example, aquatic habitats on the project site are not suitable for species such as sensitive vernal pool invertebrates (*Branchinecta* spp. and *Lepidurus packardi*), western spadefoot (*Spea hammondii*), and California black rail (*Laterallus jamaicensis coturniculus*) that occur in wetlands with specific habitat conditions not provided by the project site. In addition, the project site is not within the current range of species such as giant garter snake (*Thamnophis gigas*), California red-legged frog (*Rana draytonii*), and least Bell's vireo (*Vireo bellii pusillus*). Sixteen special-status wildlife taxa for which at least potentially suitable habitat occurs on or adjacent to the project site were evaluated in further detail and are discussed below.

Monarch Butterfly

Monarch butterfly (*Danaus plexippus*) is a candidate for Federal listing as threatened or endangered. Adults feed on a diversity of blooming nectar resources throughout their migration routes and breeding grounds. Monarchs also require milkweed (*Asclepias* spp.) for egg laying, larval development, and feeding. In western North America, nectar and milkweed resources are often associated with riparian corridors (USFWS 2020). Migratory monarchs in the western population primarily overwinter in groves along the coast of California and Baja California. Monarchs have been documented in the project vicinity in recent years (Western Monarch Milkweed Mapper 2022) and have potential to occur on the project site.

Valley Elderberry Longhorn Beetle

Elderberry (*Sambucus* sp.) shrubs are the obligate host plant for the Federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Numerous elderberry shrubs occur in the lower Yuba River corridor, including on and adjacent to the project site. Approximately 34 elderberry shrubs are known to occur in or adjacent to the tie-in embankment footprint, fish food pipeline degrade area, and potential habitat restoration areas. Several occurrences of valley elderberry longhorn beetle are known from the project vicinity, and the beetle has potential to occur on and adjacent to the project site.

Foothill Yellow-legged Frog

Foothill yellow-legged frog (*Rana boylii*) is State-listed as endangered. It occurs in and near rocky streams in valley and foothill areas. Egg masses are attached to substrates in shallow water with low velocities, typically river bars, in spring to early summer as high flows recede (Wheeler and Welsh 2008). Foothill yellow-legged frog is typically found at higher elevation than the project site, and the nearest known occurrences are more than 10 miles upstream. Therefore, this species in unlikely to occur on or adjacent to the project site.

Western Pond Turtle

Western pond turtle (*Emys marmorata*) is a California species of special concern that occurs in permanent or nearly permanent aquatic habitat and nests in uplands with suitable soils. Preferred aquatic habitat is deep, still, or slow-moving water with underwater refugia. Structures such as logs, rocks, bedrock outcrops, and exposed banks are required for basking (Ashton et al. 1997).

The cobble substrate that dominates the project site is unsuitable for pond turtle nesting. Potential on-site nesting habitat is limited to grassland north of the Hallwood-Cordua Canal, but much of this habitat is of relatively poor quality due to regular disturbance in the area. The canal provides poor quality aquatic habitat for western pond turtle, but habitat in the high-flow side channel is of moderate quality.

Special-status Birds

Riparian habitat on and adjacent to the project site provides potentially suitable nesting habitat for Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), yellow-breasted chat (*Icteria virens*), Modesto song sparrow (*Melospiza melodia*), and tricolored blackbird (*Ageelaius tricolor*). Swainson's hawk is state-listed as threatened; tricolored blackbird is state-listed as threatened, white-tailed kite is fully protected under the CFGC, and yellow-breasted chat and Modesto song sparrow are California species of special concern. These species could nest in riparian habitat on and adjacent to the project site if they occur in the area. Grassland habitat north of the Hallwood-Cordua Canal could provide suitable nesting habitat for northern harrier (*Circus hudsonius*) and grasshopper sparrow (*Ammodramus savannarum*), both of which are California species of special concern. These species could also forage in riparian areas or grasslands north of the Hallwood-Cordua Canal. Habitat on and adjacent to the project site could be used for foraging by several additional special-status birds that do not nest in the vicinity but may occur during migration and dispersal, including bald eagle (*Haliaeetus leucocephalus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), bank swallow (*Riparia riparia*), and yellow warbler (*Setophaga petechia*). Although there is potential for all these special-status birds to occur in the project area, none were documented during focused nesting bird surveys conducted for the NTW Phase 1 Project.

Western Red Bat

Western red bat (*Lasiurus blossevillii*) is a California species of special concern that occurs primarily in riparian habitat. These bats typically roost in the foliage of mature trees associated with woodland borders, rivers, and agricultural areas. Roost trees are typically large cottonwoods, sycamores, walnuts, and willows. Activity levels in the Central Valley, as measured by acoustic surveys, have been shown to be highest in riparian habitat corridors more than 160 feet wide and dominated by mature trees (Pierson et al. 2006). Riparian woodland on and adjacent to the project site may provide suitable roost sites for western red bat, and the species could forage over the site.

Sensitive Habitats

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

Critical Habitat and Essential Fish Habitat

Section 3(5)A of the Federal ESA defines "critical habitat" as the specific areas within the geographical area occupied by Federally listed species on which are found physical or biological features essential to the conservation of the species and that may require special management considerations or protection. The project site is within designated critical habitat for spring-run Chinook salmon, steelhead, and green sturgeon.

The project site also is within designated Essential Fish Habitat (EFH) for Pacific Coast salmon (Chinook salmon), as designated in the Pacific Coast Salmon Fishery Management Plan (PFMC 2022) and defined by the Magnuson-Stevens Fishery Conservation and Management Act. Chinook salmon freshwater EFH includes all habitat currently or historically occupied by Pacific Fishery Management Council-managed Chinook salmon, including the lower Yuba River.

Waters and Wetlands

Under Section 404 of the CWA, USACE has jurisdiction over features that qualify as waters of the United States, including some wetlands that support appropriate vegetation, soils, and hydrology. Under Section 401 of the CWA, the CVRWQCB regulates discharge of dredged or fill material into waters of the United States that drain to the Central Valley, to ensure such activities do not violate State or Federal water quality standards; the CVRWQCB also regulates waters of the State, in compliance with the Porter-Cologne Act. In addition, diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to the regulatory approval of CDFW pursuant to Section 1602 of the CFGC.

The lower Yuba River is a jurisdictional water of the United States and water of the State subject to regulation under Sections 404 and 401 of the CWA. The high-flow side channel is below the flow level (26,000 cfs) that was designated as the Yuba River ordinary high-water mark (OHWM) in the Hallwood Side Channel and Floodplain Restoration Project (Hallwood Restoration Project) wetland delineation (Cramer Fish Sciences and cbec eco engineering 2017). A small portion of the tie-in embankment footprint is also below this defined OHWM. Based on observations of these areas in August 2021 and April 2022, this determination regarding the OHWM elevation is consistent with current conditions. Hallwood-Cordua Canal is also a water of the State and is anticipated to qualify as a water of the United States under the re-capture clause, because water in this canal is removed from the Yuba River and canal water is returned to the Feather River, also a water of the United States. In addition, the high-flow side channel and adjacent riparian vegetation within the Yuba River floodplain are anticipated to fall under CDFW jurisdiction pursuant to Section 1602 of the CFGC.

Natural Communities of Special Concern

CDFW maintains a list of sensitive natural communities (CDFW 2022b). The mixed riparian woodland on and adjacent to most of the project site would be is considered a sensitive a would

be classified as Fremont Cottonwood Woodland and Forest and/or Goodding's Willow Riparian Woodland and Forest, both of which are considered a sensitive natural community.

3.4.2 *Discussion*

This impact discussion focuses on resources with reasonable potential to be affected by implementing the proposed project. Therefore, plant and wildlife species that are unlikely to occur on or adjacent to the project site (because of poor or unsuitable habitat conditions or known extant range of the species) are not addressed in this discussion.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service?

Special-status Plants

Sanford's arrowhead and Brazilian watermeal have low potential to occur in the high-flow side channel. Up to approximately 0.1 acre of suitable habitat could be disturbed by installing the new fish bypass discharge pipe outlet; a small fraction of this area would be permanently affected by installing associated rock erosion protection. This could result in direct loss of plants, but given the very small area of habitat disturbance, very few plants would be affected, if present. In addition, the affected habitat represents a very small proportion of the overall habitat present in the side channel and in aquatic habitat adjacent to the potential restoration areas, and the overall amount of potentially suitable habitat would increase if habitat restoration implemented as part of the project includes aquatic habitat. Therefore, implementing the proposed project is very unlikely to result in a substantial adverse effect on Sanford's arrowhead or Brazilian watermeal, and this impact would be **less than significant**.

Special-status Invertebrates

Riparian habitat on the project site supports plant species, such as willows, likely to provide nectar habitat for monarch butterfly. Milkweed host plants have relatively low potential to occur onsite; none were observed during the April 2022 field survey, and areas of dense riparian vegetation that were inaccessible during the survey are well-shaded and unlikely to support milkweed. Up to approximately 6 acres of riparian vegetation that could support nectar plants for monarch would be removed from the tie-in embankment footprint, new fish bypass discharge pipe alignment, potential fish food pipeline degrade area, and potential stockpile area at the Hallwood Facility. This habitat loss would represent a small fraction of the amount of similar habitat present adjacent to the project site and within the larger project vicinity. In addition, habitat creation activities would increase the amount of riparian vegetation in the project area. Because the western population of monarch butterfly is a wide-ranging migratory species, this potential extent of temporary habitat loss is unlikely to have a substantial adverse effect. Therefore, this impact would be **less than significant**.

Constructing the tie-in embankment would require permanent removal of approximately 2.5 acres of riparian vegetation that includes 14 known elderberry shrubs; installing the new fish bypass discharge pipe and degrading the Hallwood-Cordua Canal embankment to install the fish food pipeline could also require elderberry shrub removal. Scattered, isolated patches of vegetation occur in some of the potential habitat restoration areas. Only two elderberry shrubs are known to occur on the tailing piles in these areas but a small number of additional elderberry shrubs could be present. These shrubs would be removed to facilitate habitat restoration, if implemented in the areas in which the shrubs occur. The exact number of elderberry shrubs that would be removed during project implementation is not known at this time but is estimated to be approximately 20. Elderberry shrubs adjacent to the project footprint would be protected during project implementation, but work may occur within 20 feet of individual shrubs. O&M activities are unlikely to adversely affect valley elderberry longhorn beetle. Elderberry shrub removal could result in loss of valley elderberry beetles, if larvae are present in the removed shrubs, and work immediately adjacent to shrubs could impact adults, if work occurs during the flight season. This is a **potentially significant** impact. Mitigation Measure BIO-1 has been developed to reduce this impact.

Mitigation Measure BIO-1: Minimize Impacts on Valley Elderberry Longhorn Beetle.

TRLIA and its construction contractor(s) will implement the following measures consistent with the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017) to avoid and minimize impacts on elderberry shrubs and compensate for unavoidable impacts:

- Before project activities begin, worker awareness training will be provided by a qualified biologist to inform on-site project personnel of the need to avoid and minimize potential impacts on elderberry shrubs. The training will include, at a minimum, a discussion of valley elderberry longhorn beetle, its conservation status, its host plant, its habitat, measures to be implemented for its protection, and possible penalties for non-compliance. An appointed representative will be identified and available to project personnel to ensure that questions regarding avoidance and protection measures are addressed in a timely manner.

- Before project activities near elderberry shrubs begin, stakes and/or flagging (substrate and slopes likely preclude use of fencing) will be placed to clearly delineate the extent of material excavation and other construction and restoration activities. A buffer will be provided around elderberry shrubs/clusters to prevent accidental damage during project activities. To the maximum extent feasible, buffers will be a minimum of 20 feet from the dripline of elderberry shrubs/clusters.

- A qualified biological monitor will supervise buffer establishment and conduct periodic inspections during project construction and restoration activities to ensure that impact avoidance and minimization measures are properly implemented.

- To the maximum extent feasible, trimming of elderberry shrub branches and stems will occur between November and February and will avoid removal of those greater than 1 inch in diameter. Other project activities involving heavy equipment use within 165 feet of an elderberry shrub will be conducted outside of the valley elderberry longhorn beetle flight season (March through July) to the extent feasible.

- Elderberry shrubs that require removal during project implementation will be transplanted. The shrubs are anticipated to be transplanted to one or more of the potential habitat restoration areas. A qualified biologist will identify transplant locations that are suitable for elderberry growth and reproduction and ideally in the vicinity of other existing elderberry shrubs that would not be removed by the project. Transplanting will be implemented as follows:

    - To the maximum extent feasible, elderberry shrubs will be transplanted when they are dormant (November through the first 2 weeks in February) and after they have lost their leaves.

    - A qualified biologist will conduct an exit hole survey immediately before each shrub is transplanted and will be onsite during transplanting activities. The biologist will record the number of exit holes found on each shrub, the precise location of each shrub that is removed, and the precise transplant location for each shrub.

- Compensatory mitigation will be provided for removal of isolated elderberry shrubs and/or riparian vegetation that includes elderberry shrubs. An appropriate mitigation strategy will be developed in consultation with USFWS and is anticipated to include elderberry shrub/habitat replacement at a 2:1 to 3:1 ratio for each elderberry shrub or extent of riparian habitat that is removed. Mitigation is anticipated to be implemented in the on-site habitat restoration areas but could be implemented at an appropriate alternative location agreed to by USFWS or through purchase of credits at a USFWS-approved mitigation bank. If mitigation is not provided at a mitigation bank, the mitigation strategy will specify monitoring, maintenance, and protection requirements to ensure the mitigation habitat is successfully established and adequately protected.

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Significance after Mitigation: Implementing Mitigation Measure BIO-1 would reduce the potentially significant impact on valley elderberry longhorn beetle because buffers would be

implemented around elderberry shrubs; elderberry shrubs that require removal would be transplanted, if feasible; and compensatory mitigation would be provided. Therefore, this impact would be **less than significant with mitigation incorporated**.

Special-status Fish

The tie-in embankment has been designed to provide a minimum 50-foot buffer from the high-flow side channel to avoid loss of habitat for salmonids and other special-status fish. Although a small portion of the side channel would be directly impacted by installing the new fish bypass discharge pipe, this project component was developed for the specific purpose of improving return habitat conditions for fish that are discharged from the bypass. During high Yuba River flows, the side channel provides a safer environment than the Yuba River channel for juvenile fish and installing the new discharge pipe would allow these fish to be returned to this safer portion of the river during high flows. Fish foraging opportunities also would be improved as a result of the project, which proposes to manage and transport water from flooded rice fields north of the Hallwood-Cordua Canal into the Yuba River system via a connection to the existing fish bypass discharge pipe. Transport and discharge of water from flooded rice fields to the Sacramento River has been shown to benefit juvenile salmonids by resulting in increased growth rates evidenced by larger and heavier fish at and downstream of the rice water discharge point (Raffel and Katz 2020). The proposed project strives to replicate this benefit in this portion of the lower Yuba River. Although riparian vegetation would be permanently removed from the tie-in embankment footprint, very little of this vegetation (approximately 0.20 acre) is below the OHWM and provides shaded riverine aquatic (SRA) habitat in high flows. A similar amount of vegetation providing SRA habitat occurs within the fish bypass discharge pipe installation area and would be affected. However, these effects would be temporary because vegetation removed during pipeline installation is anticipated to regrow and continue to provide SRA habitat in the long term. Therefore, these adverse impacts on a relatively small amount of aquatic and SRA habitat for special-status fish would be offset by the fish habitat enhancement components of the proposed project, and the project would have an overall **beneficial impact** on special-status fish in the lower Yuba River.

Constructing the tie-in embankment and installing the new discharge pipe could result in erosion and short-term increases in suspended sediment and turbidity levels in the Yuba River and accidental exposure to hazardous materials (e.g., construction equipment leaking fluids). At high levels, suspended solids can adversely affect the physiology and behavior of aquatic organisms. Fish responses to increased turbidity and suspended sediment can range from behavioral changes to sublethal effects and, at high suspended sediment concentrations for prolonged periods, lethal effects (Newcombe and Jensen 1996). The amount of potential erosion and sedimentation is anticipated to be very minor, and any potential deposition of instream sediments is expected to be localized and temporary. In addition, construction and O&M activities in and adjacent to the high-flow side channel would occur during the summer and early fall, when special-status fish are unlikely to be present and potential for direct impact is negligible. If subsequent modifications are required, these activities are anticipated to be very focused and accomplished

with minimal heavy equipment use. Therefore, O&M activities would have a negligible impact. However, because increases in suspended sediment and turbidity and potential pollutant exposure during the first high flows following tie-in embankment construction and discharge pipe installation have potential to adversely affect special-status fish, this would be a **potentially significant** impact. Mitigation Measures GEO-1 and HAZ-1 would reduce this impact.

Mitigation Measure GEO-1: Implement the Appropriate Plan and Associated Best Management Practices to Prevent, Minimize, and Control Runoff, Erosion, and Pollution.

Mitigation Measure GEO-1 in Section 3.7, "Geology, Soils, and Paleontological Resources," provides the full text of this mitigation measure.

Mitigation Measure HAZ-1: Implement a Spill Prevention and Control Plan and Other Measures to Reduce the Potential for Environmental Contamination during Construction Activities.

Mitigation Measure HAZ-1 in Section 3.9, "Hazards and Hazardous Materials," provides the full text of this mitigation measure.

Significance after Mitigation: Implementing Mitigation Measure GEO-1 would reduce potentially significant impacts associated with construction-related erosion because the appropriate plan and associated best management practices (BMPs) would be implemented to minimize and control runoff, erosion, and pollution. Implementing Mitigation Measure HAZ-1 would reduce potentially significant construction-related impacts from accidental spills of hazardous materials during construction activities by requiring preparation and implementation of a spill prevention and control plan along with other BMPs for storage, use, and transport of hazardous materials specifically designed to prevent contamination of the environment. Therefore, this impact would be **less than significant with mitigation incorporated**.

Western Pond Turtle

The Hallwood-Cordua Canal and Yuba River high-flow side channel provide potentially suitable aquatic habitat for western pond turtle during portions of the year. However, habitat quality of the canal is relatively poor due to the lack of basking structures and inconsistent flow conditions, and the portion of the high-flow side channel on the project site is primarily shaded and bordered by dense riparian vegetation. Project-related impacts on aquatic habitat are anticipated to be minor because work associated with the canal would primarily occur during the annual routine maintenance period when irrigation flows are suspended and work in the side channel would occur during the low flow period in the Yuba River, when the channel is most likely to be dry. Therefore, potential for the project to result in direct injury or mortality or indirect stranding of turtles in aquatic habitat is low. Potentially suitable nesting habitat for western pond turtle on the project site is limited to grassland north of Hallwood-Cordua Canal. Approximately 2.5 acres of grassland in this area may be used for staging/stockpiling. This grassland is approximately 200-

600 feet from the Hallwood-Cordua Canal and more than 1,000 feet from higher quality aquatic habitat in the vicinity. Similar grassland habitat is abundant in the area and occurs closer to aquatic habitat in which pond turtles are more likely to occur, compared to the canal. Therefore, pond turtles are unlikely to nest in the grassland areas that would be affected by staging activities and potential to destroy a nest is low. Disturbance associated with future O&M activities would be minimal and very unlikely to result in death or injury of pond turtles. If aquatic habitat is created as part of the habitat creation component of the project, it would result in an increase of the amount of aquatic habitat available to pond turtles in the vicinity and could have a beneficial effect on the species, if a population occurs in the project area. Although potential for project-related injury or mortality of western pond turtle cannot be entirely ruled out, the number of individuals potentially affected would be low and is very unlikely to have a substantial impact on the local population, if such a population occurs in the project area. Therefore, this impact would be **less than significant**.

Special-status Birds

Seven special-status bird species—Swainson's hawk, white-tailed kite, northern harrier, yellow-breasted chat, Modesto song sparrow, grasshopper sparrow, and tricolored blackbird—have potential to nest in and adjacent to the project area. Non-breeding bald eagle, western yellow-billed cuckoo, bank swallow, and yellow warbler could occur in the project area, but suitable nesting habitat for these species is absent or the area is outside their current nesting distribution. Riparian vegetation that would be removed from the tie-in embankment footprint and fish bypass pipe installation area and may be removed during degrade of the Hallwood-Cordua Canal to install the fish food pipeline is primarily shrubby and supports relatively few mature trees. This vegetation provides poor quality nesting habitat for Swainson's hawk and white-tailed kite and project implementation is very unlikely to remove suitable nesting habitat or destroy active nests. Up to approximately 4 acres of riparian vegetation potentially suitable for yellow-breasted chat and Modesto song sparrow nesting would be removed, but many more acres of similar habitat occur in the immediate vicinity. No suitable nesting habitat for northern harrier, grasshopper sparrow, or tricolored black is anticipated to be removed. In addition, habitat creation activities are anticipated to increase the amount of riparian vegetation in the project area. Therefore, loss of potential nesting habitat for special-status birds would be a **less-than-significant** impact.

Swainson's hawks and white-tailed kites could nest in trees adjacent to the project site, yellow-breasted chat and Modesto song sparrow could nest in riparian habitat on and adjacent to the site, northern harrier and grasshopper sparrow could nest in grassland adjacent to the potential staging area north of the Cordua Canal crossing, and tricolored blackbird could nest in emergent wetland vegetation and shrubby riparian vegetation adjacent to some of the potential restoration areas. No nests of any of these species were found during surveys constructed for Phase 1, but potential for them to occur cannot be dismissed. If active nests are present in the area, project activities could destroy active nests and disturb nesting behavior, potentially resulting in nest abandonment, reduced care of eggs or young, or premature fledging. Because Swainson's hawk and tricolored blackbird are threatened species and white-tailed kite is a fully protected species, project-related

failure of nests of these species would be a **potentially significant** impact. Mitigation Measure BIO-3, presented below, would reduce these impacts.

Vegetation removal on the project site could remove or disturb a relatively small number of active nests of northern harrier, yellow-breasted chat, Modesto song sparrow, grasshopper sparrow, and common bird species. CFGC Section 3503 prohibits take, possession, and needless destruction of nest or eggs of any bird. Although removing an active bird nest during project activities could violate the Migratory Bird Treaty Act (MBTA) and CFGC Section 3503, this would not in itself be a significant impact under CEQA. Potential loss of a very small number of active northern harrier, yellow-breasted chat, Modesto song sparrow, or grasshopper sparrow nests would not have a substantial adverse effect on these species. In addition, the potential extent of loss of active nests of common bird species would not substantially reduce their abundance or cause any species to drop below self-sustaining levels. Therefore, this would be a **less-than-significant impact**. However, implementing Mitigation Measure BIO-3 would avoid and minimize potential to destroy bird nests protected by the MBTA and CFGC Section 3503.

Mitigation Measure BIO-2: Conduct Focused Surveys for Nesting Birds and Implement Buffers Around Active Nests.

To minimize potential effects of project construction and maintenance on special-status birds and avoid violation of the MBTA and CFGC, TRLIA will ensure that the following measures are implemented:

- To the extent feasible, construction activities will be timed to avoid the primary bird nesting season (February-August).
- If construction activity would begin during the Swainson's hawk nesting season (March 15-August 31), focused surveys for active Swainson's hawk nests will be conducted within 0.5 mile of the project site by a qualified biologist, in accordance with *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). To meet the minimum level of protection for the species, surveys will be completed for the two survey periods immediately before construction activities begin. If a lapse in project-related activities of 14 days or longer occurs, another focused survey will be conducted before project activities resume.
- If construction activity would begin during the white-tailed kite nesting season (March 1-August 31), a focused survey for active white-tailed kite nests will be conducted by a qualified biologist. The survey will cover all potential on-site and off-site nesting habitat within 0.25 mile of the project site. The survey will be conducted no more than 14 days before the start of project activities. If a lapse in project-related activities of 14 days or longer occurs, another focused survey will be conducted before project activities resume.

- If construction activity would begin during the nesting season for other birds protected by the MBTA and FGC (February 1- September 15), a survey for active bird nests will be conducted by a qualified biologist. The survey will cover all potential on-site and off-site nesting habitat within 500 feet of the construction footprint. The survey will be conducted no more than 14 days before the start of project activities. If a lapse in project-related activities of 14 days or longer occurs, another focused survey will be conducted before project activities resume.
- If any active nests are found, a qualified biologist will prepare a site-specific take avoidance plan to comply with CESA, MBTA, and/or FGC. Measures may include but are not limited to rescheduling project activities around sensitive periods for the species (e.g., nest establishment), implementing construction best practices such as staging equipment out of the species' line of sight from the nest, and establishing nest-specific no-disturbance buffers. The prescribed avoidance/protection measures will be implemented before construction activities begin within 0.5 mile of an active Swainson's hawk nest, 0.25 mile of an active white-tailed kite nest, and 500 feet of other identified active nests and will continue until the nests are no longer active. A qualified biologist will monitor construction activities and behavior of the nesting birds and young to ensure project activities do not cause disturbance that could result in nest abandonment, reduced care of eggs or young, or premature fledging.

Timing: Before and during construction activities.

Responsibility: TRLIA and its construction contractor(s).

Significance after Mitigation: Implementing Mitigation Measure BIO-2 would reduce potentially significant impacts on special-status birds because active nests would not be removed and measures would be implemented to minimize potential for indirect impacts. Therefore, this impact would be **less than significant with mitigation incorporated**.

Western Red Bat

Riparian woodland and forest adjacent to the project site provides marginal-quality roosting habitat for western red bat, which favors areas that support riparian corridors wider than 160 feet and dominated by mature trees. Riparian vegetation that would be removed from the tie-in embankment footprint and fish bypass pipe installation area and may be removed during degrade of the Hallwood-Cordua Canal to install the fish food pipeline is primarily shrubby and supports few mature trees. This habitat is unlikely to be used by western red bat for roosting, including maternity roosts. In addition, implementing the habitat creation component of the project may result in a long-term increase in the amount of suitable roosting habitat. Because only a small amount of relatively poor-quality roosting habitat for western red bat would be removed and few, if any, individuals would be affected, this impact would be **less than significant**.

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

Up to approximately 4 acres of mixed riparian woodland would be removed from the tie-in embankment footprint, fish bypass discharge pipe installation area, and potential canal embankment degrade area. Approximately 3.5 acres of this habitat is within the Yuba River floodplain or adjacent to an existing pond outside the floodplain and is anticipated to fall under CDFW jurisdiction pursuant to Section 1602 of the FGC and require a streambed alteration agreement for removal. Up to 2 additional acres of vegetation including riparian species could be removed from the potential stockpile site near the Hallwood Facility aggregate processing area, if this area is required for storage of excess material removed from the habitat restoration areas. However, this area was cleared of vegetation during previous mining-related activities and has become revegetated in recent years; it is not subject to regulation under Section 1602 of the FGC and does not support characteristics of a sensitive natural community.

Approximately 2 acres of the mixed riparian woodland that would be affected is within the tie-in embankment and would be permanently removed; vegetation removed from the fish bypass discharge pipe installation area and canal embankment degrade area is anticipated to be replaced by vegetation that would be allowed to grow after project construction is complete. Therefore, permanent mixed riparian woodland removal is anticipated to be limited to approximately 2 acres. Although this is a relatively small proportion of the mixed riparian woodland that occurs along the lower Yuba River, this habitat has been substantially reduced in the region and removal of an additional 2 acres could be considered a substantial adverse effect. Implementing the riparian restoration portion of the project is anticipated to result in a net increase in riparian habitat in the project area, but the amount of riparian habitat that will be restored has not been confirmed. Therefore, on-site riparian restoration may not fully offset the loss of mixed riparian woodland and this would be a **potentially significant** impact. Mitigation Measure BIO-3 has been developed to reduce this impact. In addition, a streambed alteration agreement would be obtained from CDFW, as needed, and all conditions of the agreement would be met.

Mitigation Measure BIO-3: Minimize and Compensate for Loss of Mixed Riparian Woodland.

TRLIA and its construction contractor(s) will implement the following measures to reduce effects of the project on mixed riparian woodland:

- Impacts on riparian habitat will be avoided wherever possible by considering locations of riparian vegetation during development of the final project design, including restoration areas, maintenance zones, and construction staging areas and access routes.
- Unavoidable impacts on riparian habitat will be compensated at a minimum 1:1 replacement ratio based on the acreage removed to ensure no net permanent loss. Compensation may occur through purchase of credits from a mitigation bank or

through restoration, monitoring, maintenance, and preservation of riparian habitat onsite or at an appropriate alternative location in the watershed.

- A mitigation plan will be prepared and implemented addressing how the loss of riparian habitat that cannot be avoided will be compensated. The mitigation plan will identify compensation ratios for acres lost and mitigation sites.
- If mitigation is not provided via purchase of credits at an established mitigation bank, the mitigation plan will also describe habitat compensation methods and location, monitoring protocol, performance standards for restored habitat, corrective measures to be applied if performance standards are not met, and management and protection measures to ensure long-term habitat viability and protection.

Timing: Before ground-disturbing activities in areas containing riparian vegetation and throughout mitigation implementation.

Responsibility: TRLIA and its construction contractor(s).

Significance after Mitigation: Implementing Mitigation Measure BIO-3 would reduce the potentially significant impact associated with loss of mixed riparian woodland because it would minimize adverse impacts on this habitat and compensate for unavoidable impacts. Therefore, this impact would be **less than significant with mitigation incorporated**.

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?

The Yuba River is a water of the United States and water of the State subject to regulation under Sections 404 and 401 of the CWA; Hallwood-Cordua Canal is also anticipated to qualify as a water of the United States and a water of the State. Constructing the tie-in embankment and installing the new fish bypass discharge pipe would include placing fill in approximately 0.20 acre below the Yuba River OHWM. Construction activities in the Hallwood-Cordua Canal and along the canal embankment would primarily be conducted during the typical annual routine maintenance period when the canal is dry but temporary dewatering may be required if all construction cannot be completed during this period. The tie-in embankment crossing and culverts and long crested weir also may have a slightly larger footprints than the existing structures, but the overall canal conditions would not be substantially altered. O&M activities are not anticipated to require fill or other impacts to waters. These relatively minor impacts on State and Federally protected waters in the Yuba River and Hallwood-Cordua Canal would not have a substantial permanent adverse impact on the functions or values of the affected waters. Although permanent impacts would be relatively minor, construction activities in and adjacent to waters could temporarily degrade water quality over a larger area than permanent impacts would occur and result in a **potentially significant** impact. Mitigation Measures GEO-1 and HAZ-1 would reduce this impact. In addition, appropriate permits would be obtained from USACE,

CVRWQCB, and CDFW as needed, and all conditions of these permits, especially those conditions protecting and maintaining aquatic habitat, would be met.

Mitigation Measure GEO-1: Implement the Appropriate Plan and Associated Best Management Practices to Prevent, Minimize, and Control Runoff, Erosion, and Pollution.

Mitigation Measure GEO-1 in Section 3.7, "Geology, Soils, and Paleontological Resources," provides the full text of this mitigation measure.

Mitigation Measure HAZ-1: Implement a Spill Prevention and Control Plan and Other Measures to Reduce the Potential for Environmental Contamination during Construction Activities.

Mitigation Measure HAZ-1 in Section 3.9, "Hazards and Hazardous Materials," provides the full text of this mitigation measure.

Significance after Mitigation: Implementing Mitigation Measure GEO-1 would reduce potentially significant impacts associated with construction-related erosion because the appropriate plan and associated BMPs would be implemented to minimize and control runoff, erosion, and pollution. Implementing Mitigation Measure HAZ-1 would reduce potentially significant construction-related impacts from accidental spills of hazardous materials during construction activities by requiring preparation and implementation of a spill prevention and control plan along with other BMPs for storage, use, and transport of hazardous materials specifically designed to prevent contamination of the environment. Therefore, this impact would be **less than significant with mitigation incorporated**.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The project site is part of a much larger extent of riverine, woodland/forest, and scrub habitats along the lower Yuba River. The river system serves as a corridor and/or primary route for fish and wildlife migration and movement. Project activities would not substantially interfere with the movement of native fish or wildlife because a very small portion of the river floodplain would be impacted, construction and O&M activities in and adjacent to the high-flow side channel would occur during the summer and early fall when the channel is most likely to be dry and fish are unlikely to be using the side channel as a movement corridor, and project activities in each portion of the site would occur over a relatively brief period. In addition, the project is anticipated to result in a long-term increase in the amount of riparian habitat and would improve habitat conditions for fish that are discharged from the bypass during high flow conditions. Therefore, the long-term impact on fish and wildlife movement and migration would be **beneficial**.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Yuba County does not have any ordinances prescribing specific requirements for tree preservation or protection of other biological resources. Most of the policies identified in the Natural Resources Element of the *Yuba County 2030 General Plan* (Yuba County 2011a) apply to development projects. However, Policy NR5.7 addresses public investments and overall resource protection and could therefore apply to the proposed project. This policy states: "New developments and public investments near Yuba County's streams and rivers shall be designed to avoid tree removal, erosion, or other modifications that would adversely affect salmonid habitat." As discussed under Question "(a)" above, the project would result in very minor loss of potential SRA habitat (0.20 acre) and would improve conditions for anadromous salmonids through implementation of the fish foraging enhancement and fish passage enhancement components. Therefore, although there would be very minor SRA habitat loss and potential temporary construction-related erosion, the overall result of project implementation on salmonid habitat would be **beneficial**.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

The project site is not within an area covered by an adopted Habitat Conservation Plan or Natural Community Conservation Plan. Several local jurisdictions, including Yuba County, partially developed the Yuba-Sutter Regional Conservation Plan, intended to be a joint conservation plan, to address indirect growth inducing impacts that would result from improvements to regional highways. However, work on the plan ended in 2018 because forecasted growth in the plan area never materialized. Therefore, the project would not conflict with an adopted conservation plan, and **no impact** related to conflict with such a plan would occur.

3.5 Cultural Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
CULTURAL RESOURCES – Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐	☐

3.5.1 *Environmental Setting*

Cultural resources are defined as buildings, sites, structures, or objects that may have historic, architectural, archaeological, cultural, or scientific importance. CEQA defines a "historical resource" as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR).

Information presented in this environmental setting is based on a pedestrian survey, a records search conducted at the North Central Information Center (NCIC), review of historic maps and ethnographic documents, archival research, evaluations of cultural resources in the project area, and consultation with Native American Tribes. The cultural resources pedestrian survey included nearly all the project site. The only areas not surveyed were north of the Hallwood-Cordua Canal, portions of the mining tailing piles in the potential restoration areas that were unsafe, and portions of the tie-in embankment footprint that was too overgrown with vegetation.

Prehistoric Setting

This brief overview of the prehistory of the region is adapted from synthesis and analysis of the archaeology of central California (Rosenthal et al. 2007). The Paleo-Indian period (11,500 to 8,550 calibrated radiocarbon date [cal] Before Common Era [B.C.E.]1) is the earliest accepted

[1] Before Common Era and Common Era are alternatives to the Dionysian system terminology of Before Christ and Anno Domini, respectively, and correspond to the same years in the Dionysian system.

period for human occupation in California. Archaeological evidence dating to this period, however, is extremely rare or of dubious association.

The Lower Archaic period (8,550 to 5,550 cal B.C.E.) is nearly as bereft of evidence as the Paleo-Indian primarily because of two large depositional events in 9,050 cal B.C.E. and 5,550 cal B.C.E. Artifacts dating to this period are usually isolated finds that include stemmed points, crescent-shaped flaked stone tools, and early concave base points. Despite this limited data set, however, marine shell from California found in the Great Basin and obsidian from sources in the Great Basin indicate that regional interaction was well established by this archaeological period.

Middle Archaic period (5,550 to 550 cal B.C.E.) sites are rare in most of central California but are relatively common in buried contexts in the foothills. Archeological assemblages from this period are characterized by expedient, cobble-based tools used for chopping, pounding, scraping, and mulling. Archaeobotanical studies have shown a heavy reliance on acorns and pine nuts during this period. Few bone or shell artifacts have been identified to this period, but tabular pendants, incised slate, and perforated stone plummets have been found in low numbers and over wide areas. Material sources tend to be local, with few imported obsidian artifacts.

The Upper Archaic period (550 cal B.C.E. to cal Common Era [C.E.] 1,100) corresponds roughly to the beginning of the Late Holocene, a time characterized by a shift from a relatively warm, dry climate to a wetter, cooler, and more stable climate. This archaeological period is better represented and understood that previous periods, with evidence indicating that while economies varied by region, the overall emphasis was on resources that could be harvested and processed in bulk. Such resources included acorn, rabbit, salmon, shellfish, and deer. Specialized technologies, including new types of bone tools, various bead types, ceremonial blades, and polished and ground stone plummets, appear in the archaeological record during this period. The lower Sierra foothills may have been occasionally occupied by groups from the valley floor, based on similar burial patterns.

The Emergent period (cal C.E. 1,100 to Historic[2]) archaeological record is the most substantial and comprehensive of any period, and its assemblages and adaptations are also the most diverse. Many earlier archaic technologies and traditions are no longer represented during this period, and bow and arrow technology appears, arguably the most distinctive technological aspect of the Emergent period. More complex social forms also emerged, as evidenced by increased variation in burial types and furnishings. Other changes included shifts in obsidian use/production, decentralization of bead manufacture, a unique arrow type form in some areas, changes in burial practices, and possibly a monetized system of exchange. The Emergent period is usually split into two broad phases, the Lower and Upper Emergent, that are defined based on the appearance or increase in frequency of specific artifact types.

[2] Historic refers to the time from European-American settlement (early 1800s) to present day.

Ethnographic Setting

The project site is in the ancestral territory of the Nisenan, or Southern Maidu. The Nisenan ancestral territory include the drainages of the Yuba, Bear, and American Rivers, and the lower drainages of the Feather River, and extends from the crest of the Sierra Nevada to the banks of the Sacramento River. The northern boundary was in the vicinity of Honcut Creek, while the southern limits of the territory was just south of the American River. The project area is on the territory occupied by the northernmost Hill Nisenan group who spoke the Bear River dialect of the Nisenan language (Kroeber 1925, Beals 1933).

The Nisenan lived in small villages throughout the foothills, mostly situated on ridges or terraces above streams for a nearby water supply, though smaller specialized camp locations were established farther from water sources. Like in much of central California, the political organization of the Hill Nisenan revolved around the tribelet. In general, the tribelet system was typified by a single, relatively large village, usually containing one or more ceremonial structures and the home base for a chief and possibly several assistants. This central, large village had one or more satellite villages associated with it. Together, the central village and its satellites were the largest political unit (the tribelet) that was recognized by Miwok speakers. Associated villages within an individual tribelet cooperated with each other for ceremonial purposes and group activities such as game drives (Kroeber 1925; Wilson and Towne 1978; Merriam 1967).

The Nisenan followed a seasonal round of food gathering, as did most California Indians. Throughout California, various species of oak provided the most important staple food, although the black oak was apparently the most preferred. Acorn harvests in the early fall provided the region's native inhabitants with a reliable, large-scale food source that could sustain populations through the winter months. Acorn was supplemented with other seeds, berries, nuts, and edible roots. Animal food resources included small game, such as rabbit and quail. Larger game, such as mule deer, tule elk, black bear, and grizzly bear, were also hunted. Fishing was also important in the valley and in the foothills along major water ways (Wilson and Towne 1978).

The Nisenan tool kit was varied and efficient. Ground stone tools included cobble pestles used with several different types of bedrock mortars, acorn anvils, and hammer stones. Several types of flaked stone hunting and butchering tools, made of chert and imported obsidian, were used, including knives, scrapers, and arrow and spear points. Fish could be caught with nets, gorges, hooks, and harpoons within the larger perennial drainages of the foothill regions. Freshwater clams and mussels were also gathered in the larger waterways, such as the Sacramento River. Other aquatic food resources available to native populations near the project area would have included salmon and sturgeon, which would have been netted or caught with the aid of weirs (Wilson and Towne 1978).

Hill Nisenan villages were located on ridges and large flats along major streams. They were smaller than in the valley, and it was common for family groups to live away from the main village. Houses were conical-shaped and covered with slabs of bark, skins, and brush. Brush shelters were used in summer. Most villages had bedrock mortar sites (Wilson and Towne 1978).

Euro-American contact with the Nisenan indigenous culture began with infrequent Spanish excursions along the southern edge of the Nisenan territory. In the early 1800s, American and Hudson's Bay Company trappers travelling through the Sacramento and San Joaquin Valleys. In 1833, the Nisenan were believed to be wiped out by malaria sweeping through the Sacramento Valley (Cook 1955, Wilson and Towne 1978). It is estimated that 75 percent of the native population died in this epidemic and the rest dealt with the settlers and gold miners that soon followed (Cook 1955). In the 1870s, there was a resurgence of their traditional culture. Through newfound political, economic, and social influence, they now constitute a growing and thriving Native American community in California.

Historic Setting

Yuba County

European influence began in the project vicinity in 1808, when Spanish explorer Gabriel Moraga led an expedition from Mission San Jose up to the Feather River. Other explorers, fur trappers, and traders visited the area over the following decades. Captain John Augustus Sutter settled in the Sacramento Valley in 1841, when his grant was approved by the Mexican authorities. He built Sutter's Fort in Sacramento, and his considerable claim covered most of what would become Sacramento and Placer Counties, all of Sutter County, the valley portion of Yuba County, and a small part of Colusa County. The region offered fertile land for settlers encouraged by the proximity of Sutter's settlements, but it was not until the discovery of gold on the American River in 1848 that immigrants flooded into Yuba County. The initial discovery of gold in what is now Yuba County was made just east of Marysville. In 1850, the township of Marysville was established. Marysville witnessed tremendous growth, because of its proximity to the gold-bearing placers. Apart from this community, there was little other development in the area. With the introduction of the gold dredging process in the late 1800s, mining boomed along the Yuba River for a few decades (Beck and Haase 1974, Hoover et al. 1990).

Gold Mining and Dredging

Following the discovery of gold in the foothills, miners moved to the Yuba River and other waterways to seek their fortune in mining in the region. Various mining methods were implemented such as gold panning and the related rocker as well as sluice boxes. Miners also dug ditches along streams to control the flow of water and potential gold-bearing deposits. The development of hydraulic mining in 1852 would alter the mining industry as it quickly became the favored mining method. Hydraulic mining directed water under high pressure against the gold-bearing deposits. It remained popular until the late 19th century when the courts prohibited it because of damage caused by the massive amount of debris carried downstream into the Sacramento River and its tributaries. Hydraulic tailings were also deposited into the Yuba River valley during this period and dredging was necessary to access the deep deposits (Horizon 2016).

Dredging began in earnest along the Yuba River in the early 20th century when Wendell P. Hammon (the "Dredge King") popularized the use of bucket-line dredges at his Oroville mining operation and later in the Yuba fields. The bucket-line dredging was used in the Goldfields

throughout most of the 20th century with over 10,000 acres of land and tailings reworked to access gold deposits. Currently, the Goldfields are mostly quarried for cobble and gravel construction materials (Horizon 2016).

Construction of Training Walls and Water Features

In the 1890s, the CDC envisioned constructing walls along the portion of the Yuba River traveling through the Goldfields to impound the mining debris deposited in the Goldfields and to prevent further damage to the waterways and surrounding land. The CDC drew up plans and with approval from the U.S. Corps of Engineers, construction of three walls was underway by the early 1900s. The training walls (North, Middle, and South) helped create an overflow channel between the two outer walls. Over time, the three walls were strengthened and raised although gradual deterioration and erosion has taken place (Horizon 2016).

During the early 20th century, water control features such as the Munson Levee and the Hallwood-Cordua Canal were also developed. The CDC built the Munson Levee as a control levee upon completion of the nearby Daguerre Point Dam. The project was abandoned in 1910, although the levee remained in use for decades. Additional levees were constructed in the vicinity over the years.

3.5.2 *Discussion*

Cultural resources investigations for the proposed project were completed to comply with State and Federal regulations. Investigations included a records search conducted at the NCIC of the California Historical Resources Information System, review of historic maps and ethnographic documents, archival research, a pedestrian survey of the project site, and evaluations of any cultural resources in the project area. These investigations were conducted to identify any cultural resources that might be impacted by the project.

The NCIC records search occurred on March 22, 2022 and included a 0.25-mile buffer of the project site. Three previous investigations have been conducted at least partially within the project area, but no previously reported resources have been identified on the project site.

The cultural resources pedestrian survey did not identify any archaeological resources on the project site. The built environment portion of the survey identified five historic-era (more than 45 years old) resources: the NTW, Hallwood-Cordua Canal, the Munson Levee, the Remnant Levee, and the Yuba Goldfields Historic District.

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a

local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (PRC Section 5024.1, 14 CCR Section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on importance of the resources to California history and heritage.

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

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

In addition to meeting one or more of the above criteria, resources eligible for CRHR listing must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

Based on field observations and background research, the Hallwood-Cordua Canal, Munson Levee, and Remnant Levee do not meet CRHR eligibility because they lack significance and/or integrity. Therefore, they are not considered historical resources for CEQA purposes.

Previous documentation recommended the NTW as eligible for the NRHP/CRHR as an individual resource under Criterion A/1 for its association with hydraulic mining and under Criterion C/3 for its unique engineering and construction method (Hallwood 2016). The resource has deteriorated over time. However, overall, it retains sufficient integrity to convey its historical significance under the two criteria. In 2017, the SHPO concurred with the finding of eligibility of the NTW as an individual resource at the State level (Polanco 2017). Previous documentation also recommended the NTW as a contributing resource to the potential "Yuba Goldfields Historic Mining District" (Historic District) (Horizon 2016). The previous report recommended the potential district as eligible under NRHP Criteria A and C for its association with area dredging and bucket-line dredge technology. The SHPO concurred with the eligibility finding for the district for the purposes of the Hallwood Restoration Project (Polanco 2017). Boundaries of the loosely identified Historic District are not clearly defined in the report; it was generally described as encompassing 10,000 acres of the Yuba Goldfields. Contributing elements included the three training walls (NTW, Middle Training Wall, and South Training Wall) and other mining-related features (Horizon 2017). The NTW is considered a historical resource for CEQA purposes because it meets CRHR/NRHP eligibility criteria. The Historic District is assumed NRHP-eligible and is therefore also considered a historical resource for CEQA purposes.

The tie-in embankment would modify the east end of the NTW, but the NTW would continue to function as designed (to store dredge material and help channelize the Yuba River). For decades, the NTW underwent periodic maintenance to address flood control and mining-related issues in the Yuba Basin. The maintenance activities affected the original configuration and appearance of the NTW (in addition to the two adjacent training walls) (Horizon 2017). Originally as low as 10 feet high, the NTW was widened, expanded, and strengthened in sections and the height of the wall increased up to 70 feet (Horizon 2017). Maintenance of the three training walls gradually decreased and in more recent years they had been left to deteriorate. The installation of electrical towers and nearby mining activities also contributed to changes to the NTW. Approximately 60-70 percent of the original wall was estimated to remain before the NTW Phase 1 reshaping was conducted (Horizon 2016). Phase 1 activities modified the profile of approximately half of the NTW to improve stability and long-term integrity of the structure. The proposed construction of the tie-in embankment would alter the appearance of the NTW at the east end. Constructing the tie-in embankment would extend the cobble embankment by approximately 800 feet, which is a minor addition in comparison to the 2.25-mile-long resource. Overall, the NTW would retain its look and feel as a dredge tailing wall in the Yuba Goldfields. It also would retain sufficient form and materials to convey its historical significance related to dredge mining and the Yuba Goldfields. Therefore, the project's impact on the NTW would be **less than significant.**

Approximately 100 acres in the northern portion of the roughly 10,000-acre Historic District overlap the project site. The extent of alteration in this area would depend on the extent of aquatic/riparian habitat restoration that is implemented, which could range from approximately 8 to 87 acres. However, alterations, including to the NTW, would not alter the overall feeling and association of the Historic District and its contributing resources. The NTW is a character-defining resource of the district, yet it is one component of the vast mining district that includes thousands of acres of dredging-related features within its landscape. The Historic District would continue to retain sufficient integrity to physically convey its significance as a dredge mining-related property. Therefore, the project's impact on the Yuba Goldfields Historic Mining District would be **less than significant.**

Project implementation is unlikely to result in a substantially adverse change to archaeological resources. No archaeological resources were found during the pedestrian survey, identified in the NCIC search or by interested Native American Tribes, or are otherwise known to occur on the project site. The likelihood of encountering previously unknown archaeological resources during project construction is very low because most of the project site was extensively modified during past mining activities and canal construction, and excavation in these previously disturbed areas would be limited to cobble mine tailings and the artificial canal. It is unlikely any archaeological resources that may have once existed in these areas have not been destroyed. Nevertheless, the possibility remains that previously unidentified archaeological resources meeting criteria for inclusion of the CRHR exist on the project site, particularly portions of the site that have not been subject to extensive previous disturbance. If such resources are present in areas subject to project-related ground disturbance, they could be destroyed or otherwise substantially altered by

project implementation. This would be a **potentially significant** impact. Mitigation Measures CUL-1 and CUL-2 have been developed to reduce this impact.

Mitigation Measure CUL-1: Prepare and Implement Inadvertent Discovery Plan and Other Measures to Avoid and Minimize Impacts on Cultural Resources.

TRLIA and its construction contractor(s) will implement the following measures to avoid and minimize project-related impacts on potential archaeological or other cultural resources, including TCRs, during ground-disturbing project activities and address the evaluation and treatment of inadvertent/unanticipated discoveries of such resources:

- An inadvertent discovery plan will be developed before project-related construction activities begin and will be implemented in the event of a discovery during project construction.
- TRLIA will provide a cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training will be developed in coordination with an archaeologist meeting Secretary of the Interior Professional Qualifications Standards for Archaeology. The training will be conducted before ground-disturbing project construction activities begin on the project site and will include relevant information regarding sensitive cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating Federal and State laws and regulations. The training will also describe what to do and who to contact if any potential cultural resources are encountered. The training will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American Tribal values.
- A minimum of 7 days before clearing and grubbing, grading, or other soil disturbing project-related activities begin, TRLIA will notify Native American Tribes that are traditionally and culturally affiliated with the geographic area of the proposed start date and invite Tribal Representatives or Tribal Monitors to inspect the project site, including any soil piles, trenches, or other disturbed areas, within the first 5 days of beginning such activities. During this inspection, the Tribal Representative(s) or Tribal Monitor(s) will be given an opportunity to present construction personnel with information on TCRs and provide a worker awareness brochure.
- If any TCRs are encountered during this initial inspection or if an inadvertent discovery of buried or otherwise previously unidentified cultural resources, including archaeological resources and suspected TCRs (e.g., unusual amounts of shell, animal bone, any human remains, ceramics, building remains) are discovered during project-related construction activities, all work will cease within 100 feet of the find and measures included in the inadvertent discovery plan will be implemented. TRLIA will retain a professional archaeologist meeting the Secretary of the Interior's Professional

Standards for Archaeologists to assess the discovery. Representatives from the traditionally and culturally affiliated Tribes will be immediately notified if the find includes suspected TCRs to determine if the find is a TCR (PRC Section 21074). The archaeologist and Tribal Representative will recommend what, if any, further evaluation and treatment is necessary for the find. Work at the discovery location will not resume until all necessary investigation and evaluation of the discovery is complete.

- When avoidance is infeasible, preservation in place is the preferred option for mitigation of archaeological resources and other TCRs, and every effort will be made to preserve the resources in place, including through project redesign, if feasible. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, or returning objects to a location within the project area where they will not be subject to future project-related impacts. Permanent curation of TCRs will not take place unless approved in writing by California Native American Tribes that are traditionally and culturally affiliated with the project area.
- The contractor will implement any measures deemed by TRLIA to be necessary and feasible to preserve in place, avoid, or minimize project-related impacts to the resource, including, but not limited to, the use of a paid Native American Monitor during ground disturbing activities in the vicinity of the find and facilitating the appropriate Tribal treatment of the find, as necessary. Treatment that preserves or restores the cultural character and integrity of a TCR may include Tribal monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.

Timing: Before and during project construction activities.

Responsibility: TRLIA and its construction contractor(s).

Mitigation Measure CUL-2: Avoid Potential Effects to Previously Unknown Human Remains.

If an inadvertent discovery of human remains is made at any time during project planning or project-related construction activities, TRLIA will implement the procedures listed below. If human remains are identified on the project site, the following performance standards will be met prior to implementing or continuing actions, such as construction, that may result in damage to or destruction of human remains:

- In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, TRLIA will immediately halt potentially damaging excavation in the area of the burial and notify the Yuba County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he

or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of TRLIA for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.9 et seq.

- Upon the discovery of Native American human remains, TRLIA will require that all construction work within 100 feet of the discovery stop, until consultation with the MLD has taken place. The MLD will have 48 hours to complete a site inspection and make recommendations to the landowner after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains.
- If agreed to by the MLD and the landowner, TRLIA or its authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. If the NAHC is unable to identify an MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site, TRLIA or its authorized representative may also reinter the remains at a location not subject to further disturbance if recommendation of the MLD is rejected and mediation by the NAHC fails to provide measures acceptable to TRLIA.
- If the human remains are of historic age and are determined not to be of Native American origin, TRLIA will follow the provisions of the California Health and Safety Code Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

Timing: During project construction activities.

Responsibility: TRLIA and its construction contractor(s).

Significance after Mitigation: Implementing Mitigation Measures CUL-1 and CUL-2 would reduce the potential impact related to discovery of unknown archaeological resources because cultural awareness training would be provided to on-site project personnel, all finds would be assessed by a qualified archaeologist, and the treatment or investigation would be conducted in accordance with CCR Section 15064.5. Therefore, this would be a **less-than-significant impact with mitigation incorporated**.

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

As used in PRC Section 21083.2, the term "unique archaeological resource" refers to an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
- has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- is directly associated with a scientifically recognized important prehistoric or historic event or person.

No archaeological resources were found on portions of the project site surveyed in April 2022, and none were identified in the NCIC records search. Most of the project site was extensively modified during past mining activities and canal construction, and excavation in these areas would be limited to cobble mine tailings and canal embankment fill. The likelihood of encountering archaeological resources during construction in these areas is very low, because it is unlikely any resources that may have once existed in the areas have not been destroyed. Nevertheless, the remote possibility remains that previously unidentified, buried archaeological resources may exist in these areas, and there is higher potential for such resources to exist in portions of the project site that have not been subject to this level of previous disturbance and were not accessible during the pedestrian survey, particularly north of Hallwood-Cordua Canal. If archaeological resources are present in areas subject to project-related ground disturbance, they could be destroyed or otherwise substantially altered by project implementation. This would be a **potentially significant** impact. Implementing Mitigation Measures CUL-1 and CUL-2 would reduce this impact.

Mitigation Measure CUL-1: Prepare and Implement Inadvertent Discovery Plan and Other Measures to Avoid and Minimize Impacts on Cultural Resources.

Mitigation Measure CUL-1 above provides the full text of this mitigation measure.

Mitigation Measure CUL-2: Avoid Potential Effects to Previously Unknown Human Remains.

Mitigation Measure CUL-2 above provides the full text of this mitigation measure.

Significance after Mitigation: Implementing Mitigation Measures CUL-1 and CUL-2 would reduce the potential impact related to discovery of unknown archaeological resources because the find would be assessed by a qualified archaeologist and the treatment or investigation would

be conducted in accordance with CCR Section 15064.5. Therefore, this impact would be a **less-than-significant impact with mitigation incorporated**.

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

No human remains are known to have been found on the project site and none were identified in NCIC records search. Given most of the project site was mined in the past or is comprised of cobble and earthen fill, any human remains that may have existed in these portions of the project site have likely been destroyed. However, it is possible, though unlikely, that undiscovered, buried human remains may exist on the project site. The greatest potential for presence of human remains would be north of Hallwood-Cordua Canal. If human remains are present in areas subject to project-related ground disturbance, they could be encountered during project investigations or construction activities. This would be a **potentially significant** impact. Implementing Mitigation Measures CUL-1 and CUL-2 would reduce this impact.

Mitigation Measure CUL-1: Prepare and Implement Inadvertent Discovery Plan and Other Measures to Avoid and Minimize Impacts on Cultural Resources.

Mitigation Measure CUL-1 above provides the full text of this mitigation measure.

Mitigation Measure CUL-2: Avoid Potential Effects to Previously Unknown Human Remains.

Mitigation Measure CUL-2 above provides the full text of this mitigation measure.

Significance after Mitigation: Implementing Mitigation Measures CUL-1 and CUL-2 would reduce the potential impact related to discovery of unknown human remains because any inadvertent discovery of human remains would be addressed as proscribed by State law and the MLD will be consulted. Therefore, this impact would be a **less-than-significant impact with mitigation incorporated**.

3.6 Energy

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

3.6.1 *Environmental Setting*

Pacific Gas and Electric Company PG&E supplies electric power and natural gas to Yuba County. In 2021, Yuba County consumed approximately 576 million kilowatts per hour (CEC 2022). Current energy usage at the project site is negligible because the site does not include energy-consuming structures or facilities.

3.6.2 *Discussion*

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

Project-related energy consumption is anticipated to include electricity, gasoline, diesel fuel, and oil for construction equipment and other items required for project implementation. The only permanent source of energy use would be the lift station and potential pump station associated with the fish food pipeline. Because the pump(s) would only be operated for 1-2 weeks per year, they would use a relatively small amount of diesel (or alternative) fuel, estimated to be less than 1,000 gallons per year. Project construction would not include wasteful or unnecessary consumption of energy resources, because it would meet air quality and GHG emissions criteria that require the use of efficient equipment. Construction would also be completed within the shortest period feasible. O&M activities would require minimal use of vehicles and equipment for infrequent monitoring and maintenance of the project features, and lift station and pump operation would use a relatively small amount of energy. These long-term energy uses are necessary for effective operation of the project. Therefore, project-related energy use would result in a **less-than-significant impact**.

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

The project would not result in developed land uses or construct temporary or permanent structures or facilities that could conflict with State or local plans for renewable energy or efficiency, and there would be **no impact** associated with this issue.

3.7 Geology and Soils

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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?	☐	☐	☐	☒	☐
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, as updated), 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?	☐	☐	☒	☐	☐

3.7.1 *Environmental Setting*

The project site is underlain by Pliocene-age sediment (Saucedo and Wagner 1992), and on-site soils are classified as dumps and mine tailing and Redding gravelly loam (0 to 8 percent slopes) (NRCS 2022). The Foothills Fault System, the nearest to the site, is comprised of Quaternary and Pre-Quaternary faults; this system is approximately 2.5 miles east of the site, but the nearest recently active fault is approximately 12 miles north (CGS 2022a). There are no Alquist-Priolo Earthquake Fault Zones of required investigation near the project site (CGS 2022b). Additionally, the project site is not within an area at risk for landslides or within a known liquefaction zone (CGS 2022c).

3.7.2 *Discussion*

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?

The project site is not within an Alquist-Priolo Earthquake Fault Zone, and the nearest active fault (i.e., faults showing evidence of displacement within the last 11,700 years) is approximately 12 miles from the site. Therefore, there would be **no impact** related to rupture of a known earthquake fault.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

Strong earthquakes generally create ground shaking, including liquefaction and landslides, with reduced effects as distance increases from the earthquake's epicenter. The area affected by ground shaking in any given earthquake would vary depending on the earthquake's intensity, duration, distance from the project site, and the underlying material. There are no active faults in the project vicinity, and the project site is not located within a known liquefaction or landslide zone, though on-site ground shaking could result from distant earthquakes. However, the project does not include components, such as buildings or other facilities, that could increase the number of people in the project area. In addition, the tie-in embankment would redistribute existing on-site materials in a manner designed to improve stability and would likely reduce risk of ground failure and landslide at that location and in areas that could be exposed to flooding if the tie-in embankment is not constructed. Similarly, excavating mine tailings and creating native habitats would likely improve ground stability and would not be implemented near areas occupied by people that could be susceptible to loss, injury, or death. Therefore, project implementation

would not increase risk of landslide, liquefaction, or other seismic-related ground failure, and this would be a **less-than-significant** impact.

b) Result in substantial soil erosion or the loss of topsoil?

The project would include excavation, grading, and fill activities to construct the tie-in embankment, implement habitat restoration, install the fish food pipeline, and enhance fish passage. Although material that would be excavated from the habitat creation areas is primarily cobble, some soil would be disturbed and could be exposed to erosion if a storm event or high winds occur during construction. Degrading the southern bank of the Hallwood-Cordua Canal to install the fish food pipeline also would expose soil to potential erosion. Rainfall of sufficient intensity could dislodge soil particles from the soil surface. If particles are dislodged and the storm is large enough to generate runoff, substantial localized erosion could occur. In addition, soil disturbance during dry periods could result in substantial soil loss from wind erosion. Depending on the severity of storm and wind events, soil erosion could be substantial and is considered a **potentially significant** impact. Mitigation Measure GEO-1 has been developed to reduce this impact.

Mitigation Measure GEO-1: Implement a Stormwater Pollution Prevention Plan and Associated Best Management Practices.

In addition to compliance with all applicable Federal, State, and local regulations, TRLIA will implement the following measures to further reduce construction-related erosion:

- Construction activities would likely be subject to construction-related stormwater permit requirements. Any permits required by the CVRWQCB will be obtained by TRLIA before any ground-disturbing construction activity. TRLIA will prepare and implement the appropriate Stormwater Pollution Prevention Plan (SWPPP), or Stormwater Management Plan (SWMP), as needed, to prevent and control pollution and to minimize and control runoff and erosion in compliance with State and local laws. The SWPPP or SWMP will identify BMPs to prevent or minimize the introduction of contaminants into surface waters. Such BMPs could include, but would not be limited to, silt fencing, straw bale barriers, fiber rolls, storm drain inlet protection, hydraulic mulch, and a stabilized construction entrance. The SWPPP or SWMP will identify the types of materials used for equipment operation (including fuel and hydraulic fluids), measures to prevent hazardous material and waste spills, and materials available to clean up hazardous material and waste spills. The SWPPP or SWMP will also identify emergency procedures for responding to spills. BMPs presented in either document will be clearly identified and maintained in good working condition throughout the construction process. The construction contractor will retain a copy of the approved SWPPP or SWMP on the construction site and modify it as necessary to suit specific site conditions.

- Water (e.g., trucks, portable pumps with hoses) will be used to control fugitive dust during construction activities that could cause substantial wind erosion.

Timing: Before and during project construction activities.

Responsibility: TRLIA and construction contractor(s).

Significance after Mitigation: Implementing Mitigation Measure GEO-1 would reduce the potentially significant impact from construction-related erosion because a SWPPP or SWMP and associated BMPs would be implemented to minimize and control runoff and erosion. Therefore, the project would have a **less-than-significant impact with mitigation incorporated**.

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?

See response to Question "a)" above. This impact would be **less than significant**.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

Soil types that occur on the project site are not considered expansive soils (NRCS 2022). Therefore, there would be **no impact** to life or property related to this issue.

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

The project does not include septic tanks or connection to a sewage system, and there would be **no impact** related to this issue.

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

The project site is comprised of mine tailings underlain by Pliocene deposits of the Laguna Formation. This formation is not considered sensitive for paleontological resources. In addition, the depth and mechanical nature of past mining activities that occurred on most of the project site would likely have destroyed any fossils that may have been present before mining activities began. Nearly material that would be excavated to install the fish food pipeline is canal embankment fill, and excavation in previously undisturbed areas would be relatively shallow. Therefore, potential for a unique paleontological resource or geological feature to occur on the project site and be encountered by project activities is extremely low, and this would be a **less-than-significant impact**.

3.8 Greenhouse Gas Emissions

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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?	☐	☐	☒	☐	☐

3.8.1 *Environmental Setting*

GHGs are present in the atmosphere naturally, released by natural and human-caused sources, and formed from secondary reactions taking place in the atmosphere. Human sources include emissions associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors (Yuba County 2011b). Evidence has shown that GHG emissions from locations around the world contribute to global climate change, which could have drastic impacts related to flooding and other natural disasters, agriculture, habitats, water supply, and the economy. The *Yuba County 2030 General Plan* (Yuba County 2011a) approach to climate change addresses transportation-related emissions, as well as electricity, agriculture, solid waste, and other sectors. Although the General Plan includes an action to prepare and adopt a GHG Reduction Plan, such a plan has not yet been completed.

3.8.2 *Discussion*

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

FRAQMD has not established CEQA thresholds of significance for GHG emissions. However, the Sacramento Metropolitan Air Quality Management District (SMAQMD) has adopted a CEQA threshold of 1,100 metric tons of carbon dioxide equivalent per year (CO_2e) for construction related GHG emissions (SMAQMD 2020). In the absence of a local threshold in Yuba County, the SMAQMD threshold in adjacent Sacramento County was used to evaluate the significance of GHG emissions.

Project construction and O&M activities would temporarily generate GHG emissions from exhaust associated with on-site equipment operation, material hauling, and worker vehicle trips.

O&M activities would be minimal and result in negligible emissions. Construction-related GHG emissions were modeled using CalEEMod (GEI Consultants, Inc. 2022). **Table 3-4** provides estimates of metric tons of CO_2e per year, based on maximum anticipated material hauling that would be required to remove tailings from all 87 acres of potential restoration areas. These estimated construction-related project emissions would exceed the threshold of 1,100 metric tons of CO_2e in 2024 and 2025. Actual annual emissions may vary depending on construction schedule for each project component and the amount of habitat restoration, but this impact would be **potentially significant.** Mitigation Measures AQ-1, AQ-2, and GHG-1 have been developed to reduce this impact.

Table 3-4. Estimated Construction-related Greenhouse Gas Emissions

Construction Year	2024	2025	2026
Carbon Dioxide Equivalent Emissions (metric tons)	**2,713**	**1,384**	**133**
Significance Threshold	1,100	1,100	1,100
Exceeds Threshold?	***Yes***	***Yes***	*No*

Sources: Results of air pollutant emissions modeling conducted by GEI Consultants Inc. in 2022, Sacramento Metropolitan Air Quality Management District 2020

Mitigation Measure AQ-1: Implement Best Management Practices to Reduce Emissions during Construction.

Mitigation Measure AQ-1 in Section 3.3, "Air Quality," provides the full text of this mitigation measure.

Table 3-5 shows estimated construction-related GHG emissions with implementation of anticipated feasible emission reduction measures presented in Mitigation Measure AQ-1 (or similar mitigation available in CalEEMod), as well as potential adjustments to workdays and equipment operation designed to reduce daily emissions. These adjustments include reducing the number of scrapers removing tailing material from the restoration areas from four to two per day and reducing the daily period of operation of these scrapers from 12 hours per day to 10 hours per day. Implementing these measures would reduce GHG emissions, but emissions would still exceed SMAQMD thresholds in 2024 and 2025 under this scenario.

Table 3-5. Estimated Mitigated Construction-related Greenhouse Gas Emissions with Reduced Daily Material Removal from the Restoration Areas

Construction Year	2024	2025	2026
Carbon Dioxide Equivalent Emissions (metric tons)	**2,616**	**1,288**	**133**
Significance Threshold	1,100	1,100	1,100
Exceeds Threshold?	***Yes***	***Yes***	*No*

Sources: Results of air pollutant emissions modeling conducted by GEI Consultants Inc. in 2022, Sacramento Metropolitan Air Quality Management District 2020

Alternative adjustments to construction timing and equipment use may be implemented to further reduce emissions, but it is not known at this time if feasible adjustments can reduce all emissions levels to below the SMAQMD threshold. After the construction schedules for the project components and other construction parameters are determined, construction-related pollutant emissions will be estimated using CalEEMod. If implementing Mitigation Measure AQ-1 and feasible adjustments to reduce daily equipment would not reduce CO_2e emissions to below the threshold, Mitigation Measures AQ-2 and GHG-1 will be implemented to further reduce emissions.

Mitigation Measure AQ-2: Contribute to FRAQMD Off-Site Mitigation Program, Develop Equipment Inventory that Reduces Exhaust Emissions, and Document Equipment Use and Worker Vehicle Trips during Construction.

Mitigation Measure AQ-2 in Section 3.3, "Air Quality," provides the full text of this mitigation measure.

Mitigation Measure GHG-1: Acquire Carbon Offset Credits that are Demonstrably Real, Permanent, Additional, Quantifiable, Verifiable, and Enforceable for Emissions that Exceed the SMAQMD Threshold.

TRLIA will acquire carbon offset credits equal to construction related GHG emissions that exceed the annual SMAQMD significance threshold of 1,100 metric tons of CO2e, based on actual construction emissions calculated after project construction is complete. Carbon offset credits will comply with CARB's Cap-and-Trade program and will be purchased from an accredited carbon credit market. Offset credits must be registered with, and retired by an Offset Project Registry, as defined in 17 CCR Section 95802(a), that is approved by CARB, such as, but not limited to, Climate Action Reserve, American Carbon Registry, or Verra (formerly Verified Carbon Standard), that is recognized by the Climate Registry, a non-profit organization governed by U.S. states and Canadian provinces and territories. To demonstrate that the carbon offset credits provided are real, permanent, additional, quantifiable, verifiable, and enforceable, as those terms are defined in 17 CCR Section 95802(a), TRLIA will document the protocol used to verify the credits and submit the documentation for approval to a CARB-accredited third-party verification entity. If the verification entity finds that any credits purchased did not meet these criteria, TRLIA will purchase alternative credits and submit a follow-up report to the verification entity for concurrence. All carbon offsets purchased will be tracked through the Climate Registry.

Timing: Before construction activities begin, during construction activities, and after construction activities are complete.

Responsibility: TRLIA and its construction contractor(s).

Significance after Mitigation: Mitigation Measures AQ-1 and AQ-2 would reduce construction-related emissions by implementing control measures during construction and using equipment that emits less pollution. In addition, equipment use and worker trips would be calculated. Mitigation Measure GHG-1 requires acquiring carbon offset credits for any emissions that exceed the SMAQMD significance threshold after implementing AQ-1 and AQ-2. Therefore, this impact would be **less than significant with mitigation incorporated**.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

TRLIA has not adopted a climate change or GHG reduction plan with which the proposed project would conflict, and Yuba County does not have any applicable plans, policies, or regulations regarding GHG emissions. Although implementing the proposed project would cause temporary construction-related GHG emissions, the intent, purpose, and function of this project align with the goals of *California 2017 Climate Change Scoping Plan* (CARB 2017) related to protecting against the detrimental effects of climate change (i.e., increased frequency and magnitude of flood events). The 2009 California Climate Adaptation Strategy (CNRA 2009) is not a GHG reduction plan, but it provides guidance on how to respond to detrimental climate change effects that would result in additional GHG emissions. Flooding events that damage or destroy homes and other infrastructure would result in future GHG-intensive activities, such as cleaning up after the flood, rebuilding houses, and reinstalling infrastructure. Accordingly, the 2009 Climate Adaptation Strategy recommends upgrading and raising levees and other flood-risk reduction structures. The proposed project is consistent with this recommendation and the primary project objective is to reduce flood risk. Therefore, this impact would be **less than significant**.

3.9 Hazards and Hazardous Materials

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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?	☐	☐	☒	☐	☐

3.9.1 *Environmental Setting*

A search of all data sources included in the Cortese List (enumerated in PRC Section 65962.5) was conducted for the project site and vicinity, including: the GeoTracker database, a groundwater information management system maintained by the State Water Resources Control Board; the Hazardous Waste and Substances Site List (i.e., the EnviroStor database) maintained by the California Department of Toxic Substance Control (DTSC); and EPA's Superfund Site database (DTSC 2022, SWRCB 2022a and 2022b, CalEPA 2022, EPA 2022). No hazardous material sites were identified within 0.25 mile of the project site. There are also no known naturally occurring asbestos hazards in the project vicinity (DOC 2000).

No schools are present within 0.25 mile of the project site. The nearest school is the Cordua Elementary School, approximately 3 miles east of the site. The nearest park, Hammon Grove Park, is approximately 3 miles northeast of the project site.

The nearest airstrip is the Hammonton Air Strip, approximately 2 miles southeast of the project site; the nearest airport is at Beale Air Force Base (AFB), approximately 3 miles south of the site. The Hammonton Air Strip does not have a Land Use Compatibility Plan, but the project site is located within Safety Zone 6 outlined in the Beale AFB Land Use Compatibility Plan (SACOG 2010). This plan states that Safety Zone 6 contains the aircraft traffic pattern; risks in Zone 6 are much less but are still greater than locations farther from the AFB.

The project site is not located on an emergency evacuation route or within an emergency response planning area. The nearest evacuation route is SR 20, approximately 0.75 mile north of the site (Yuba County 2011b and 2015).

3.9.2 *Discussion*

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?

The project site does not contain known hazardous materials, but construction activities would include use and storage of small amounts of hazardous substances such as fuels, lubricants, and oils that are necessary for construction equipment operation. Project activities would not involve use of acutely hazardous materials, and construction contractors would be required to use, store, and transport hazardous materials in compliance with Federal, State, and local regulations. However, accidental spills could occur during construction activities. Therefore, this impact would be **potentially significant**. Mitigation Measure HAZ-1 has been developed to reduce this impact.

Mitigation Measure HAZ-1: Implement a Spill Prevention and Control Plan and Other Measures to Reduce the Potential for Environmental Contamination during Construction Activities.

TRLIA and all contractors will abide by regulations governing hazardous materials transport included in CCR Title 22, the California Vehicle Code (CCR Title 13), and the State Fire Marshal Regulations (CCR Title 19). Transport of hazardous materials will only be conducted under a registration issued by DTSC. Construction contractors will be required to use, store, and transport hazardous materials in compliance with all Federal, State, and local regulations. In addition, TRLIA will implement the measures described below to further reduce the risk of accidental spills and protect the environment.

- A written spill prevention and control plan will be prepared and implemented. This plan and all material necessary for its implementation will be accessible onsite before project construction begins and throughout the construction period. The plan will provide direction on emergency cleanup of any spills of fuel or other material. Construction personnel will be provided the necessary information from the plan to prevent or reduce the discharge of pollutants from construction activities to waters and to use the appropriate measures should a spill occur. In the event of a spill in aquatic habitat, work will stop, and the spill will be addressed immediately with equipment such as booms to contain and absorb the spilled material. CVRWQCB will be notified within 24 hours of an in-water spill.
- Every reasonable precaution will be exercised to protect waters from pollution with fuels, oils, and other harmful materials. Safer alternative products (such as biodegradable hydraulic fluids) will be used where feasible.
- Petroleum products, chemicals, fresh cement, and construction by-products containing, or water contaminated by, any such materials will not be allowed to enter flowing waters and will be collected and transported to an authorized upland disposal area.
- Gas, oil, other petroleum products, or any other substances that could be hazardous to aquatic life and resulting from project-related activities, will be prevented from contaminating the soil and/or entering waters.
- Construction vehicles and equipment will be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Vehicles and equipment will be checked daily for leaks. If leaks are found, the equipment will be removed from the site and will not be used until the leaks are repaired.
- Equipment will be refueled and serviced at designated refueling and staging sites. All refueling, maintenance, and staging of equipment and vehicles will be conducted in a location where a spill will not drain directly toward aquatic habitat. Appropriate

containment materials will be installed to collect any discharge, and adequate materials for spill cleanup will be maintained onsite throughout the construction period.

- All heavy equipment, vehicles, and supplies will be stored at the designated staging areas at the end of each work period.
- Storage areas for construction material that contains hazardous or potentially toxic materials will have an impermeable membrane between the ground and the hazardous material and will be bermed as necessary to prevent the discharge of pollutants to groundwater and runoff water.

Significance after Mitigation: Implementing Mitigation Measure HAZ-1 would reduce potentially significant construction-related impacts from accidental spills of hazardous materials during construction activities by requiring preparation and implementation of a spill prevention and control plan along with other BMPs for storage, use, and transport of hazardous materials specifically designed to prevent contamination of the environment. Therefore, the project would have a **less-than-significant impact with mitigation incorporated**.

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

There are no schools within 0.25 mile of the project site, and there would be **no impact** related to this issue.

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

The project site is not identified on any list compiled pursuant to Government Code Section 65962.5, and there would be **no impact** related to this issue.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The project site is in Beale AFB Safety Zone 6 (SACOG 2010). Constructing the tie-in embankment and implementing the habitat enhancement project components would not create or worsen a safety hazard related to AFB operations. The project site is located far enough from Beale AFB that project personnel would not be exposed to excessive airport noise. The project also would not expose people residing in the area to excessive noise. Therefore, the project would not result in a safety hazard or excessive noise for people residing or working in the project area. This impact would be **less than significant**.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Access to the project site would be via SR 20, Kibbe Road, the Hallwood-Cordua Canal Maintenance Road, and private roads. Most transport of project materials would occur within the project site and adjacent Hallwood Facility. Material import for the tie-in embankment would require a maximum of approximately 250 truck trips per day for approximately 5 days. Material import for other project components and debris export would be limited to less than 10 truck trips per day. Transport of on-site project personnel would require up to approximately 20 vehicle trips to and from the project site daily. This short-term, temporary increase in construction-related traffic would be minor and would not impair emergency response or evacuation. Project implementation also would not require any road closures, and O&M activities would generate a negligible amount of additional traffic. Therefore, this impact would be **less than significant**.

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

Wildland fire risk associated with the proposed project is discussed in Section 3.20, "Wildfire." This impact would be **less than significant**.

3.10 Hydrology and Water Quality

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
HYDROLOGY AND WATER QUALITY – Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☒	☐	☐	☐
i) result in substantial erosion or siltation on- or offsite;	☐	☒	☐	☐	☐
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?	☐	☐	☐	☒	☐

3.10.1 *Environmental Setting*

Surface Water

The Yuba River drains the western slope of the Sierra Nevada and flows generally southwesterly to its confluence with the Feather River at Marysville. The Yuba River in the Marysville vicinity drains approximately 1,340 square miles. Mean monthly flows for the Yuba River are greatest in winter and early spring (January-March) and are at their lowest in late summer and early fall (July-October). The effects of reservoir storage capacity on flows are noticeable in extreme water years. Yuba River flows are greatly reduced in very dry years because of the limited carryover storage capacity of New Bullards Bar Reservoir. (Yuba County 2011b.)

Drainages on and adjacent to the project site include the Yuba River main channel and side channels and the Hallwood-Cordua Canal. Overland runoff in the potential habitat restoration areas flows to adjacent riparian and aquatic habitats at low points between the tailing piles and to adjacent Hallwood Facility ponds. The project site is currently mapped in the dam breach inundation zone for several upstream reservoirs, including Virginia Ranch Dam, New Bullards Bar Dam, Bowman Dam, French Lake Dam, and Jackson Meadows Dam (DWR 2022a). There are no water bodies on or near the project site large enough to be subjected to a seiche resulting from an earthquake.

The project site is in the Lower Yuba River Hydrologic Area (515.30) of the Marysville Hydrologic Unit and Sacramento Hydrologic Basin Planning Area. In accordance with CWA Section 303, water quality standards for this basin are contained in the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (Basin Plan) (CVRWQCB 2018). The lower Yuba River is on the 303(d) list as an impaired water for copper and mercury (SWRCB 2022c).

Groundwater

The project site is in the Sacramento Valley-South Yuba Groundwater Subbasin (#5-021.61), as designated by California Department of Water Resources Bulletin 118 (DWR 2020). The general groundwater flow in Yuba County is from east to west, from the mountain front recharge regions to the Central Valley discharge region. The project site is not located in a groundwater basin designated as "High Priority" or "Critically Overdrafted" (DWR 2019). The project site is in the planning areas of the Yuba County Water Agency[3] Yuba Subbasins Water Management Plan, which is the Groundwater Sustainability Plan developed for the project area, in compliance with the Sustainable Groundwater Management Act (YWA 2019). The project site is also located in the Yuba County Integrated Regional Water Management Plan area (YCRWMG 2018).

[3] As of July 2018, Yuba County Water Agency rebranded to Yuba Water Agency; however, the legal name of the agency remains Yuba County Water Agency.

No municipal, domestic, or industrial groundwater supply wells are known from near the project site. The nearest well documented in the State groundwater level online data viewer is approximately 0.7 mile north of the project site, on the north side of SR 20; documented depth to groundwater at this irrigation well has varied from approximately 27 to 79 feet over the past 5 years, with substantial fluctuation in each year (DWR 2022b).

3.10.2 *Discussion*

a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?

Construction activities could temporarily impair water quality if disturbed ground, petroleum products, or construction-related wastes are discharged into surface drainages or onto the ground, where they could be carried into receiving waters. Accidental spills of construction-related substances, such as oils and fuels, could contaminate both surface water and groundwater on and adjacent to the project site. Potential for water quality degradation in the Yuba River is anticipated to be very low, and any potential deposition of instream sediments is expected to be localized and temporary. In addition, construction and O&M activities in and adjacent to the high-flow side channel would occur when conditions are driest and potential for direct impact is negligible. If maintenance of the new fish bypass discharge outlet is required, these activities are anticipated to be very focused and accomplished with limited use of heavy equipment. Therefore, O&M activities would have a negligible impact. However, increases in suspended sediment and turbidity and potential pollutant exposure during the first Yuba River high flows following tie-in embankment construction and fish bypass discharge pipe installation and restoration of flows to the Hallwood-Cordua Canal after construction of project components in and adjacent to the canal have potential to temporarily degrade surface water quality.

Discharge of water from rice fields to the Yuba River to enhance fish foraging habitat quality has potential to adversely impact water quality by increasing water temperatures, promoting nutrient loading, and increasing turbidity. These potential adverse effects could conflict with water quality criteria of the Basin Plan and the Waste Discharge Requirements General Order for Sacramento Valley Rice Growers (Order R5-2014-0032-02). To protect beneficial water uses, the Basin Plan includes numerical objectives for temperature; dissolved oxygen; turbidity; pH (i.e., acidity); total dissolved solids; electrical conductivity; bacterial content; and various specific ions, trace metals, and synthetic organic compounds. Narrative objectives are provided for parameters such as suspended solids, biostimulatory substances (e.g., nitrogen and phosphorus), and aquatic toxicity; quantifiable criteria limiting temperature and turbidity changes to receiving waters are also included. Rice field discharge has potential to violate applicable Basin Plan water quality standards.

Potential water quality impacts associated with canal rewatering, construction activities in the Yuba River floodplain, and discharge of rice field water to the Yuba River would be **potentially significant**. Mitigation Measures WQ-1, GEO-1, and HAZ-1 would reduce these impacts.

Mitigation Measure WQ-1: Ensure Rice Field Discharge Meets CVRWQCB Requirements.

TRLIA will ensure that rice field discharge entering the Yuba River meets requirements of the Basin Plan and the Waste Discharge Requirements General Order for Sacramento Valley Rice Growers (Order R5-2014-0032-02) or is covered by and meet requirements of other WDRs or waivers issued by the CVRWQCB. All monitoring and reporting requirements of the applicable WDRs will be implemented to ensure that water discharged from the fish food pipeline does not cause or contribute to an exceedance of applicable water quality objectives in surface water or a trend of degradation that may threaten applicable Basin Plan beneficial uses, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance.

Timing: During fish food pipeline operation.

Responsibility: TRLIA.

Mitigation Measure GEO-1: Implement the Appropriate Plan and Associated Best Management Practices to Prevent, Minimize, and Control Runoff, Erosion, and Pollution.

Mitigation Measure GEO-1 in Section 3.7, "Geology, Soils, and Paleontological Resources," provides the full text of this mitigation measure.

Mitigation Measure HAZ-1: Implement a Spill Prevention and Control Plan and Other Measures to Reduce the Potential for Environmental Contamination during Construction Activities.

Mitigation Measure HAZ-1 in Section 3.9, "Hazards and Hazardous Materials," provides the full text of this mitigation measure.

Significance after Mitigation: Implementing Mitigation Measure WQ-1 would ensure that rice field discharge entering the Yuba River meets water quality requirements. Implementing Mitigation Measure GEO-1 would reduce potentially significant impacts associated with construction-related erosion because the appropriate plan and associated BMPs would be implemented to minimize and control runoff, erosion, and pollution. Implementing Mitigation Measure HAZ-1 would reduce potentially significant construction-related impacts from accidental spills of hazardous materials during construction activities by requiring preparation and implementation of a spill prevention and control plan along with other BMPs for storage, use, and transport of hazardous materials specifically designed to prevent contamination of the environment. Therefore, this impact would be **less than significant with mitigation incorporated**.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The project would not rely on consumptive groundwater use for construction or O&M activities. None of the project components would require placement of impervious surfaces on the project site. Any surface runoff from the site would continue to flow overland and infiltrate or drain in a similar manner as pre-project conditions and would not interfere with groundwater recharge. The project would not impede sustainable management of the groundwater basin in the region. Therefore, there would be **no impact** related to this issue.

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 offsite?

The project would not alter existing drainage patterns or add impervious surfaces. However, as discussed under Question "a)" above, project-related ground disturbance could result in turbidity and sedimentation as a result of storm events and river and canal flows in areas where soils have been disturbed; this could result in on- or off-site siltation and would be a **potentially significant** impact. Mitigation Measures GEO-1 would reduce this impact.

Mitigation Measure GEO-1: Implement the Appropriate Plan and Associated Best Management Practices to Prevent, Minimize, and Control Runoff, Erosion, and Pollution.

Mitigation Measure GEO-1 in "Geology, Soils, and Paleontological Resources" provides the full text of this mitigation measure.

Significance after Mitigation: Implementing Mitigation Measures GEO-1 would include measures to minimize turbidity and sedimentation in the Yuba River and BMPs to manage erosion during construction. Therefore, the project would have a **less-than-significant impact with mitigation incorporated**.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

The project would not alter surface runoff and therefore would not result in on- or off-site flooding. On the contrary, the project would increase the level of flood protection and reduce the flood risk to the Hallwood community, the City of Marysville, and portions of D-10. This would be a **beneficial impact**.

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?

iv) Impede or redirect flood flows?

The project would not create or contribute runoff water, including polluted runoff, or impede or redirect flood flows. A hydraulic impact analysis was conducted to evaluate potential effects of the proposed project on flood stages throughout the affected system on the Yuba River (MBK 2022). Constructing the tie-in embankment would result in a minor infringement on the existing Yuba River floodplain in the affected area, but this infringement would have a negligible impact on conveyance capacity of the Yuba River. Analysis of potential flooding increase was based on comparing water surface elevations for existing and post-project conditions under 1/50, 1/100, 1/200, and 1/500 annual exceedance probability (AEP) flood events (a 1/100 AEP flood event has a 1.0% chance of occurring in any given year). Changes in maximum water surface elevation at all index points evaluated in the hydraulic impact analysis for the 1/50 and 1/100 AEP flood events are immeasurable. Changes in maximum water surface elevations for the 1/200 AEP flood event are immeasurable at all index points except one; there would be a negligible increase of +0.01 foot on the north Yuba Levee at Walnut Avenue in a 1/200 AEP flood event. Change in maximum water surface elevations for the 1/500 AEP flood event are minor, ranging from +0.05 to +0.10 foot, at all index points except one. The exception is at the Yuba Goldfields 200-year levee, where there would be a +0.27 increase in water surface elevation in a 1/500 AEP flood event. However, this maximum water surface elevation at the Yuba Goldfields 200-year levee is nearly 13 feet below the top of the levee. Therefore, project-related impacts on runoff and flood flows would be **less than significant**.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The project site is not within a tsunami or seiche hazard area. The site is in a designated 100-year flood hazard area (FEMA 2011), but project implementation would increase the level of flood protection and reduce the flood risk to the Hallwood community, the City of Marysville, and portions of D-10. Therefore, it would reduce risk of pollutant release during a flood. This would be a **beneficial impact**.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project could result in minor, localized water quality impacts, as discussed under Question "a)" above, but it would not conflict with or obstruct implementation of a water quality control plan. As discussed under Question "b)" above, the project would not impede sustainable groundwater management. Therefore, there would be **no impact** related to these issues.

3.11 Land Use and Planning

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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?	☐	☐	☐	☒	☐

3.11.1 *Environmental Setting*

The project site is located north of the Yuba River, on land designated as Natural Resources and Rural Community in the *Yuba County 2030 General Plan* (Yuba County 2011a) and zoned as Agricultural/Rural Residential District 10 Acres (AR-10), Exclusive Agricultural District 40 Acres (AE-40), and Extractive District (EX) (Yuba County 2021a). The purpose of these designations is to recognize the need for smaller agricultural parcels as a vital component of the County's overall agricultural economy, preserve agricultural land and create standards for the AE district that maintains the vitality of the agricultural sector, and establish appropriate locations for mineral extraction, processing, and distribution.

3.11.2 *Discussion*

a) Physically divide an established community?

The project site is relatively remote and is not located in or adjacent to an existing community. A very small portion of the project site extends into Rural Community designation (Browns Valley) but is limited to approximately 400 feet of the fish food pipeline and two staging areas that are north of the Hallwood-Cordua Canal. Therefore, the project would not physically divide an established community, and there would be **no impact** related to this issue.

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?

A portion of the potential restoration areas is zoned as Agricultural District, although this land is comprised of mining tailing piles and is not currently farmable. Project-related land use conversion in this area would be to riparian habitat, and riparian restoration is an allowed use of

Agricultural District land. Therefore, no conflict with an adopted land use plan, policy, or regulation, would occur, and there would be **no impact** related to this issue.

3.12 Mineral Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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?	☐	☐	☐	☐	☒

3.12.1 *Environmental Setting*

In compliance with the Surface and Mining Reclamation Act, the California Geologic Survey established a Mineral Resource Zones classification system to denote location and significance of key extractive resources. The project site is in the Yuba City–Marysville Production–Consumption Region and is designated as MRZ-2, meaning adequate information indicates that significant mineral deposits are present (CGS 1988).

3.12.2 *Discussion*

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?

The project site is known as an important resource recovery site in Yuba County and is located near an existing aggregate mining and processing facility. Constructing the tie-in embankment would require approximately 15,000 cy of cobble that would be excavated from one or more of the on-site habitat restoration areas. Although this material would no longer be available for commercial processing, constructing the embankment with the material would be an appropriate use of the material and would improve protection of the Hallwood Facility and its associated aggregate resources and processing infrastructure from flooding. In addition, implementing the habitat creation component of the proposed project would generate approximately 180,000 to 1.8 million cy of cobble material that would be made available for aggregate processing. Therefore, project implementation would not result in the loss of availability of valuable or important mineral resources but would rather indirectly make a substantial amount of material more readily available for aggregate processing. This would be a **beneficial impact**.

3.13 Noise

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
NOISE – Would the project:					
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or Federal standards?	☐	☐	☒	☐	☐
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?	☐	☐	☒	☐	☐

3.13.1 *Environmental Setting*

The project site is located north of the Yuba River, in an unincorporated and relatively remote area of Yuba County. The rural residential and agricultural community of Hallwood is approximately 3.5 miles west of the project site, and an isolated residence is approximately 0.25 mile northeast of the project site.

Chapter 8.20–Noise Regulations of the Yuba County Code of Ordinances (Yuba County 2021b) establishes maximin noise levels in single-family residential zones of: 55 decibels (dB) between 10 pm and 7 am, 60 dB between 7 pm and 10 pm, and 65 dB between 7 am and 7 pm. The maximum permitted noise level in Extractive Industrial Zones (M-2), such as the Teichert Hallwood Facility is 80 dB.

3.13.2 *Discussion*

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?

Construction noise impacts typically result from construction activities that generate very high noise levels, occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), occur immediately adjacent to noise sensitive land uses, or last over extended periods of time. **Table 3-6** presents typical noise levels generated at 50 feet from representative types of equipment anticipated to be used for the project.

Table 3-6. Typical Construction Equipment Noise Levels

Type of Equipment	Typical Noise Levels (dB L_{max}) at 50 Feet
Grader	85
Scraper	84
Dozer	82
Pump	81
Front-end Loader	79
Dump Truck	76
Pick-up Truck	75

Notes: dB = decibels; L_{max} = maximum instantaneous sound level
Source: Construction equipment list based on Federal Highway Administration 2006, adapted by GEI Consultants, Inc. in 2022

Permanent noise generation resulting from the project would be limited to operation of the fish food pipeline lift station and potential pump station for an approximately 1- to 2-week period in spring of each year. Fish food pipeline pumping operations would be manually initiated when the rice fields are drained in spring. This equipment would generate relatively low amounts of noise when operating. Other O&M activities would be infrequent and result in brief and negligible increases in noise levels. Project construction would generate temporary noise on the project site and along haul routes. Project-related noise levels are likely to be similar to existing noise levels generated at the nearby Hallwood Facility. The nearest noise-sensitive land use is the single rural residence approximately 0.25 mile from the project site. Based on the distance of this receptor from the nearest work area, project-related noise levels at the residence are unlikely to exceed County limits for single-family residential.

Project-related equipment and material import and debris export would temporarily increase noise levels along the haul routes. Material import for the tie-in embankment would require a maximum of approximately 250 truck trips per day for approximately 5 days. Material import for other project components and debris export would be limited to less than 10 truck trips per day. These haul trips would result in very brief, periodic increases in noise levels, primarily along major roads such as SR 20 that currently experience frequent heavy truck use. Therefore, the short-term and temporary addition of a relatively small number of haul truck trips would have a

minor impact. For these reasons, the project would not result in a substantial temporary or permanent increase in ambient noise levels in excess of established standards, and this impact would be **less than significant**.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Potential permanent groundborne vibration resulting from the project would be limited to operation of the fish food pipeline lift station and potential pump station. This equipment would generate minor vibration when operating that would not be discernible at residential sensitive receptors closest to the project site. Other O&M activities would be infrequent and result in brief and negligible vibrations. The project would generate temporary groundborne vibrations from heavy equipment operation at the project site and material transport. Such vibrations would not be discernible at the nearest residence, and vibrations from material transport would represent a short-term minor increase compared to existing conditions. In addition, Section 11.26.060 of the Yuba County Code of Ordinances (Yuba County 2021b) exempts temporary construction and construction vehicles that enter and leave affected parcels from County restrictions. Therefore, the project would have a **less-than-significant impact** related to 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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Excessive airport-related noise levels associated with the proposed project are discussed under Question "e)" in Section 3.9, "Hazards and Hazardous Materials." This impact would be **less than significant**.

3.14 Population and Housing

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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?	☐	☐	☐	☒	☐

3.14.1 *Environmental Setting*

The project site is located approximately 3.5 miles east of the Hallwood community, in an unincorporated area of Yuba County. The population of Yuba County was estimated in January 2022 to be 82,275 (DOF 2022).

3.14.2 *Discussion*

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project does not include and would not require construction of temporary or permanent housing. It also would not develop or extend any new roads or other infrastructure that would support population growth. The primary overall project purpose is to provide 100-year flood protection to the Hallwood community and reduce flood risk for the City of Marysville and portions of D-10. Local land use decisions are within the jurisdiction of Yuba County, which has adopted a general plan consistent with State law. The *Yuba County 2030 General Plan* (Yuba County 2011a) provides an overall framework for growth and development in the County, including the project vicinity. However, flood protection provided by the proposed project would not affect population goals outlined in the General Plan, given that the flood risk identified by TRLIA, including to the Hallwood community and much of the area of unincorporated Yuba County, is already mapped by FEMA as Zone X (Area of Minimal Flood Hazard) (FEMA 2011). Therefore, the project would not directly or indirectly induce substantial population growth, and there would be **no impact** related to this issue.

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

The project would not displace any houses or people, and there would be **no impact** related to this issue.

3.15 Public Services

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

3.15.1 *Environmental Setting*

The Yuba County Sherriff's Department provides law enforcement and emergency response services to the unincorporated areas of Yuba County, including the project site. In the event of a fire at the project site, the District 10-Hallwood Community Service District (CSD) would respond (Yuba County 2011b). The Marysville Fire Department occasionally responds to calls for service outside of City limits.

3.15.2 *Discussion*

Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for public services, including fire protection, police protection, schools, parks, or other public facilities.

The project does not include development or other components that would increase the number of public service users in the project area or increase response times for fire protection, police protection, or other public services. Additionally, because the project does not involve new residential construction, no new schools, parks, or public facilities would be needed. Therefore, the project would not directly or indirectly affect the need for public facilities or required level of service, response times, or other objectives, compared to existing conditions, and there would be **no impact** related to these issues.

3.16 Recreation

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
RECREATION – Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒	☐
c) Cause substantial adverse effects to recreational uses on or adjacent to the Yuba River?	☐	☐	☒	☐	☐

3.16.1 *Environmental Setting*

Yuba County operates nine local parks and one regional park, which offer a variety of recreational opportunities, including fishing, hiking, camping, playgrounds, and basketball courts (Yuba County 2011b). The nearest public park, Hammon Grove Park, is approximately 3 miles northeast of the project site and includes approximately 40 acres of natural resources and remnant mining land. The lower Yuba River is a popular location for recreational activities such as fishing, boating, hiking, and bird watching. The project site is immediately north of the Yuba River, but no formal river recreation access or facilities are present in the vicinity, and the area is not easily accessible to the public.

3.16.2 *Discussion*

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

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

The project does not include construction of recreational facilities or components that would increase the number of park or other recreational facility users in the project area. Construction of new facilities or expansion of existing facilities would not be required, and the condition and

potential deterioration of existing facilities would not be impacted. Therefore, there would be **no impact** related to these issues.

c) Cause substantial adverse effects to recreational uses on or adjacent to the Yuba River?

The project site and nearby lands are privately owned and do not provide public recreational use or public access to the Yuba River. Therefore, recreational use along the adjacent portion of the river is limited to people that access the river via boat from elsewhere. Although some project-related equipment may be visible and audible from the river during construction and infrequent O&M activities, these impacts would be short in duration and only experienced by a relatively small number of recreationists along this relatively remote section of the river. For these reasons, the project would not have a substantial adverse effect on recreational users, and this impact would be **less than significant**.

3.17 Transportation

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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 State 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?	☐	☐	☒	☐	☐

3.17.1 *Environmental Setting*

VMT in Yuba County was estimated to be 765,263 in 2011, when the *Yuba County 2030 General Plan* (Yuba County 2011a) was prepared but build out of the 2030 Yuba County General Plan elements would increase the number of VMT traveled in Yuba County. The project site is in a relatively remote portion of Yuba County. The nearest major transportation route on the north side of the Yuba River is SR 20, approximately 0.5 mile north of the project site. Local access to the site would be via SR 20, Kibbe Road, the Hallwood-Cordua Canal Maintenance Road, and private roads. Temporary haul routes and staging areas are anticipated to be established along the Hallwood-Cordua Canal Maintenance Road and within and between the different portions of the project site.

3.17.2 *Discussion*

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

Project-related transportation would include travel by project personnel to and from the site, equipment import and export, material import, and debris export. No road closures would be required. Project personnel are anticipated to come from the local Marysville and Yuba City area, but some could come from the Sacramento area. Workers would generate an average of

approximately 10 vehicle trips to and from the site daily during the approximately 12 months in which project construction and restoration activities would occur; this would result in approximately 3,200 round-trip commute trips. Many fewer vehicle trips would be required to import project-related equipment and materials, including earthen fill for the tie-in embankment; pipe, rock, and concrete for the fish passage and foraging enhancements; and plants for the habitat creation. In addition, very few trips are anticipated to be required for export of debris, such from the existing canal crossing culverts, weir, and fish bypass discharge pipe to be replaced. Material import for the tie-in embankment would require a maximum of approximately 250 truck trips per day for approximately 5 days; material import for other project components and debris export would be limited to less than 10 truck trips per day. Most of these materials would be transported to/from within approximately 30 miles of the project site. O&M activities would generate a negligible amount of additional long-term traffic.

The level of vehicle trips that would be generated by the project and the temporary, short-term nature of the minor traffic increase would not result in any changes to transportation circulation patterns or facilities that would conflict with any transportation-related plans, ordinances, or policies. Therefore, this impact would be **less than significant**.

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

The project does not include any new residential uses or other development that would directly or indirectly contribute to population growth or substantially increase existing VMT by residents or visitors to the area. Flood risk reduction provided by the proposed project would not affect population goals outlined in the Yuba County General Plan. In addition, despite the flood risk identified by TRLIA, the Hallwood community and much of the area that would be provided additional flood risk reduction is mapped by FEMA as Zone X (Area of Minimal Flood Hazard) (FEMA 2011). As discussed under Question "a)" above, project implementation would result in a minor temporary, short-term increase in VMT that would not conflict or be inconsistent with State CEQA Guidelines 15054.3(b)(2). Therefore, this impact would be a **less than significant**.

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

The project does not include any publicly accessible roads, and the ramps and access road along the tie-in embankment would be relatively straight and designed to avoid hazards and conform to applicable design standards. Therefore, this impact would be **less than significant**.

d) Result in inadequate emergency access?

The project would not require road closures or other changes that could result in inadequate emergency access. Construction activities would occur in a relatively remote rural area that is unlikely to be used for emergency access and the temporary, short-term increase in vehicle trips to and from the project site during construction and O&M activities would be minimal and would not affect emergency access. Therefore, this impact would be **less than significant**.

3.18 Tribal Cultural Resources

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
TRIBAL CULTURAL RESOURCES – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource 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:					
a) 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	☐	☒	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐	☐

3.18.1 *Environmental Setting*

Please *refer to* the "Ethnographic Setting" in "Cultural Resources" for relevant information regarding Native American presence in the project vicinity.

TCRs are (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either in or eligible for inclusion in the CRHR or a local historic register; or (2) a resource that the lead agency, at its discretion and supported by substantial evidence, chooses to treat as a TCR. A cultural landscape may qualify as a TCR if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (as described in PRC Section 21084.1), unique archaeological resources (as defined in PRC Section 21083.2[g]), and non-unique archaeological resources (as described in PRC Section 21083.2[h]) may also be TCRs, if they meet CRHR eligibility criteria.

TRLIA was previously contacted by the United Auburn Indian Community of Auburn Rancheria (UAIC) to request consultation on TRLIA projects under Assembly Bill 52 (PRC Section 21080.3.1). To comply with Assembly Bill 52, TRLIA contacted UAIC on August 19, 2022, to initiate Assembly Bill 52 consultation for the proposed project and invite UAIC to provide information on TCRs to inform the impact analysis. TRLIA also invited Enterprise Rancheria to consult on the project because the Tribe has an established affiliation with the geographic area and has worked with TRLIA on many previous projects. While not required by CEQA, the NAHC also was contacted to request a search of its Sacred Lands File for the project vicinity. The NAHC responded that the search results were negative and provided a list of Native American Tribal contacts that might have information regarding cultural resources in the project area. TRLIA invited each of the additional Tribes (Kletsel Dehe Band of Wintun Indians, Tsi Akim Maidu of Taylorsville Rancheria, and Wilton Rancheria) to consult on the proposed project.

UAIC has indicated previously known TCRs and areas of oral history occur in the project vicinity; the Tribe considers the area to be culturally sensitive but does not know if there are any known TCRs on the project site. None of the other Tribes provided information on TCRs of importance to them.

3.18.2 *Discussion*

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource 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 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)?

b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource 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 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.

No Native American Tribe has provided specific information regarding TCRs on or near the project site, but the area is known to be considered culturally sensitive by at least one of the Tribes. Project implementation is not anticipated to result in a substantially adverse change in the significance of previously known TCRs or areas of oral history in the project vicinity. The likelihood of encountering previously unknown physical TCRs during project construction is very low because most of the project site was extensively modified during past mining activities and canal construction, and excavation in these previously disturbed areas would be limited to

cobble mine tailings and the artificial canal. It is unlikely any physical TCRs that may have once existed in these areas have not been destroyed. Nevertheless, the remote possibility remains that previously unidentified, buried TCRs may exist on the project site, particularly portions of the site that have not been subject to extensive previous disturbance. If buried TCRs are present in areas subject to project-related ground disturbance, they could be destroyed or otherwise substantially altered by project implementation. This would be a **potentially significant** impact. Mitigation Measures CUL-1a and CUL-1b would reduce this potential impact.

Mitigation Measure CUL-1: Prepare and Implement Inadvertent Discovery Plan and Other Measures to Avoid and Minimize Impacts on Cultural Resources.

Mitigation Measure CUL-1 in Section 3.5, "Cultural Resources," provides the full text of this mitigation measure.

Mitigation Measure CUL-2: Avoid Potential Effects to Previously Unknown Human Remains.

Mitigation Measure CUL-2 in Section 3.5, "Cultural Resources," provides the full text of this mitigation measure.

Significance after Mitigation: Implementing Mitigation Measures CUL-1 and CUL-2 would reduce the potential impact related to discovery of TCRs because TCR awareness training would be provided to on-site project personnel, the find would be assessed by culturally affiliated Tribes, and the identification and implementation of avoidance or minimization measures would be conducted in consultation with the Tribes. Therefore, this impact would be a **less-than-significant impact with mitigation incorporated**.

3.19 Utilities and Service Systems

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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 that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐
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?	☐	☐	☒	☐	☐

3.19.1 *Environmental Setting*

PG&E provides electric and gas service to the project area. There are 11 state-regulated wastewater treatment facilities in Yuba County, and several private sewage systems are operated throughout the County. Solid waste collection services are provided by Recology Yuba-Sutter; after solid waste is collected and sorted, it is disposed of at the Ostrom Road Landfill,

approximately 4 miles north of Wheatland. Water supplies are provided by many different providers that relay both surface and groundwater. (Yuba County 2011b). The project area includes a portion of the Hallwood-Cordua Canal, which provides primarily agricultural water supplies to portions of Yuba County.

3.19.2 *Discussion*

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?

The project would not require relocation or construction of new or expanded utility facilities. Work would occur in the Hallwood-Cordua Canal during replacement of the existing canal crossing with the tie-in embankment, modifications associated with the existing fish bypass, and installation of the fish food pipeline. However, this work would primarily occur after water delivery obligations have been met to for the year and the system can be taken out of operation without requiring a temporary diversion to maintain water deliveries, typically December-March. If construction must occur when deliveries are required, a temporary diversion would be installed to maintain downstream canal flows and water deliveries. Construction and operation of these project components would be closely coordinated with CID to minimize any potential disruptions and/or damage to existing facilities. This impact would be **less than significant**.

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 that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

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?

The project does not include any new residential uses or other development that would require water, wastewater treatment, or solid waste disposal. The project also would not directly or indirectly contribute to population growth that could lead to additional utility or service system needs. Project construction and O&M would not require wastewater treatment. Solid waste disposal is anticipated to be limited to a relatively small amount of debris associated with the existing canal crossing culverts and the weir and fish bypass discharge pipes to be replaced. This disposal would not exceed State or local standards or local landfill capacity and would be conducted in compliance with Federal, State, and local regulations related to solid waste. A

relatively small amount of water may be required to irrigate the riparian plantings during the dry season (June-November) for the first 2 years following installation; sufficient water supplies are available to meet this short-term need. Therefore, impacts related to sufficiency of existing supplies and infrastructure would be **less than significant**.

3.20 Wildfire

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
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?	☐	☐	☐	☐	☒

3.20.1 *Environmental Setting*

The project site is within a State Responsibility Area with a fire hazard severity classification of moderate (Cal Fire 2007a and 2007b). In the event of a fire, the Hallwood CSD would respond. The Hallwood CSD contracts with Marysville Fire Department for fire protection services but owns and provides its own equipment and has two on-call firefighters, in addition to the Marysville Fire Department firefighters (Yuba County 2011b).

3.20.2 *Discussion*

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

This potential impact is discussed under Question "f)" in Section 3.9, "Hazards and Hazardous Materials." This impact would be **less than significant**.

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?

Standard wildfire risk reduction requirements for construction activities would be implemented during construction and O&M activities, such as limiting activity on red flag days and prohibiting on-site burning. In addition, activities near the Hallwood Facility would be implemented in compliance with any existing Teichert Aggregates requirements regarding wildfire risk. Therefore, the project would not exacerbate fire risk or increase exposure of people or structures to significant wildfire risks or to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. This impact would be **less than significant**.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No new infrastructure would be constructed or required that is anticipated to exacerbate fire risk or result in temporary or ongoing impacts to the environment. The only permanent equipment that would be installed are the lift station and potential pump station for the fish food pipeline. Fish food pipeline operations would be manually initiated and limited to an approximately 1- to 2-week in spring of each year. Because this equipment would be manually initiated, operated for a very limited period of time, and inspected regularly, the potential for equipment malfunction would be greatly minimized. Therefore, this impact would be **less than significant**.

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?

The project would not change drainage patterns and would improve stability of the existing on-site topography. Therefore, it would not expose people or structures to significant risks, including flooding or landsides, as a result of runoff, post-fire slope instability, or drainage changes. There would be no adverse impact related to these issues, and the project would reduce local flood risks which, in turn, would reduce exposure of people and structures to significant flood risks. This would be a **beneficial impact**.

3.21 Mandatory Findings of Significance

Environmental Issue	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Beneficial Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE – Would the project:					
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, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐
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?	☐	☒	☐	☐	☒

3.21.1 *Discussion*

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, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

The analysis conducted in this IS concludes that implementing the project with the mitigation measures incorporated herein would not have a significant impact on the environment. As evaluated in "Biological Resources," impacts on plant, fish, and wildlife species, including endangered, rare, or threatened species, would be less than significant or less than significant with mitigation incorporated. In addition, ecological enhancements would increase the amount of available habitat and improve existing habitat along and north of the Yuba River. The project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or reduce the number or restrict the range of an endangered, rare, or threatened species. As discussed in "Cultural Resources," the project would not eliminate important examples of the major periods of California history or prehistory. Overall, this impact would be **less than significant with mitigation incorporated**.

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.)

The temporary, short-term nature of the project's construction impacts and the long-term improvement to flood protection, habitat values, and O&M access would result in no impacts, less-than-significant impacts, less-than-significant impacts with mitigation incorporated, or beneficial impacts on the physical environment. The NTW Phase 1 Project was implemented in 2021 and 2022. Phase 1 activities and proposed Phase 2 activities have a small area of physical overlap at the east end of the NTW, but there would be no temporal overlap in activities of these two independent projects. The Hallwood Restoration Project is ongoing near the project site, but there would be no physical overlap in project areas, and temporal overlap is anticipated to be limited to one construction season at most. The Hallwood Facility is adjacent to the project site, and aggregate mining and processing activities at the facility may overlap portions of the project construction period. However, the proposed project would not cause any cumulatively considerable incremental contributions to significant cumulative impacts associated with the NTW Phase 1 Project, Hallwood Restoration Project, or the Hallwood Facility, primarily due to the proposed project's temporary, short-term, and relatively minor construction impacts.

The proposed project would reduce flood risks for the Hallwood community, the City of Marysville, and portions of D-10, thereby reducing the potential for flooding that could potentially result in numerous significant impacts to environmental resources. The extent and magnitude of potential flood-related impacts to these resources would depend on the specific location, magnitude, and duration of any flooding and would include high potential for significant environmental impacts resulting from any necessary post-flood reconstruction efforts.

The project's relatively minor impacts would result from the short construction schedule and the project's remote location in an area previously disturbed by mining and canal construction and adjacent to an active aggregate mining and processing facility. With implementation of

mitigation measures presented in this IS, none of the project's impacts would make a cumulatively considerable, incremental contribution to significant cumulative impacts. Therefore, the proposed project's incremental contributions to significant cumulative impacts would be **less than significant with mitigation incorporated**.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The project would result in less-than-significant impacts with mitigation incorporated for several topics that could cause substantial adverse effects on human beings, including air quality, geology and soils, hazards and hazardous materials, hydrology and water quality, and TCRs. Overall, the project's impacts on human beings, either directly or indirectly, would not be substantial, would be **less than significant with mitigation incorporated**, and would reduce flood risks to the Hallwood Community, the City of Marysville, and portions of D-10, which would be **beneficial**.

Chapter 4. References Cited

1. Introduction

No references cited.

2. Project Description

Hoag, J.C. 2009. Cluster Plantings: A way to plant live unrooted cuttings in coarse soils including sands, gravels, and cobbles. USDA Natural Resources Conservation Service, Aberdeen Plant Materials Center. Riparian/Wetland Project Information Series No. 26, December 2009. Available: https://riversedgewest.org/resource-center/documents/cluster-plantings-way-plant-live-unrooted-cuttings-coarse-soils-including. Accessed: November 3, 2022.

TRLIA (Three Rivers Levee Improvement Authority). 2021. Initial Study/Proposed Mitigated Negative Declaration, Yuba River North Training Wall Project. Marysville, CA. Prepared by GEI Consultants, Inc., Rancho Cordova, CA.

3. Environmental Checklist

Ashton, D.T., A.J. Lind, and K.E. Schlick. 1997. *Western pond turtle (*Clemmys marmorata*). Natural History*. U.S. Forest Service, Pacific Southwest Research Station, Arcata, CA.

Beals, R.L. 1933. Ethnology of the Nisenan. University of California Publications in American *Archaeology and Ethnology* 31(6):335-414.

Beck, W.A. and Y.D. Haase. 1974. *Historical Atlas of California*. University of Oklahoma Press, Norman, OK.

Cal Fire (California Department of Forestry and Fire Protection). 2007a. Fire Hazard Severity Zones in LRA. Available: https://osfm.fire.ca.gov/media/6852/fhszl06_1_map58.pdf. Accessed: October 11, 2022.

_____. 2007b. Fire Hazard Severity Zones in SRA. Available: https://osfm.fire.ca.gov/media/6850/fhszs_map58.pdf. Accessed: October 11, 2022.

CalEPA (California Environmental Protection Agency). 2022. *Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit.* Available: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed: October 11, 2022.

Caltrans (California Department of Transportation). 2015. *List of Officially Designated County Scenic Highways*. Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed: October 11, 2022.

_____. 2019. *List of eligible and officially designated State Scenic Highways*. Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed: October 11, 2022.

Campos, C. and D. Massa. 2010. Lower Yuba River Accord Monitoring and Evaluation Plan. Annual Rotary Screw Trapping Report. Prepared for: The Lower Yuba River Accord Planning Team.

CARB (California Air Resources Board). 2017. *California's 2017 Climate Change Scoping Plan*. Available: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents. Accessed: October 11, 2022.

CDFW (California Department of Fish and Wildlife). 2019. Science Spotlight: CDFW Biologists Confirm Green Sturgeon Spawn in Yuba River. Available: https://wildlife.ca.gov/Science-Institute/News/cdfw-biologists-confirm-green-sturgeon-spawn-in-yuba-river1. Accessed: September 19, 2022.

_____. 2022a. Results of electronic database search for sensitive species occurrences. Version 5.2.14. Biogeographic Data Branch. Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed: October 12, 2022.

_____. 2022b. *California Sensitive Natural Communities*. Sacramento, CA. Available: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities. Accessed October 11, 2022.

CEC (California Energy Commission). 2022. *Electricity Consumption by County*. Available: http://www.ecdms.energy.ca.gov/elecbycounty.aspx. Accessed: October 11, 2022.

CGS (California Geological Survey). 1988. *Mineral Land Classification Map, Yuba City-Marysville Production-Consumption Region*. California Division of Mines and Geology.

_____.2022a. California Department of Conservation. Fault Activity Map of California. Available: https://maps.conservation.ca.gov/cgs/fam/. Accessed: October 11, 2022.

_____. 2022b. Earthquake Zones of Required Investigation. Available: https://maps.conservation.ca.gov/cgs/eqzapp/app/. Accessed: October 11, 2022.

_____. 2022c. California Department of Conservation. CGS Information Warehouse: Landslides. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps. Accessed: October 11, 2022.

CNPS (California Native Plant Society). 2022. *Inventory of Rare and Endangered Plants*. Online edition, v9-01 1.5. Sacramento, CA. Available: http://www.rareplants.cnps.org. Accessed: October 12, 2022.

CNRA (California Natural Resources Agency). 2009. *2009 California Climate Adaptation Strategy*. Available: https://resources.ca.gov/CNRALegacyFiles/docs/climate/Statewide_Adaptation_Strategy.pdf. Accessed: October 11, 2022.

Cook, S.F. 1955. The Epidemic of 1830-1833 in California and Oregon. *University of California Publications in American Archaeology and Ethnology* 43(3):303-326. Berkeley, CA.

Cramer Fish Sciences and cbec eco-engineering. 2017 Hallwood Side Channel and Floodplain Restoration Project Aquatic Resources Delineation Report. West Sacramento, CA.

CVRWQCB (Central Valley Regional Water Quality Control Board). 2018. *Water Quality Control Plan (Basin Plan), The Sacramento River Basin and The San Joaquin River Basin.* Available: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/. Accessed: October 11, 2022.

DOC (California Department of Conservation). 2000. A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, 2000, Map scale 1:1,100,000, Open-File Report 2000-19. Available: http://www.capcoa.org/Docs/noa/%5B28%5D%20USGS%20Location%20Guide%20Report%202000-19.pdf. Accessed: October 11, 2022.

DOF (California Department of Finance). 2022. E-1: State/County Population Estimates with Annual Percent Change January 1, 2021 and 2022. Available: https://dof.ca.gov/forecasting/demographics/estimates-e1/. Accessed: October 11, 2022.

DTSC (California Department of Toxic Substances Control). 2022. Hazardous Waste and Substances Site List (Cortese). Available: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed: October 11, 2022.

DWR (California Department of Water Resources). 2019. *Sustainable Groundwater Management Act 2019 Basin Prioritization Process and Results*. Available: https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization. Accessed: October 11, 2022.

_____. 2020. *California's Groundwater Update 2020 (Bulletin 118)*. Available at: https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118. Accessed: October 11, 2022.

_____. 2022a. Dam Breach Inundation Map Web Publisher. Available: https://fmds.water.ca.gov/maps/damim/. Accessed: October 11, 2022.

_____. 2022b. SGMA Data Viewer. Available: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels. Accessed: October 11, 2022.

EPA (U.S. Environmental Protection Agency). 2022. Superfund Enterprise Management System (SEMS) Database. Available: https://www.epa.gov/enviro/sems-search. Accessed: October 11, 2022.

Federal Highway Administration. 2006. *Construction Noise Handbook*. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook04.cfm. Accessed: October 11, 2022.

FEMA (Federal Emergency Management Agency). 2011. *Flood Insurance Rate Map, Yuba County, California and incorporated areas. Map Number 06115C0375D*. Available: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed: October 11, 2022.

FRAQMD (Feather River Air Quality Management District). 2010. *Indirect Source Review Guidelines*. Yuba City, CA. Available: https://www.fraqmd.org/files/8c3d336a1/FINAL+version+ISR+ Amendments.pdf. Accessed: October 11, 2022.

_____. 2016. *FRAQMD Construction Phase Mitigation Measures*. Available: https://www.fraqmd.org/files/1a123b5bb/FRAQMD+Construction+Phase+Mitigation+Measures.pdf. Accessed: October 11, 2022.

_____. 2021. Air Quality Standards Attainment Designations. Available: https://www.fraqmd.org/air-quality-information. Accessed: October 11, 2022.

GEI Consultants, Inc. 2022. Results of California Emissions Estimator Model runs for North Training Wall Phase 2 Project construction activities. Rancho Cordova, CA.

Goodman, D.H. and S.B. Reid. 2012. *Pacific Lamprey (*Entosphenus tridentatus*) assessment and template for conservation measures in California*. U.S. Fish and Wildlife Service, Arcata, CA.

Goodman, D.H., S.B. Reid, N.A. Som, and W.R. Poytress. 2015. The punctuated seaward migration of Pacific lamprey (Entosphenus tridentatus): environmental cues and implications for streamflow management. *Canadian Journal of Fisheries and Aquatic Sciences* 72(12):1817-1828.

Heublein, J.C., J.T. Kelly, C.E. Crocker, A.P. Klimley, and S.T. Lindley. 2009. Migration of green sturgeon, Acipenser medirostris, in the Sacramento River. *Environmental Biology of Fishes* 84(3): 245-258.

Hoover, M.B., H.E. Rensch, and E.G. Rensch. 1990. *Historic Spots in California*. Third edition. Revised by W. N. Abeloe. Stanford University Press, Stanford, CA.

Horizon (Horizon Water and Environment, LLC). 2016. Cultural Resources Assessment Report: Hallwood Side Channel and Floodplain Restoration Project. Yuba County, California.

Prepared for Cramer Fish Sciences, West Sacramento, CA. On behalf of U.S. Fish and Wildlife Service, Lodi, CA. Oakland, CA.

Kammel, L. and B.G. Pasternack. 2014. O. mykiss adult spawning physical habitat in the lower Yuba River. University of California at Davis, CA. Prepared for the Yuba Accord River Management Team.

Kroeber, A. 1925. Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78. Smithsonian Institution, Washington, D.C.

Massa, D. and C. Campos. 2006. Yuba River Juvenile Chinook Salmon (Oncorhynchus tshawytsha), and Juvenile Central Valley Steelhead Trout (Oncorhynchus mykiss), Life History Survey: Annual Data Report 2005-2006. California Department of Fish and Game, Sacramento Valley and Central Sierra Region, Rancho Cordova, CA.

MBK Engineers. 2022. Technical Memorandum: Three Rivers Levee Improvement Authority North Training Wall Phase 2 Hydraulic Impact Analysis. Sacramento, CA.

McEwan, D. and T.A. Jackson. 1996. *Steelhead Restoration and Management Plan for California*. California Department of Fish and Game, Inland Fisheries Division, Sacramento, Rancho Cordova, CA.

Merriam, H. 1967. *Ethnographic Notes on California Indian Tribes*. Robert F. Heizer, ed., 3 Pts. University of California Archaeological Survey Reports 68. Berkeley, CA.

Merz, J.E., and J.D. Setka. 2004. Evaluation of a spawning habitat enhancement site for Chinook Salmon in a regulated California River. *North American Journal of Fisheries Management* 24:397-407.

Moyle, P.B. 2002. *Inland fishes of California*. Revised and expanded. University of California Press, Berkeley and Los Angeles, CA.

Moyle, P.B., R.M. Quinones, J.V. Katz, and J. Weaver. 2015. *Fish Species of Special Concern in California*. Third Edition. California Department of Fish and Wildlife, Sacramento, CA.

NOAA Fisheries. 2022. Protected Resources App. Protected Resources Division, West Coast Region, National Marine Fisheries Service. Available: https://www.fisheries.noaa.gov/resource/map/protected-resources-app. Accessed: September 16, 2022.

Newcombe, C.P. and Jensen, J.O.T. 1996. Channel Suspended Sediment and Fisheries: A Synthesis for Quantitative Assessment of Risk and Impact. *North American Journal of Fisheries Management* 16(4): 693-727.

NMFS (National Marine Fisheries Service). 2009. Biological opinion and conference opinion on the long-term operations of the Central Valley Project and State Water Project.

Endangered Species Act Section 7 Consultation with U.S. Bureau of Reclamation, Central Valley Office. Long Beach, CA.

_____. 2015. *Southern Distinct Population Segment of the North American Green Sturgeon Acipenser medirostris: 5-Year Review*. Federal Register 71:17757. Long Beach, CA.

NRCS (Natural Resources Conservation Service). 2022. Soil Map. U.S. Department of Agriculture Natural Resources Conservation Service. Generated at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed: September 20, 2022.

PFMC (Pacific Fisheries Management Council). 2022. *Pacific Coast Salmon Fishery Management Plan for Commercial and Recreational Salmon Fisheries off the Coasts of Washington, Oregon, and California as Revised through Amendment 22*. Portland, OR.

Pierson, E.D., W.E. Rainey and C. Corben. 2006. *Distribution and status of Western red bats (*Lasiurus blossevillii*) in California*. California Department of Fish and Game, Habitat Conservation Planning Branch, Species Conservation and Recovery Program Report 2006-04, Sacramento, CA.

Raffel, C. and Katz, J. 2020. *The Fish Food Story*. Available: https://caltrout.org/article/the-current-june-2020/the-fish-food-story. Accessed October 11, 2022.

Rosenthal, J.S., G.G. White, and M.Q. Sutton. 2007. *The Central Valley: A View from the Catbird's Seat. In California Prehistory: Colonization, Culture, and Complexity*. Edited by Terry L. Jones and Kathryn A. Klar, pp. 147–163. Lanham, Maryland: AltaMira Press.

SACOG (Sacramento Area Council of Governments). 2010. *Beale Air Force Base Land Use Compatibility Plan.* Prepared for Sacramento Area Council of Governments serving as the Airport Land Use Commission for Sacramento, Sutter, Yolo, and Yuba Counties. Prepared by Mead & Hunt, Inc., Santa Rosa, CA. Available: https://www.sacog.org/sites/main/files/file-attachments/bab.alucp_.entire_report.pdf. Accessed: October 11, 2022.

Saucedo, G.J., and D.L. Wagner. 1992. Geologic Map of the Chico Quadrangle. Regional Geologic Map Series, Map No. 7A. California Division of Mines and Geology, Sacramento, CA. Available: https://ngmdb.usgs.gov/Prodesc/proddesc_63087.htm. Accessed: October 11, 2022.

Seesholtz, A.M., M.J. Manuel, and J.P. Van Eenennaam. 2015. First documented spawning and associated habitat conditions for Green Sturgeon in the Feather River, California. *Environmental Biology of Fishes* 98(3): 905-912.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2020. *SMAQMD Thresholds of Significance Table*. Available:

http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf. Accessed: October 11, 2021.

Swainson's Hawk Technical Advisory Committee. 2000 (May 31). Swainson's Hawk Technical Advisory Committee. 2000 (May 31). *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley.* Available: https://wildlife.ca.gov/Conservation/Survey-Protocols#377281284-birds. Accessed October 11, 2022.

SWRCB (California State Water Resources Control Board). 2022a. GeoTracker Database. Available: https://geotracker.waterboards.ca.gov/map/?global_id=T0601700073. Accessed: October 11, 2022.

_____. 2022b. List of active Cease and Desist Orders and Cleanup and Abatement Orders. Available: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed: October 11, 2022.

_____. 2022c. *2020-2022 Integrated Report for Clean Water Act Section 303(d) and 305(b)*. Available: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html. Accessed: November 4, 2022.

USFWS (U.S. Fish and Wildlife Service). 2004. Endangered and threatened wildlife and plants: 90-day finding on a petition to list three species of lampreys as threatened or endangered. Federal Register 69:77158–77167.

_____. 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). Available at: https://www.fws.gov/media/framework-assessing-impacts-valley-elderberry-longhorn-beetle. Accessed October 11, 2022.

_____. 2020. *Monarch (Danaus plexippus) Species Status Assessment Report, version 2.1*. Available: https://www.fws.gov/node/70364. Accessed: October 11, 2021.

_____. 2022. List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project. Sacramento Fish and Wildlife Office, Sacramento, CA. Generated at: https://ecos.fws.gov/ipac/. Accessed October 12, 2022.

Western Monarch Milkweed Mapper. 2022. Available: https://www.monarchmilkweedmapper.org/app/#/combined/map. Accessed: October 11, 2022.

Wheeler, C.A. and H.H. Welsh, Jr. 2008. Mating strategy and breeding patterns of the foothill yellow-legged frog (Rana boylii). *Herpetological Conservation and Biology* 3(2): 128-142.

Wilson, N.L. and A.H. Towne. 1978. Nisenan. In *Handbook of North American Indians* (vol. 8), edited by Robert F. Heizer, pp. 387-397. Smithsonian Institution, Washington, D.C.

Yoshiyama, R.M., E.R Gerstung, F.W. Fisher, and P.B. Moyle. 2000. Chinook Salmon in the California Central Valley: an assessment. *Fisheries* 25:6-20.

YCRWMG (Yuba County Regional Water Management Group). 2018. *Yuba County Integrated Regional Water Management Plan 2018 Update*. Available: https://www.yubawater.org/281/Integrated-Regional-Water-Management. Accessed: October 11, 2022.

Yuba Accord RMT (Yuba Accord River Management Team). 2013. Aquatic Resources of the Lower Yuba River Past, Present, and Future: Yuba River Accord Monitoring and Evaluation Draft Interim Report.

Yuba County. 2011a. *Yuba County 2030 General Plan*. Adopted June 7, 2011. Community Development & Services Agency, Marysville, CA. General Plan consultation by AECOM, Sacramento, CA.

_____. 2011b. *Final Yuba County 2030 General Plan Environmental Impact Report*. State Clearinghouse No. 2010062054. Planning Department, Marysville, CA. Prepared by AECOM, Sacramento, CA.

_____. 2015. *Yuba County Multi-Jurisdictional Local Hazard Mitigation Plan (MHMP)*. Available: https://www.yuba.org/Yuba%20County/Emergency%20Services/Multi-Hazard%20Mitigation/YubaMHMP.pdf. Accessed: October 11, 2022.

_____. 2021a. *Yuba County Zoning Map*. Adopted July 2015. Revised January 2021. Available: https://www.yuba.org/departments/community_development/planning_department/maps.php. Accessed: October 11, 2022.

_____. 2021b. County Code of Ordinances: Chapter 8.20–Noise Regulations. Available: https://library.municode.com/ca/yuba_county/codes/code_of_ordinances?nodeId=YUCOORCO. Accessed: October 11, 2022.

_____. 2021c. County Code of Ordinances: Section 11.26.060–Vibration Performance Standards. Available: https://library.municode.com/ca/yuba_county/codes/code_of_ordinances?nodeId=YUCOORCO. Accessed: October 11, 2022.

YWA (Yuba Water Agency). 2019. Yuba Subbasins Groundwater Management Plan: A Groundwater Sustainability Plan. Available: https://www.yubawater.org/322/Groundwater-Sustainability-Plan. Accessed: October 11, 2022.

Chapter 5. Report Preparers

Three Rivers Levee Improvement Authority (Lead Agency)

Kevin Mallen .....Executive Director, Document Review

MBK Engineers (Program Management)

Ric Reinhardt, P.E.....Program Director, Document Review

Tony Deus, P.E. .....Program Manager, Document Review

GEI Consultants, Inc. (CEQA Document Preparation)

Phil Dunn .....Project Director and Document Review

Anne King.....Project Manager, Introduction, Project Description, Biological Resources, Mandatory Findings of Significance, and Document Review

Chrissy Russo.....Aesthetics, Agriculture and Forestry Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems

Jesse Martinez.....Archaeological Cultural Resources and Tribal Cultural Resources

Madeline Bowen .....Built-environment Cultural Resources

Ryan Snyder.....Geographic Information Systems

Wood Rodgers, Inc. (Civil Engineers)

Chuck Hilliard, P.E. .....Project Description Input and Review

M-H-M Incorporated (Civil Engineers)

Sean Minard, P.E., P.L.S .....Project Description Input and Review

[This page intentionally left blank.]

Appendix Biological Database Information

Search Results

21 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3912135:3912134:3912133:3912125:3912124:3912123:3912115:3912114:3912113**]

▲ SCIENTIFIC NAME	COMMON NAME	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK
Astragalus pauperculus	depauperate milk-vetch	Mar-Jun	None	None	4.3
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Apr-May	None	None	1B.1
Azolla microphylla	Mexican mosquito fern	Aug	None	None	4.2
Brodiaea rosea ssp. *vallicola*	valley brodiaea	Apr-May(Jun)	None	None	4.2
Brodiaea sierrae	Sierra foothills brodiaea	May-Aug	None	None	4.3
Clarkia biloba ssp. *brandegeeae*	Brandegee's clarkia	May-Jul	None	None	4.2
Cryptantha rostellata	red-stemmed cryptantha	Apr-Jun	None	None	4.2
Delphinium recurvatum	recurved larkspur	Mar-Jun	None	None	1B.2
Downingia pusilla	dwarf downingia	Mar-May	None	None	2B.2
Erythranthe glaucescens	shield-bracted monkeyflower	Feb-Aug(Sep)	None	None	4.3
Fritillaria agrestis	stinkbells	Mar-Jun	None	None	4.2
Hesperevax caulescens	hogwallow starfish	Mar-Jun	None	None	4.2
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	Mar-May	None	None	1B.2
Legenere limosa	legenere	Apr-Jun	None	None	1B.1
Leptosiphon aureus	bristly leptosiphon	Apr-Jul	None	None	4.2
Monardella venosa	veiny monardella	May-Jul	None	None	1B.1
Paronychia ahartii	Ahart's paronychia	Feb-Jun	None	None	1B.1
Plagiobothrys glyptocarpus var. *modestus*	Cedar Crest popcornflower	Apr-Jun	None	None	3
Pseudobahia bahiifolia	Hartweg's golden sunburst	Mar-Apr	FE	CE	1B.1
Sagittaria sanfordii	Sanford's arrowhead	May-Oct(Nov)	None	None	1B.2
Wolffia brasiliensis	Brazilian watermeal	Apr-Dec	None	None	2B.3

Showing 1 to 21 of 21 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 12 October 2022].

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Honcut (3912135) OR Loma Rica (3912134) OR Oregon House (3912133) OR Yuba City (3912125) OR Browns Valley (3912124) OR Smartville (3912123) OR Olivehurst (3912115) OR Wheatland (3912114) OR Camp Far West (3912113))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Astragalus tener var. ferrisiae Ferris' milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.1		18 S:1	0	0	0	0	0	1	1	0	1	0	0
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	G4G5T4 S4	None None	Rare Plant Rank - 4.2 SB_UCSC-UC Santa Cruz	350 1,490	89 S:7	1	0	0	0	0	6	7	0	7	0	0
Delphinium recurvatum recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden		119 S:1	0	0	0	0	1	0	1	0	0	0	1
Downingia pusilla dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	250 250	132 S:2	0	0	0	0	0	2	2	0	2	0	0
Juncus leiospermus var. ahartii Ahart's dwarf rush	G2T1 S1	None None	Rare Plant Rank - 1B.2	100 180	13 S:5	0	4	0	0	0	1	4	1	5	0	0
Legenere limosa legenere	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley	85 95	83 S:3	1	1	1	0	0	0	1	2	3	0	0
Monardella venosa veiny monardella	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	100 100	4 S:1	0	0	0	0	1	0	1	0	0	1	0
Paronychia ahartii Ahart's paronychia	G3 S3	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	150 150	59 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Pseudobahia bahiifolia Hartweg's golden sunburst	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		27 S:1	0	0	0	0	1	0	1	0	0	0	1
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		143 S:1	0	0	0	0	0	1	1	0	1	0	0
Wolffia brasiliensis Brazilian watermeal	G5 S2	None None	Rare Plant Rank - 2B.3	350 350	6 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Honcut (3912135) OR Loma Rica (3912134) OR Oregon House (3912133) OR Yuba City (3912125) OR Browns Valley (3912124) OR Smartville (3912123) OR Olivehurst (3912115) OR Wheatland (3912114) OR Camp Far West (3912113))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Acipenser medirostris pop. 1 green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable IUCN_EN-Endangered	24 129	14 S:4	0	0	2	0	0	2	1	3	4	0	0
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	30 160	955 S:23	0	0	0	0	6	17	16	7	17	6	0
Ammodramus savannarum grasshopper sparrow	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	300 300	27 S:1	0	0	1	0	0	0	1	0	1	0	0
Asio otus long-eared owl	G5 S3?	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	480 480	56 S:1	1	0	0	0	0	0	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	150 150	2011 S:1	0	0	0	0	0	1	1	0	1	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	52 250	796 S:15	1	3	0	2	0	9	1	14	15	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	30 130	2548 S:33	1	1	0	0	0	31	2	31	33	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Circus hudsonius northern harrier	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	82 160	54 S:5	0	2	3	0	0	0	5	0	5	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive	50 50	165 S:2	0	0	0	0	0	2	2	0	2	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2T3 S3	Threatened None		35 132	271 S:17	0	5	0	0	1	11	15	2	16	0	1
Elanus leucurus white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	60 60	184 S:1	1	0	0	0	0	0	0	1	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	60 587	1404 S:10	1	3	1	0	0	5	5	5	10	0	0
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	47 824	523 S:3	0	0	0	0	0	3	1	2	3	0	0
Haliaeetus leucocephalus bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive	1,200 1,200	332 S:1	0	0	0	0	0	1	1	0	1	0	0
Icteria virens yellow-breasted chat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	361 361	101 S:1	0	1	0	0	0	0	0	1	1	0	0
Lasiurus blossevillii western red bat	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	580 580	128 S:1	0	1	0	0	0	0	0	1	1	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern	580 580	238 S:1	0	1	0	0	0	0	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Laterallus jamaicensis coturniculus California black rail	G3T1 S1	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_EN-Endangered NABCI_RWL-Red Watch List	110 925	303 S:66	1	0	1	0	0	64	27	39	66	0	0
Lepidurus packardi vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	52 120	329 S:17	0	4	4	2	0	7	4	13	17	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	47 165	508 S:28	4	3	5	0	0	16	15	13	28	0	0
Melospiza melodia pop. 1 song sparrow ("Modesto" population)	G5T3?Q S3?	None None	CDFW_SSC-Species of Special Concern	60 60	92 S:1	0	0	0	0	0	1	1	0	1	0	0
Myotis yumanensis Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern	580 580	265 S:1	0	1	0	0	0	0	0	1	1	0	0
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened		31 S:2	0	0	0	0	0	2	0	2	2	0	0
Oncorhynchus tshawytscha pop. 11 chinook salmon - Central Valley spring-run ESU	G5T2Q S2	Threatened Threatened	AFS_TH-Threatened	120 260	13 S:2	0	0	0	1	0	1	1	1	2	0	0
Rana boylii pop. 3 foothill yellow-legged frog - north Sierra DPS	G3T2 S2	None Threatened	BLM_S-Sensitive USFS_S-Sensitive	282 471	237 S:2	0	0	0	0	0	2	1	1	2	0	0
Riparia riparia bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	43 114	298 S:20	0	3	0	0	0	17	5	15	20	0	0
Setophaga petechia yellow warbler	G5 S3S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	340 340	78 S:1	0	1	0	0	0	0	1	0	1	0	0
Spea hammondii western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	112 112	1425 S:1	0	0	0	0	0	1	1	0	1	0	0
Thamnophis gigas giant gartersnake	G2 S2	Threatened Threatened	IUCN_VU-Vulnerable	120 120	373 S:1	0	1	0	0	0	0	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Vireo bellii pusillus	G5T2	Endangered	NABCI_YWL-Yellow Watch List	50	504	0	0	0	0	0	1	1	0	1	0	0
least Bell's vireo	S2	Endangered		50	S:1											

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: October 12, 2022
Project Code: 2022-0003990
Project Name: Yuba River North Training Wall Phase 2 Project

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

To Whom It May Concern:

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

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

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

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

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

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

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

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0003990
Project Name: Yuba River North Training Wall Phase 2 Project
Project Type: Levee / Dike - New Construction
Project Description: The project would include constructing a high ground tie-in embankment to extend the north end of the North Training Wall upstream and form a contiguous line of protection that reduces flood risk to the Hallwood community, the City of Marysville, and portions of Reclamation District 10. The proposed project also includes three ecological enhancement components: riparian/aquatic habitat creation, salmonid foraging enhancement, and fish passage enhancement.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.2079159,-121.46120800546541,14z

Counties: Yuba County, California

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

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

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

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

---

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

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

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

Critical habitats

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

IPaC User Contact Information

Agency: County of Yuba
Name: Anne King
Address: 2868 Prospect Park Drive, Suite 400
City: Rancho Cordova
State: CA
Zip: 95670
Email aking@geiconsultants.com
Phone: 6195172753