Proposed Mitigated Negative Declaration and Initial Study



Fall River Valley Community Services District Water System Improvements Project

Lead Agency:

FRV CSD
FALL RIVER VALLEY COMMUNITY SERVICES DISTRICT

Fall River Valley Community Services District
24850 3rd Street
Fall River Mills, CA 96028

Prepared by:

Catalyst
ENVIRONMENTAL SOLUTIONS

Catalyst Environmental Solutions
3179 Bechelli Ln. Suite 100
Redding, CA 96002

February 2026

PROPOSED MITIGATED NEGATIVE DECLARATION

LEAD AGENCY AND PROJECT PROPONENT:	Fall River Valley Community Services District
PROJECT NAME:	**Water System Improvements Project**
PROJECT SUMMARY:	The proposed project includes improvements to the Fall River Valley Community Services District's (FRVCSD) water system throughout the communities of Fall River Mills and McArthur, properties along State Route (SR) 299, and properties within the Sierra Center Subdivision and the Country Club Subdivision. Improvements include replacing approximately ~16,000 feet of water main, isolation valves, and fire hydrants in Fall River Mills; replacing ~492 water meters throughout the District's service area; and installing supervisory control and data acquisition (SCADA) system components throughout the District's water system. Improvements associated with the Fall River Mills Well No. 2 include rerouting the existing piping between the existing water storage tanks and the existing well. Improvements include replacing the existing Country Club Booster Pump Station, replacing the existing hydropneumatic tank with a smaller tank, installing an emergency back-up generator, and completing miscellaneous electrical improvements. An existing pressure reducing valve (PRV) on SR 299 northeast of Airport Way would be replaced with a supervisory valve inside of an existing vault. A new 250,000-gallon elevated water storage tank would be constructed in McArthur. The tank would be 44 feet in diameter at its widest section and 160 feet in height. A test well (McArthur Well No. 2) would be converted into a permanent well; the improvements include installing a new well building, pumps and motors, piping, and instrumentation and controls. *See Section 3.0, Project Description, in the IS/MND for more information.*
LOCATION:	The project is located throughout the unincorporated communities of Fall River Mills and McArthur in Shasta County. Refer to *Section 1.5 (Project Location) of the Initial Study.*

Findings / Determination

As documented in the Initial Study, project implementation could result in temporarily increased air emissions, possible disturbance of nesting birds (if present), possible impacts to wetlands and other waters of the U.S. and/or State, the introduction and spread of noxious weeds during construction, the inadvertent entrapment of wildlife, impacts to cultural resources and tribal cultural resources (if present), impacts to paleontological resources (if present), temporarily increased noise and vibration levels, and a possible permanent increase in noise levels in excess of Shasta County noise standards.

Design features incorporated into the project would avoid or reduce certain potential environmental impacts, as would compliance with existing regulations and permit conditions. Remaining impacts can be reduced to levels that are less than significant through implementation of the mitigation measures identified in Section 1.10 of the Initial Study. Because the FRVCSD will adopt mitigation measures as conditions of project approval and will be responsible for ensuring their implementation, it has been determined that the project will not have a significant adverse impact on the environment.

The final Mitigated Negative Declaration was adopted by the Board of Directors of the Fall River Valley Community Services District by Resolution _____ on _____.

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SECTION 1.0 INTRODUCTION

1.1 PROJECT SUMMARY

Project Title:	**Water System Improvements Project**
Lead Agency Name and Address:	**Fall River Valley Community Services District** 24850 3rd Street Fall River Mills, CA 96028
Contact Person and Phone Number:	**William Rodeski,** General Manager 530.336.5263 (Office) brodeski@frvcsd.org
Lead Agency's Environmental Consultant:	**Catalyst Environmental Solutions Corporation** 3179 Bechelli Lane, Suite 100 Redding, CA 96002

The proposed project includes improvements to the Fall River Valley Community Services District's (FRVCSD) water system. Improvements include replacing ~16,000 feet of water main, isolation valves, and fire hydrants in Fall River Mills; replacing ~492 water meters throughout the District's service area; and installing supervisory control and data acquisition (SCADA) system components throughout the District's water system.

Improvements to the Fall River Mills Well No. 2 would be completed, including rerouting the existing piping between the three existing water storage tanks and the existing well. Improvements at the existing Country Club Booster Pump Station site include abandoning the existing booster pump station facilities, including the hydropneumatic tank, and constructing a new booster pump station and appurtenant facilities. An existing pressure reducing valve (PRV) would be either modified or replaced with a supervisory valve within an existing underground vault adjacent to State Route 299, immediately east of the Fall River Mills Airport.

A new 250,000-gallon elevated water storage tank would be constructed in McArthur. A test well (to be referred to as McArthur Well No. 2) near the existing McArthur Well No. 1 would be converted to a permanent well. The improvements would include installing pumps, motors, piping, and instrumentation and controls, and constructing a new ~215 square-foot well building. Improvements would also include installation of a 35-gallon storage tank to be utilized as part of an emergency chlorination system.

For purposes of this Initial Study, "study area" and "project site" shall mean the project's footprint, and includes access roads, staging areas, and areas in which improvements would occur. Details about the proposed project are included in Section 3.0 (Project Description) of this Initial Study.

1.2 PURPOSE OF STUDY

The Fall River Valley Community Services District (FRVCSD), as Lead Agency, has prepared this Initial Study to provide the general public and interested public agencies with information about the potential environmental impacts of the proposed Water System Improvements Project (project). This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified in California Public Resources Code (PRC) §21000 et seq., and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3. Pursuant to these regulations, this Initial Study identifies potentially significant impacts and, where applicable, includes mitigation measures that would reduce all identified environmental impacts to less-than-significant levels. This Initial Study supports a Mitigated Negative Declaration (MND) pursuant to CEQA Guidelines §15070.

1.3 EVALUATION TERMINOLOGY

The environmental analysis in Section 4.0 is patterned after the Initial Study Checklist recommended in the State CEQA Guidelines. For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the proposed project. To each question, there are four possible responses:

- **No Impact.** The proposed project will not have any measurable environmental impact on the environment.
- **Less-Than-Significant Impact.** The proposed project has the potential to impact the environment; however, this impact will be below established thresholds of significance.
- **Potentially Significant Impact Unless Mitigation Incorporated.** The proposed project has the potential to generate impacts which may be considered a significant effect on the environment; however, mitigation measures or changes to the proposed project's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- **Potentially Significant Impact**. The proposed project will have significant impacts on the environment, and additional analysis is required to determine if it is feasible to adopt mitigation measures or project alternatives to reduce these impacts to less than significant levels.

1.4 ORGANIZATION OF THE INITIAL STUDY

This document is organized into the following sections:

Section 1.0: **Introduction:** Describes the purpose, contents, and organization of the document and provides a summary of the proposed project.

Section 2.0: **CEQA Determination:** Identifies the determination of whether impacts associated with development of the proposed project are significant, and what, if any, additional environmental documentation may be required.

Section 3.0: **Project Description:** Includes a detailed description of the proposed project.

Section 4.0: **Environmental Impact Analysis (Checklist):** Contains the Environmental Checklist from CEQA Guidelines Appendix G with a discussion of potential environmental effects associated with the proposed project. Mitigation measures, if necessary, are noted following each impact discussion.

Section 5.0: **List of Preparers**

Section 6.0: **Abbreviations and Acronyms**

Appendices: Contains information to supplement Section 4.0.

1.5 PROJECT LOCATION

As shown in **Figure 1**, Project Location and Vicinity Map, the proposed project is located in the unincorporated communities of Fall River Mills and McArthur in Section 36, Township 37 North, Range 4 East of the U.S. Geological Survey's (USGS) Fall River Mills and Hogback Ridge 7.5-minute quadrangles; and Sections 3, 9, 16, 17, 20, 29, 30, and 31, Township 37 North, Range 5 East of the USGS Fall River Mills 7.5-minute quadrangle. Latitude: 41˚ 01' 58.47" N; Longitude: 121˚ 24' 57.67" W (centroid).

Figure 2 shows the entire study area boundary including all project sites and water meter locations.

Water meter improvements would occur throughout the communities of Fall River Mills and McArthur and along and adjacent to the SR 299 corridor, including within the Sierra Center Subdivision and Country Club Subdivision. Water meters may be replaced on private property, both in paved/graveled driveways and in lawn areas. Replacement of existing water main isolation valves and fire hydrants would occur within the public road rights-of-way (ROWs) of Bridge Street, Burney Street, Cassel Fall River Road, Curve Street, Long Street, Main Street, Mechanic Street, Old Reynolds Road, Reynolds Road, Shasta Street, SR 299, Water Street, 2nd Street, 3rd Street, 4th Street, 5th Street, and 6th Street in the community of Fall River Mills. The majority of these improvements would occur in paved road ROWs, graveled road shoulders, and in existing graveled alleyways or otherwise previously disturbed areas.

Improvements to the existing Fall River Mills Well No. 2 and existing Country Club Booster Pump Station would be located on District-owned property (Shasta County Assessor's Parcel Number [APN] 023-390-006), generally southeast of the intersection of SR 299 and Country Club Drive.

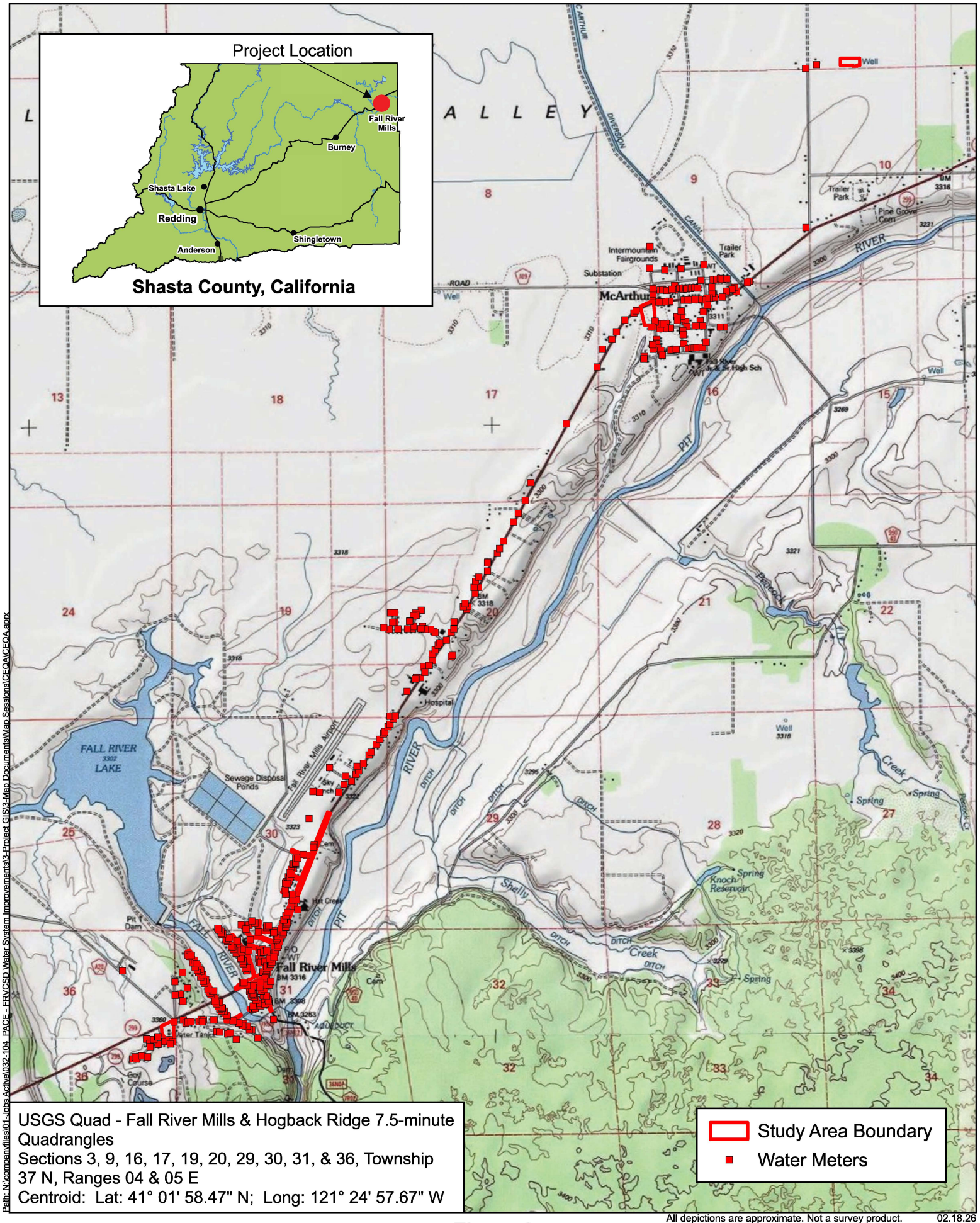
Improvements associated with the existing pressure-reducing valve station are located within the SR 299 ROW, generally northeast of Airport Way.

A new 250,000-gallon elevated water storage tank would be constructed on District-owned property (APN 032-050-006) in McArthur, generally southwest of the intersection of SR 299 and McArthur Road and northwest of the intersection of Cedar Street and Oak Street. A public utility easement located adjacent to the east side of the property may be used for temporary staging of construction materials and equipment.

An existing test well (to be referred to as McArthur Well No. 2) would be converted into a permanent well near the existing McArthur Well No. 1 on District-owned property and within utility easements on privately owned property (APN 018-450-020 and 018-450-019). The McArthur Well No. 2 site is located ~0.2 miles east of Lewis Road and ~0.5 miles north of Williams Road.

Supervisory control and data acquisition (SCADA) system components would be installed at the District's water tanks, wells, Country Club Booster Pump Station, and pressure-reducing valve (PRV) station.

Temporary staging of construction materials and equipment would occur on District-owned property, public utility easements, and within the affected road ROWs throughout the project area. No physical improvements are needed to establish the staging areas.



USGS Quad - Fall River Mills & Hogback Ridge 7.5-minute Quadrangles
Sections 3, 9, 16, 17, 19, 20, 29, 30, 31, & 36, Township 37 N, Ranges 04 & 05 E
Centroid: Lat: 41° 01' 58.47" N; Long: 121° 24' 57.67" W

All depictions are approximate. Not a survey product. 02.18.26

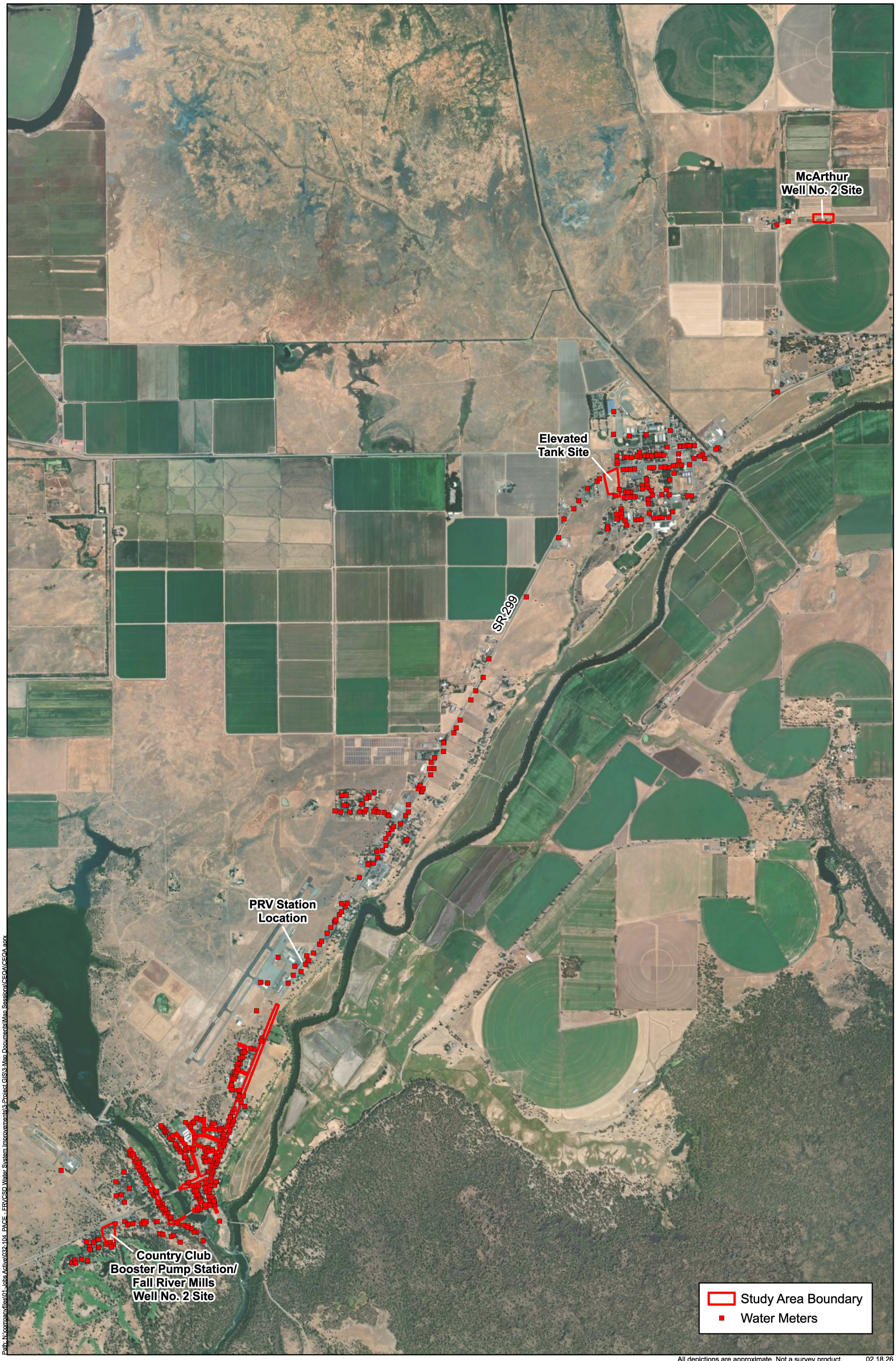
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Figure 1

Project Location and Vicinity

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All depictions are approximate. Not a survey product. 02.18.26

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Figure 2

Study Area Boundary

Catalyst ENVIRONMENTAL SOLUTIONS

1.6 ENVIRONMENTAL SETTING

General Plan Designations:	**McArthur Well No. 2 Site:** Agricultural Croplands (A-C) **Water Tank Site:** Suburban Residential (SR) **Fall River Mills Well No. 2 Site:** SR **Water Meters throughout McArthur, SR 299 Corridor, and Fall River Mills:** Various residential and non-residential designations.
Zoning:	**McArthur Well No. 2 Site:** Public Facilities (PF), Exclusive Agricultural – Agricultural Preserve (EA-AP) **Water Tank Site:** Interim Rural Residential (IR) **Fall River Mills Well No. 2 Site:** PF **Water Meters throughout McArthur, SR 299 Corridor, and Fall River Mills:** Various residential and non-residential designations.
Surrounding Land Uses:	The project transects portions of the communities of Fall River Mills and McArthur; land uses in these communities are primarily low- and medium-density residential, with commercial uses situated primarily adjacent to SR 299. The Fall River Mills Airport is located on the west side of SR 299 generally north of Reynolds Road and south of Sierra Center Drive. Properties surrounding the study area include farmland and open space.
Topography:	Elevations in the study area range between ~3,300 feet and ~3,400 feet above sea level. The study area consists of relatively flat terrain with the overall topographical gradient sloping south/southeast toward the Fall and Pit Rivers.
Plant Communities/Wildlife Habitats:	The study area is primarily within developed portions of Fall River Mills and McArthur. The urban habitat type consists primarily of horticultural shrubs and trees, including various pines, spruce, elms, cottonwood, and ornamental plum, with an understory of maintained lawns or unmaintained disturbed areas dominated by weedy species. The undeveloped portions of the study area consist primarily of annual grassland; streams and seasonal wetlands may occur within the annual grassland community. The annual grassland is represented by bulbous bluegrass, Mediterranean barley, goatgrass, toothed lotus, and blow-wives. The onsite seasonal wetlands are dominated by annual hairgrass and Mediterranean barley.
Climate:	The climate of the project vicinity is of the Mediterranean type, with cold, moist winters and warm, dry summers. The average annual rainfall is ~18.15 inches. Temperatures range between an average low of 20.7 degrees Fahrenheit (°F) in January and an average high of 87.6 °F in July.

1.7 TRIBAL CULTURAL RESOURCES CONSULTATION

Public Resources Code (PRC) §21084.2 (Assembly Bill [AB 52], 2014) establishes that *"a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."*

Pursuant to PRC §21080.3.1, in order to determine whether a project may have such an effect, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requested to be informed through formal notification of proposed projects in the geographical area; and the tribe responds, in writing, within 30 days of receipt of the formal notification and requests the consultation.

PRC §21080.3.1(b) requires that consultation commence prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. The consultation is considered complete

when the parties agree to mitigation measures to avoid significant effects on a tribal cultural resource; or a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

According to FRVCSD, the Pit River Tribe has requested formal notification of proposed projects in the geographical area. No other California Native American tribes have requested that the City provide formal notification of proposed projects in the geographical area.

On August 6, 2024, FRVCSD delivered formal notification initiating tribal cultural resources consultation in compliance with AB 52 to Virginia "Ginger" Amoroso, Cultural Representative for the Ajumawi Band of the Pit River Tribe. On August 8, 2024, Ms. Amoroso responded and requested that the Ajumawi Band accompany ENPLAN archaeologists during the cultural resources field survey.

Ms. Amoroso accompanied ENPLAN archaeologists during the field survey and stated that certain locations in the study area have a high potential to contain tribal cultural resources, and a Native American monitor should be present during initial earth-disturbing activities in these areas. As required by Mitigation Measure (MM) 4.5.2, the Pit River Tribe must be notified a minimum of two weeks prior to any ground disturbing activities to offer the Tribe the opportunity to monitor initial ground-disturbing activities. As required by MM 4.5.3, in the event that cultural resources or human remains of Native American descent are identified during earth disturbance, the Pit River Tribe shall be requested to provide a Native American monitor to observe subsequent earth-disturbing construction activities on potentially sensitive lands. With implementation of MM 4.5.2 and 4.5.3, the requirements of PRC §21080.3.1 have been satisfied.

In addition, as detailed in Section 4.5 (Cultural Resources), ENPLAN consulted with Native American tribes that were identified by the Native American Heritage Commission (NAHC). On July 1, 2024, comment solicitation letters were sent to the identified tribes. Follow-up e-mails were sent on August 6, 2024, to the individuals that were previously identified by the NAHC. On August 6, 2024, Natalie Forrest-Perez, Tribal Historic Preservation Officer (THPO) with the Pit River Tribe responded and stated that the tribe has an interest in the project and to please contact Ginger Amoroso with the Ajumawi Band of the Pit River Tribe.

1.8 PERMITS AND APPROVALS

Permits and approvals that may be necessary for construction and operation of the proposed project are identified below.

Fall River Community Services District:

- Adoption of a Mitigated Negative Declaration for the project pursuant to the California Environmental Quality Act (CEQA).
- Adoption of a Mitigation Monitoring and Reporting Program (MMRP) for the project that incorporates the mitigation measures identified in this Initial Study.

Shasta County:

- Approval of a well permit from the Shasta County Department of Environmental Health.
- Approval of an Encroachment Permit for work in the public road rights-of-way subject to Shasta County jurisdiction.
- Issuance of building permits for new structures.
- If the emergency standby generator at the Country Club Booster Pump Station is greater than 50 horsepower/37.3 kilowatts, a permit from the Shasta County Air Quality Management District is required.

California Department of Transportation:

- Approval of an encroachment permit for work in the State Route 299 road right-of-way.

U.S. Army Corps of Engineers:

- Section 404 permit if the project will impact wetlands or other waters of the U.S.

State Water Resources Control Board (SWRCB)/Central Valley Regional Water Quality Control Board (CVRWQCB):

- Section 401 Water Quality Certification and/or Report of Waste Discharge (or waiver) if the project will impact wetlands or waters of the U.S. and/or State (see discussion in Section 4.4).
- Coverage under the National Pollutant Discharge Elimination System (NPDES) permit for *Discharges of Storm Water Runoff Associated with Construction Activity* (currently Order No. 2022-0057-DWQ, adopted September 8, 2022). Permit coverage may be obtained by submitting a Notice of Intent (NOI) to the SWRCB. The permitting process requires the development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) to reduce pollutants and any additional controls necessary to meet water quality standards.
- If construction or groundwater dewatering activities result in the discharge to land of waste with a low threat to water quality (e.g., small/temporary dewatering projects) that could affect the quality of the waters of the State, coverage under SWRCB Statewide General Order 2003-003-DWQ, *Statewide General Waste Discharge Requirements (DWRs) for Discharges to Land with a Low Threat to Water Quality*. Note: The CVRWQCB may determine that construction dewatering discharges be regulated under other WDRs or a conditional waiver, such as Resolution R5-2018-085, *Waiver of Reports of Waste Discharge and WDRs for Specific Types of Discharge within the Central Valley Region*.

State Water Resources Control Board, Division of Drinking Water:

- Approval of a Domestic Water Supply Permit amendment pursuant to the California Safe Drinking Water Act, Article 7, Section 116550, for modifications/additions to the water system.

California Department Fish and Wildlife:

- Issuance of a Section 1600 Lake or Streambed Alteration Agreement if the project will obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; and/or deposit or dispose of material into any river, stream, or lake.

1.9 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the proposed project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Impacts to these resources are evaluated using the checklist included in Section 4.0. The proposed project was determined to have a less-than-significant impact or no impact without mitigation on unchecked resource areas.

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

1.10 PROPOSED MITIGATION MEASURES

The following mitigation measures are proposed to reduce impacts of the proposed project to less than significant levels.

AIR QUALITY

MM 4.3.1 The following measures shall be implemented throughout construction:

a. All material excavated, stockpiled, or graded shall be covered or sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of ambient air quality standards. Watering shall occur at least twice daily, preferably in the mid-morning and after work is completed each day, with care given to work sites with bare soil.

b. All material transported offsite shall be either sufficiently watered or securely covered to prevent a public nuisance.

c. All areas (other than paved roads) with vehicle traffic shall be watered periodically or have dust palliatives applied for stabilization of dust emissions.

d. All on-site vehicles shall be limited to a speed of 15 miles per hour on unpaved surfaces.

e. All land clearing, grading, earth moving, and excavation activities on the project site shall be suspended when winds are causing excessive dust generation.

f. All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least two feet of free board in accordance with the requirements of Section 23114 of the California Vehicle Code.

g. Paved streets in and adjacent to active construction sites shall be swept or washed at the end of the day (or more frequently if needed) to remove excessive accumulations of silt and/or mud resulting from activities on the development site.

h. When not in use, motorized construction equipment shall not be left idling for more than five minutes.

BIOLOGICAL

MM 4.4.1 In order to avoid impacts to nesting migratory birds and/or raptors protected under the federal Migratory Bird Treaty Act and California Fish and Game Code §3503 and §3503.5, including their nests and eggs, one of the following shall be implemented:

a. Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31 when birds are not nesting; or

b. If vegetation removal or ground disturbance activities commence during the nesting season, a pre-construction nesting survey shall be conducted by a qualified biologist to identify active nests in and adjacent to the work area.

Surveys shall begin prior to sunrise and continue until vegetation and nests have been sufficiently observed. The survey shall take into account acoustic impacts and line-of-sight disturbances occurring as a result of the project in order to determine a sufficient survey radius to avoid nesting birds. At a minimum, the survey report shall include a description of the area surveyed, date and time of the survey, ambient conditions, bird species observed in the area, a description of any active nests observed, any evidence of breeding behaviors (e.g., courtship, carrying nest materials or food, etc.), and a description of any outstanding conditions that may have impacted the survey results (e.g., weather conditions, excess noise, the presence of predators, etc.).

The results of the survey shall be submitted electronically to the California Department of Fish and Wildlife at **R1CEQARedding@wildlife.ca.gov** upon completion. The survey shall be conducted no more than one week prior to the initiation of construction. If construction activities are delayed or suspended for more than one week after the pre-construction survey, the site shall be resurveyed.

If active nests are found, the applicant shall consult with CDFW and the USFWS regarding appropriate action to comply with the Migratory Bird Treaty Act and California Fish and Game Code §3503. Compliance measures may include, but are not limited to, exclusion buffers, sound-attenuation measures, seasonal work closures based on the known biology and life history of the species identified in the survey, as well as ongoing monitoring by biologists.

MM 4.4.2 The potential for introduction and spread of noxious weeds shall be avoided/minimized by:

a. Using only certified weed-free erosion control materials, mulch, and seed.

b. Limiting any import or export of fill material to material that is known to be weed free.

c. Requiring the construction contractor to thoroughly inspect and clean construction equipment prior to entering and upon leaving the job site. All equipment and vehicles shall be washed off-site at a commercial facility when possible. If off-site washing is infeasible, an on-site cleaning station shall be set up at a specified location. Either high-pressure water or air shall be used to clean equipment. The cleaning station shall be located away from sensitive biological resources, and wastewater from the cleaning station shall not be allowed to run off the cleaning station site.

Construction equipment shall be cleaned of dirt and mud that could contain invasive plants, roots, or seeds; tracks, outriggers, tires, and undercarriages shall be carefully washed, with special attention being paid to axles, frames, cross members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies. Other construction vehicles (e.g. pick-up trucks) that will be frequently entering and exiting the site shall be inspected and washed on an as-needed basis.

MM 4.4.3 Prior to the commencement of construction activities, high-visibility indicators such as marking whiskers, pin flags, stakes with flagging tape, or other markers shall be installed along the outer edges of the construction zone adjacent to wetlands and other waters designated for avoidance. The marker/flag locations shall be determined by a qualified biologist in consultation with the project engineer and the Fall River Valley Community Services District. No construction activities (e.g., clearing, grading, trenching, etc.), including vehicle parking and materials stockpiling, shall occur within the marked/flagged area. The exclusionary markers/flags shall be periodically inspected during construction activities to ensure the markers/flags are properly maintained. The markers/flags shall be removed upon completion of work.

MM 4.4.4 To prevent the inadvertent entrapment of wildlife, the construction contractor shall ensure that at the end of each workday trenches and other excavations that are over one foot deep have been backfilled or covered with plywood or other hard material. If backfilling or covering is not feasible, one or more wildlife escape ramps constructed of earth fill or wooden planks shall be installed in the open trench. Pipes shall be inspected for wildlife prior to capping, moving, or placing backfill over the pipes to ensure that animals have not been trapped. If animals have been trapped, they shall be allowed to leave the area unharmed.

CULTURAL

MM 4.5.1 In the event of any inadvertent discovery of cultural resources (i.e., burnt animal bone, midden soils, projectile points or other humanly modified lithics, historic artifacts, etc.), all work within 50 feet of the find shall be halted until a professional archaeologist can evaluate the significance of the find in accordance with PRC §21083.2(g) and §21084.1, and CEQA Guidelines §15064.5(a). If any find is determined to be significant by the archaeologist, the Fall River Valley Community Services District (FRVCSD) shall meet with the archaeologist to determine the appropriate course of action. If necessary, a Treatment Plan prepared by an archeologist outlining recovery of the resource, analysis, and reporting of the find shall be prepared. The Treatment Plan shall be reviewed and approved by the FRVCSD prior to resuming construction.

MM 4.5.2 A minimum of two weeks in advance of any ground-disturbing activities (e.g., clearing, grading, trenching, etc.), the Tribal Historic Preservation Officer of the Pit River Tribe shall be notified and offered the opportunity for a Native American representative to monitor ground-disturbing activities.

MM 4.5.3 In the event that cultural resources or human remains of Native American descent are identified during earth disturbance, the Pit River Tribe shall be requested to provide a Native American monitor to observe subsequent earth-disturbing construction activities on potentially sensitive lands.

MM 4.5.4 In the event that human remains are encountered during construction activities, the FRVCSD shall comply with §15064.5 (e) (1) of the CEQA Guidelines and PRC §7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the County coroner has been notified. If the coroner determines that the remains are Native American, the coroner will notify the NAHC to identify the most likely descendants of the deceased Native Americans. Project-related ground disturbance in the vicinity of the find shall not resume until the process detailed in §15064.5 (e) has been completed.

GEOLOGY AND SOILS

MM 4.7.1 Prior to approval of the final improvement plans for the water tank site, a geotechnical exploration report shall be prepared by a geotechnical engineer or other qualified professional to evaluate the surface and subsurface soil conditions at the water tanks site and identify geotechnical criteria for site excavations, design of foundations, installation of drainage facilities, and other related improvements.

All grading plans and foundation plans for the water tank shall be reviewed by a qualified professional to ensure that all recommendations included in the geotechnical report are implemented. Applicable notes shall be placed on the attachment sheet to the improvements plans and in applicable project plans and specifications.

If significant engineering design changes occur during construction, the Fall River Valley Community Services District shall consult with a qualified geotechnical engineer to identify any geotechnical constraints related to the design changes. Recommendations of the geotechnical engineer shall be implemented as warranted.

MM 4.7.2 The Fall River Valley Community Services District shall ensure through contractual obligations that earthwork activities are monitored by a qualified professional to ensure that recommendations included in the geotechnical report are implemented.

MM 4.7.3 If paleontological resources (fossils) are discovered during construction, all work within a 50-foot radius of the find shall be halted until a professional paleontologist can evaluate the significance of the find. If any find is determined to be significant by the paleontologist, Fall River Valley Community Services District (District) representatives shall meet with the paleontologist to determine the appropriate course of action. If necessary, a Treatment Plan prepared by a paleontologist outlining recovery of the resource, analysis, and reporting of the find, shall be prepared. The Treatment Plan shall be reviewed and approved by the District prior to resuming construction.

NOISE

MM 4.13.1 Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday. Construction activities shall be prohibited on Sundays and federal/State recognized holidays. Exceptions to these limitations may be approved by the Fall River Valley CSD General Manager or his/her designee for activities that require interruption of utility services to allow work during low demand periods, or to alleviate traffic congestion and safety hazards.

MM 4.13.2 Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.

MM 4.13.3 Stationary construction equipment (generators, compressors, etc.) shall be located at the furthest practical distance from nearby noise-sensitive land uses.

MM 4.13.4 Building mechanical equipment and other noise-generating stationary sources shall be designed to ensure that operational noise levels at nearby sensitive receptors do not exceed applicable Shasta County noise standards.

Noise attenuation shall be implemented if determined necessary by the project engineer. Noise attenuation may include, but not be limited to, installing equipment in an enclosure that provides adequate noise attenuation, installing an adequate barrier between the noise source and sensitive receptor, and selecting low noise-generating equipment.

TRIBAL CULTURAL RESOURCES

Implementation of MM 4.5.2 and MM 4.5.3.

SECTION 2.0 CEQA 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 has been prepared.**

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

☐ I find that the proposed project MAY have a significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT (EIR) 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.



William Rodeski, General Manager
Fall River Valley Community Services District

2·19·26
Date

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROJECT BACKGROUND, NEED, AND OBJECTIVES

Background

The Fall River Valley Community Services District (FRVCSD or District) was formed in 1962 to provide potable water to the communities of Fall River Mills and McArthur. FRVCSD also provides wastewater collection and treatment and parks/recreational services within its service area boundary, which encompasses ~1,350 acres (~2 square miles).

The District's current service area boundary includes the communities of Fall River Mills and McArthur and areas along SR 299 between the two communities. These communities are surrounded by mountainous, forested landscapes and are home to a large agricultural industry, which includes beef ranches, wild rice, hay, and strawberry plants. Due to a complex history of private and public ownership and an associated variety of historic system purposes, the FRVCSD water system is quite complex in terms of infrastructure and operations. The system includes waterlines of variable sizes and materials built out over time to serve the growing communities. Fall River Mills and McArthur are connected via 8-inch and 10-inch diameter waterlines that span over five miles between the two communities.

Current Water System

According to the Shasta Local Agency Formation Commission (LAFCO) Municipal Service Review and Sphere of Influence (MSR/SOI) Update for the FRVCSD approved in 2021, the District's water system provides drinking water to ~465 connections serving a population of ~1,875. The District has pre-1914 water rights to divert and use surface water from the Fall River with a maximum direct diversion of 0.5 cubic feet per second, or 225 gallons per minute (GPM), for domestic uses. However, surface water is no longer used for drinking water purposes and is only used for irrigation of the Fall River Mills Golf Course. Therefore, the District relies solely on groundwater for drinking water supply.

The existing water system consists of two wells, McArthur Well No. 1 and Fall River Mills Well No. 2, three above-ground storage tanks, two smaller hydropneumatic tanks, and ~15 miles of waterlines. McArthur Well No. 1 does not require additional treatment to meet drinking water standards and is the primary source of water production for the District. It consistently produces 400 GPM which provides 576,000 gallons per day (GPD), and has a potential yield of over 1,000 GPM, which could potentially provide up to 1,440,000 GPD when the backup mechanical drive is utilized. Fall River Mills Well No. 2 contains elevated iron and manganese levels and is used only as a standby emergency well. It has a 120 GPM capacity pump and can produce 172,800 GPD.

The three above-ground storage tanks have a total capacity of 593,600 gallons, and the ~15 miles of waterlines consist of variable diameters and materials. The distribution system was designed to operate three pressure zones consisting of the Fall River Mills, Country Club, and McArthur areas. Due to the inability to meet updated drinking water standards, the McArthur and Fall River Mills areas are presently operating as one zone, which results in variable and often low pressures. The waterlines in the Fall River Mills area are older and primarily made of steel. The District's water meter data has shown that approximately 22 percent of total annual production is unaccounted water which represents a loss of approximately 20 million gallons (MG). This high level of loss is most likely attributed to the steel waterlines reaching the end of their useful service lives. In May of 2021, a limited piping leak survey was completed to assist in assessing the present water loss issue. As a result of this survey, identifiable leaks were located and corrective actions taken, which has reduced water loss.

Addressing probable leakage from the old steel lines, increasing existing well production, developing a second high quality well source, and increasing storage capacity are major concerns for the District.

Current and Projected Water Demands

In 2014, Forsgren Associates prepared a Water System Master Plan (WMP) that identified existing deficiencies in the water distribution system, future water demands, and recommendations for near-term and long-term improvements. According to the WMP, there were a total of 488 connections in the FRVCSD service area in 2014, and over 60 percent of the service demand was located in the Fall River Mills side of the system. This included 403 residential customers and 85 commercial customers.

As detailed in the WMP, current water demands were estimated based on water production records from the recent years (2010-2013) and future water demands were estimated based on assumed build-out conditions. **Table 3.1-1** identifies conservative estimates of current demand as of 2014, and conservative estimates of build-out demands which include additional connections based on estimated future growth.

Table 3.1-1
FRVCSD's Current and Projected Build-Out Water System Demands

Demand Scenario	Peaking Factor	Current Demands (as of 2014)		Build-out Demands	
		Flows (GPM)	Flow (GPD)	Flows (GPM)	Flow (GPD)
Average Day	1.0	156	0.225	228	0.329
Summer Day	2.0	312	0.449	456	0.656
Maximum Day	2.5	390	0.561	569	0.819
Peak Hour	3.5	546	0.787	797	1.148

Need and Objectives

Regulatory requirements are generally defined by Title 22 California Code of Regulations related to drinking water, which requires the following:

- At all times, a public water system's water source(s) shall have the capacity to meet the system's maximum day demand (MDD).
- For systems with less than 1,000 service connections, the system shall have storage capacity equal to or greater than MDD, unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement.
- Both MDD and peak hour demand (PHD) requirements shall be met in the system as a whole and in each individual pressure zone.
- Community water systems using only groundwater shall have a minimum of two approved sources before being granted an initial permit. The system shall be capable of meeting MDD with the highest-capacity source off line.

As shown above in **Table 3.1-1**, the current MDD (as of 2014) is 390 GPM and the build-out MDD is 569 GPM. McArthur Well No. 1 is the primary source of water production for the District and it consistently produces 400 GPM which is greater than the 2014 MDD. When utilizing the backup mechanical drive, the well has a potential yield of over 1,000 GPM, which exceeds the build-out MDD. Therefore, the existing water system has the capacity to meet the system's MDD.

As of 2014, Fall River Mills Well No. 2 has a 120 GPM capacity does not have sufficient capacity to fully meet the current or build-out MDD. Water production from the well must be supplemented by storage capacity available in the Fall River Mills storage tanks in the event that the McArthur Well No. 1 is taken off line. Therefore, the system is not capable of meeting the current or build-out MDD with the highest-capacity source off line.

According to the WMP, the Mayers Memorial Hospital located in Fall River Mills has the highest fire flow requirement of all system connections (1,500 GPM). Therefore, the District requires a minimum fire flow of 1,500 GPM. Because the District primarily relies on groundwater for water supply, the WMP considers fire flow storage based on fire duration of two hours. According to the WMP, the existing system requires 742,000 gallons of water storage for fire flow, peak equalization, and emergency flows based on the 2014 demands. However, the total existing water storage is only 611,500 gallons. Therefore, additional storage of at least 130,500 gallons is needed to meet the requirements.

As noted above, the 2021 MSR/SOI Update reported that approximately 22 percent of the District's total annual production is unaccounted water, most likely due to the steel waterlines reaching the end of their useful service lives. In May of 2021, a limited piping leak survey was completed to assist in assessing the present water loss issue. Although corrective actions were taken to address the identified leaks, additional improvements are required to further reduce water loss and maintenance costs from the older steel waterlines.

The purpose of the project is to increase District-wide storage, improve fire flows, replace aging infrastructure, and provide water supply reliability and resilience. A detailed description of the improvements is provided in Section 3.2 (Project Components/Physical Improvements).

3.2 PROJECT COMPONENTS / PHYSICAL IMPROVEMENTS

This section describes the proposed improvements that are the subject of this Initial Study. As shown in **Figure 2**, improvements would occur in several locations within the FRVCSD water service area, including the Fall River Mills Well No. 2/Country Club Booster Pump Station Site, McArthur Well No. 2 Site, McArthur Elevated Tank Site, and various locations throughout the water distribution system. The project includes the following components:

FRVCSD Water Distribution System (Figures 2 and 3)

- Replacing ~16,000 feet of old steel waterlines with new 8-inch and 10-inch PVC or ductile iron waterlines, and replacing isolation valves and fire hydrants. Existing water services would be reconnected to the new waterlines. The existing waterlines would be abandoned in place.
- Replacing ~492 water meters with Advanced Metering Infrastructure (AMI) or Automatic Meter Read (AMR) water meters and corresponding meter boxes throughout the District's service area.
- Replacing/installing supervisory control and data acquisition (SCADA) system components throughout the District's water system to allow staff to monitor and control water system components from the Computer Control Station at the District Office and from remote devices. Improvements include installing new radio telemetry units at the District's water tanks and wells, the Country Club Booster Pump Station, and the proposed Supervisory Valve.

Fall River Mills Well No. 2 (Figure 4)

Completing improvements to the existing Fall River Mills Well No. 2, including rerouting the existing piping so that water from the well is conveyed into the existing storage tanks rather than directly into the distribution system. This could allow the well to utilize mixing in the storage tanks to dilute existing manganese concentrations to acceptable levels and possibly render the well more useful as a back-up water supply. The piping modifications could also provide an access point for chlorine or other disinfectants. Improvements would include installing a new 4-inch water main from the existing well discharge pipe to the existing 8-inch water main that connects to the existing water storage tank. The removal of one tree would be required to accommodate the new waterline.

SR 299
Old Reynolds Rd
8th St
Reynolds Rd
6th St
5th St
4th St
3rd St
2nd St
Curve St
Burney St
Windchime Dr
6th St
3rd St
Fall River
Curve St
Long St
SR 299
Mechanic St
Bridge St
Cassel Fall River Rd
Pit River
Study Area Boundary
Water Meters

Path: N:\company\files\01-Jobs Active\032-104_PACE - FRVCSD Water System Improvements\3-Project GIS\3-Map Documents\Map Sessions\CEQA\CEQA.aprx

All depictions are approximate. Not a survey product. 02.18.26

0 400 Feet

Figure 3

Waterline Improvements

Catalyst ENVIRONMENTAL SOLUTIONS

PROPERTY LINE, TYP

ER, TYP

TOE OF SLOPE, TYP

(E) 8" AC OR DI W

(E) 10" GV

(E) 6" GV

(E) 10" PCV W

(E) 6" PVC TRANSITIONS TO 4" PVC

DECOMMISSIONED SURFACE WATER TREATMENT PLANT

TREE TBR

(E) 6" W INLET

(E) 8" W INLET

(E) TANK NO. 3

(E) TANK NO. 2

(E) TANK NO. 1

(E) 12" CI W

(E) 6" DRAIN

(E) 6" CI DRAIN

(E) RTU & BATTERY BACKUP ROOM

(E) FALL RIVER BOOSTER STATION, TO BE RECLAIMED BY OWNER

8" AC PIPING

TOP OF SLOPE, TYP

(N) 4" WELL CONNECTION TO DISTRIBUTION

(E) ABOVE GROUND BACKFLOW PREVENTION DEVICE

(E) FALL RIVER WELL NO. 2

3380.00

(N) 70kW GENERATOR

FALL RIVER BOOSTER STATION W/ OUTDOOR PUMP, ENGINE, AND MOTOR, SEE SHT M4.0

3378.00

(E) 4" PVC APPROX LOCATION

(E) 1" GALVANIZED ASSUMED LOCATION

WATER METER

3375.99

3374.01

(E) TREATMENT PLANT SUPPLY

8870.00

8880.00

8890.00

8900.00

0 20 40

1 IN = 20 FT

60%

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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FIGURE 4

FALL RIVER MILLS WELL NO. 2 AND COUNTRY CLUB BOOSTER PUMP STATION - SITE PLAN

SHEET

C5.0

PG 13 OF 103

Plot Date: January 07, 2026 - 8:57 am Login Name: pdebert
File Name: M:\Land Projects\2268.06 FRVCSD Water System Improvements\01 CAD\05 CD\CIVIL - FALL RIVER TANKS SITE PLAN.dwg Layout: FALL RIVER STORAGE TANKS - SITE PLAN

Country Club Booster Pump Station (Figure 4)

Improvements include abandoning the existing booster pump station facilities, including the hydropneumatic tank, and constructing a new booster pump facility immediately southeast of the existing building. The new facility would include a new concrete masonry unit (CMU) building with wood-trussed roof structuring and a metal roof. The building would be ~11.5 feet in height at the pitch of the roof. Two small booster pumps, a small hydropneumatic tank, electrical panels, variable frequency drives (VFDs), and control panels would be installed inside of the building. A covered enclosure, attached to the building, would house a diesel or natural gas-powered fire pump. The enclosure would consist of two open sides with chain-link fencing and privacy slats. A new 70-kilowatt (kW) diesel or natural gas-powered emergency standby generator would be installed outside of the building within a weather-proof, sound attenuated enclosure.

Pressure-Reducing Valve Station

Replacement of an existing pressure reducing valve (PRV) with an intertie supervisory valve adjacent to State Route (SR) 299 immediately east of the Fall River Mills Airport (see **Figure 2**). Improvements to the valve would be within the existing underground vault. New electrical infrastructure is not anticipated for these improvements. A pole-mounted antenna may also be installed adjacent to an existing aboveground metal enclosure that houses the electrical and control panels; the pole would be 20 to 30 feet in height.

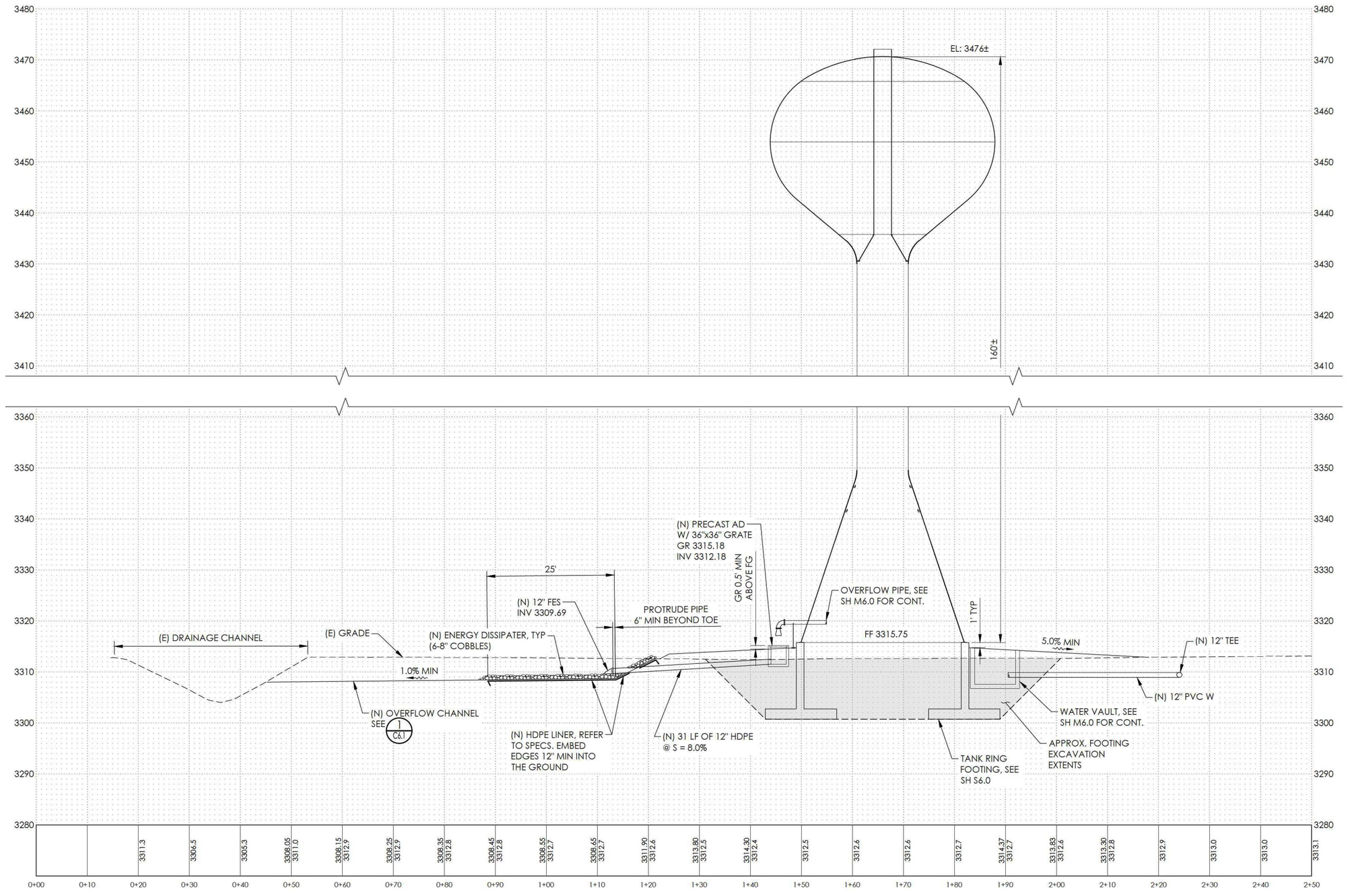
New McArthur Elevated Water Storage Tank (Figures 5 and 6)

Construction of a new 250,000-gallon elevated water storage tank. The outer diameter of the tank would be 44 feet at its widest section, and the tank would be ~160 feet in height. Additional improvements include installation of associated electrical control equipment, a concrete vault, piping, security fencing and access gates around the site, and construction of a 5-foot-wide overflow channel from the new tank to the existing drainage channel west of the tank. Electrical power would be provided to the new elevated tank via a proposed future lift station associated with an ongoing sewer project, which will be constructed prior to development of the elevated water tank. An 8-foot-high three-sided shade structure would be installed to house electrical panels northwest of the tank within the fenced area.

Access to the tank site would be via a new driveway off of SR 299, which would be constructed in conjunction with the future sewer lift station. A 15-foot-wide access road would be installed along the eastern property line between SR 299 and an existing driveway near the intersection of Oak Street and Cedar Street. The access road would be surfaced with aggregate base. Aggregate base would also be installed around the tank within the fenced area to provide parking for maintenance vehicles.

New McArthur Well No. 2 (Figure 7)

Establishing a new water supply well near the existing McArthur Well No. 1 by converting a test well (to be referred to as McArthur Well No. 2) into a permanent well. Improvements include installing pumps, motors, piping, and instrumentation and controls, and constructing a new ~215 square-foot well building. The building would include CMU block walls and a metal roof and would be ~11.5 feet in height at the pitch of the roof. The new well facility would utilize the existing emergency standby generator; therefore, no new generator would be needed at this site. Security fencing with access gates would be installed around the facility. Improvements would also include installation of a 35-gallon storage tank to be utilized as part of an emergency chlorination system. Access to the site would be extended from the existing dirt access road for McArthur Well No. 1. Two trees would need to be removed to accommodate the improvements.



60%

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PRELIMINARY NOT FOR CONSTRUCTION

FIGURE 5

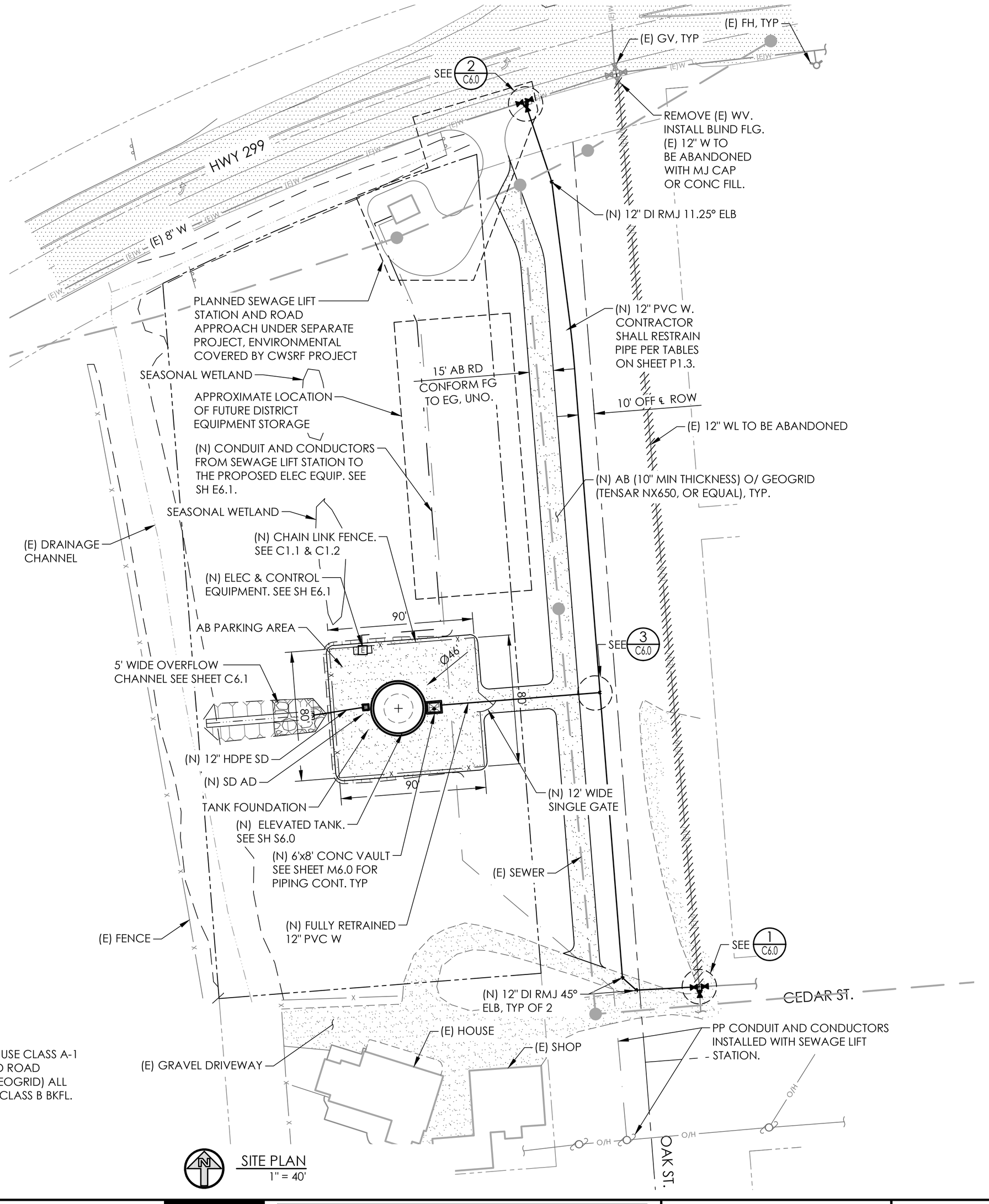
McARTHUR ELEVATED TANK - GRADING SECTIONS

SHEET

C6.2

PG 16 OF 103

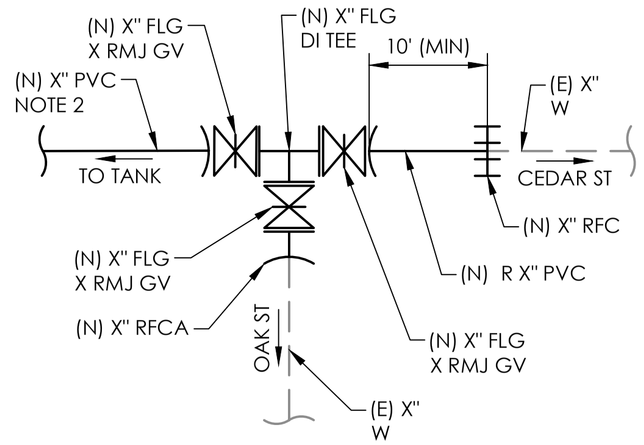
Plot Date: July 23, 2025 - 9:07 am Login Name: rtumer
File Name: M:\Land Projects\2268.06 FRVCSD Water System Improvements\01 CAD\05 CD\CIVIL - TANK GRADING PLAN.dwg Layout: McARTHUR ELEVATED TANK - GRADING SECTIONS



SITE PLAN
1" = 40'

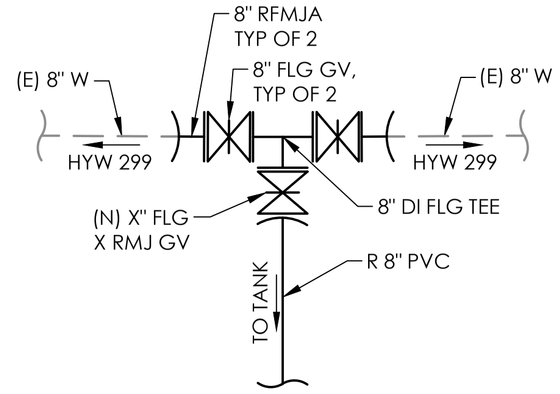
NOTES:
1. ALL PIPING WITHIN (N) & (E) ROADS SHALL USE CLASS A-1 BKFL AND BE INSTALLED WITH THE SPECIFIED ROAD SECTION DENOTED HEREON. (10" AB O/ GEOGRID) ALL PIPING IN UNIMPROVED AREAS SHALL USE CLASS B BKFL. REFER TO SH P1.1 FOR TYPICAL DETAILS.

0 40 80
1 IN = 40 FT



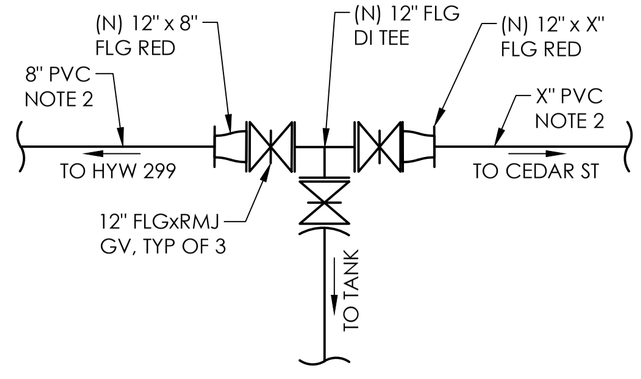
NOTE:
1. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION SIZE AND DEPTH OF (E) WATER LINE PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES ON SHEET P1.3.

CONNECTION DETAIL 1 C6.0
NTS



NOTE:
1. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION SIZE AND DEPTH OF (E) WATER LINE PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES ON SHEET P1.3.

CONNECTION DETAIL 2 C6.0
NTS



NOTE:
1. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION SIZE AND DEPTH OF (E) X" WATER LINE PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL RESTRAIN PIPE PER TABLES ON SHEET P1.3.

CONNECTION DETAIL 3 C6.0
NTS

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FIGURE 6
McARTHUR ELEVATED WATER STORAGE TANK - SITE PLAN

SHEET
C6.0
PG 14 OF 103

Plot Date: January 07, 2026 - 9:04 am Login Name: jackart
File Name: M:\Land Projects\2268.06 FRVCSD Water System Improvements\01 CAD\05 CD\CIVIL - TANK SITE PLAN.dwg Layout: McARTHUR ELEVATED TANK - SITE PLAN

SEE 1 C3.1

TREE TBR, TYP

4" DISCHARGE TO WASTE

52'

4' PEDESTRIAN ACCESS GATE, TYP OF 2, SEE 2 C1.1

McARTHUR WELL NO.2, SEE SHT M3.0

(E) TREE, TYP

16' VEHICLE ACCESS GATE, SEE 1 C1.1

SEE SHT C3.2 FOR GRADING PLAN

(E) DISCHARGE BASIN OVERFLOW

CP#1

(E) GENERATOR

FALL RIVER MILLS, CSD
APN 018-450-020 (0.25 ACRES±)

5'

34.33'

42.67'

3'

20'

20' LEACH DRAIN, SEE 2 C3.1

EDGE OF (N) ACCESS ROAD

8'X25' OPEN SPACE FOR DROP PIPE PLACEMENT

CP#2

(E) PRESSURE RELIEF VALVE DISCHARGE BASIN

APPROX LIMITS OF AGGR BASE

(E) SOLAR PANELS

3' TYP

(E) McARTHUR WELL NO.1 PROPERTY LINE

(E) McARTHUR WELL NO. 1 BLDG

(E) AUTOMATIC TRANSFER SWITCH (ATS)

(E) UTILITY DISCONNECT

(E) UTILITY METER

(E) McARTHUR WELL NO. 1 HEAD

(E) 4" Ø DRAIN LINE

(N) 6" WATER MAIN

(E) GAS LINE

(E) PROPANE TANK

(E) PRESSURE RELIEF VALVE

(E) 25' PERCOLATION TRENCH

(E) USA WATER LINE

EXTENT OF ADDITIONAL GRADING

(N) McARTHUR WELLS PROPERTY LINE

CUT IN 2-(N) 8" GV W/ 8" TEE & RFCA'S

(N) BOUNDARY OF DISTRICT ACCESS EASEMENT

(E) VERTICAL PVC PIPE

60%

FALL RIVER VALLEY CSD
WATER SYSTEM IMPROVEMENTS

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

REVISIONS

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PACE ENGINEERING

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DRN PCi	DATE 7/31/2025	2268.06

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PRELIMINARY NOT FOR CONSTRUCTION

FIGURE 7

McARTHUR WELL NO. 2 - SITE PLAN

SHEET

C3.0

PG 10 OF 103

Plot Date: July 31, 2025 - 11:59 am Login Name: pdart
File Name: M:\Land Projects\2268.06 FRVCSD Water System Improvements\01 CAD\05 CD\CIVIL-WELL SITE PLAN.dwg Layout: McARTHUR WELS - SITE PLAN

Construction Methods and Considerations

The majority of the improvements would occur in paved road ROWs, graveled road shoulders, and in existing graveled alleyways in previously disturbed areas. Water meters may be replaced on private property, both in paved/graveled driveways, and in lawn areas. Replacement of existing water main isolation valves and fire hydrants would occur in public road ROWs. Pipeline improvements would be installed using open-cut trenching. At culvert crossings, the pipe would be installed in the fill overlying the culvert, where possible. In some cases, it will be necessary to install the pipe below the culvert due to inadequate cover over the existing culvert. In paved areas, the existing pavement would be saw-cut and removed. Following installation of the pipe, the trench would be backfilled, and the pavement would be replaced. In unpaved areas, the excavation would be backfilled with select native soils; aggregate base would be replaced or the surface would be revegetated as necessary.

Access to work areas would be from paved public roads and private driveways. Temporary staging of construction materials and equipment would occur on the proposed and existing tank and well sites and in the affected road ROW and on District-owned property throughout the project area. No physical improvements are needed to establish the staging areas.

SECTION 4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Except as provided in Public Resources Code §21099 (Transit-Oriented Infill Projects), would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing 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 that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

REGULATORY CONTEXT

There are no federal or local regulations pertaining to aesthetics that apply to the proposed project.

STATE

California Building Standards Code

The California Building Standards Code (CBSC) (CCR Title 24) is based on the International Building Code used widely throughout the country. Part 11 of the CBSC is the Green Building Code (CALGreen). CALGreen §5.106.8 includes mandatory light pollution reduction measures for non-residential uses. The intent of the measures is to maintain dark skies and to ensure that newly constructed projects reduce the amount of backlight, uplight, and glare (BUG). In addition, §130.2(c) of the California Energy Code (CEC) (CBSC Part 6) requires that all outdoor lighting for new non-residential uses must be controlled with a photocontrol, astronomical time-switch control, or other control capable of automatically shutting off the outdoor lighting when daylight is available, thereby minimizing the potential for glare during the daytime.

In addition, automatic scheduling controls must be installed for all outdoor lighting and must be capable of reducing lighting power by at least 50 percent and no more than 90 percent, and must be separately capable of turning the lighting off during scheduled unoccupied periods.

California Scenic Highway Program

The California Scenic Highway Program, administered by the California Department of Transportation (Caltrans), was established in 1963 to preserve and protect the natural beauty of scenic highway corridors in the State. The Scenic Highway System includes a list of highways that have been designated as scenic highways as well as a list of highways that are eligible for designation as scenic highways. Local jurisdictions can nominate scenic highways for official designation by identifying and defining the scenic corridor of the highway and adopting a Corridor Protection Program that includes measures that strictly limit development and control outdoor advertising along the scenic corridor.

DISCUSSION OF IMPACTS

Questions A and C

Scenic vistas are defined as expansive views of highly valued landscapes from publicly accessible viewpoints (e.g., public roadways, parks and recreation areas, publicly accessible open space areas, and other public gathering places). Scenic vistas include views of natural features such as mountains, hills, valleys, water courses, outcrops, and natural vegetation, as well as man-made scenic structures. Scenic resources in the study area include the Fall River, Pit River, trees and other vegetation, open space, farmland, and mountains surrounding the communities, including Mt. Lassen, Mt. Shasta, Burney Mountain, and Soldier Mountain. The project area is visible to individuals living and working in the area and to travelers on adjacent roadways, including SR 299.

Waterline and appurtenant improvements within the public road ROWs would be visible to individuals living and working in the areas and to travelers on adjacent roadways (see **Photo 4.1-1**). Short-term visual impacts would occur during construction due to site preparation, trenching, and staging of construction equipment and materials. However, this is a temporary impact that would cease when construction is complete. Paved areas would be repaved and other areas would be returned to their existing conditions. In unpaved areas, vegetation may be removed or trimmed to accommodate the improvements; however, it is not anticipated that any mature trees will need to be removed. Disturbed areas would be revegetated as appropriate upon completion of construction.



Photo 4.1-1. Waterline corridor along State Route 299.



Photo 4.1-2. Proposed McArthur Well No. 2 site facing north.

Proposed improvements that have the potential to result in long-term visual impacts include the proposed new well building and associated components for McArthur Well No. 2, the proposed elevated water tank, posts and antennas at the PRV station, and replacement facilities at the Country Club Booster Pump Station.

The proposed McArthur Well No. 2 site (**Photo 4.1-2**) is located immediately northwest of the existing McArthur Well No. 1 site (**Photo 4.1-3**) on District-owned property, ~850 feet east of the nearest single-family residence. The site is surrounded by agricultural land. Features in the built environment include facilities at the McArthur Well No. 1 site to the east and ground-mounted solar panels to the west. The new building would be the same style and color of the nearby well building and consistent with the existing built environment. Therefore, improvements at the McArthur Well No. 2 site would not result in a significant visual change in the area.



Photo 4.1-3. Existing McArthur Well No. 1 site - facing west toward the proposed McArthur Well No. 2 site (partially visible beyond the trees).

The elevated water storage tank site is located south of SR 299, generally northwest of the intersection of Cedar Street and Oak Street in McArthur. **Photos 4.1.4 through 4.1.7** show views of the site from various locations.



Photo 4.1-4. Elevated Water Tank Site - facing northwest from the intersection of Cedar Street and Oak Street.



Photo 4.1-5. Elevated Water Tank Site - facing north from Oak Street.



Photo 4.1-6. Elevated Water Tank Site - facing south from McArthur Road.



Photo 4.1-7. Elevated Water Tank Site - facing southeast from State Route 299.

The elevated water tank would be ~160 feet in height with a diameter of ~44 feet. Due to the height of the tank and relatively level terrain throughout the project area, the elevated tank would be a prominently visible feature in the environment.

Photo 4.1-8 shows the proposed design of the tank. As indicated, the tank would be a modern design and painted white to blend with the skyline. No trees would need to be removed to accommodate the tank improvements, and the tank would not obscure views of any scenic resources. In addition, new chain-link fencing would be compatible with existing chain-link fencing surrounding the site. Therefore, although the elevated tank would be a prominent visual feature, the tank and associated improvements would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

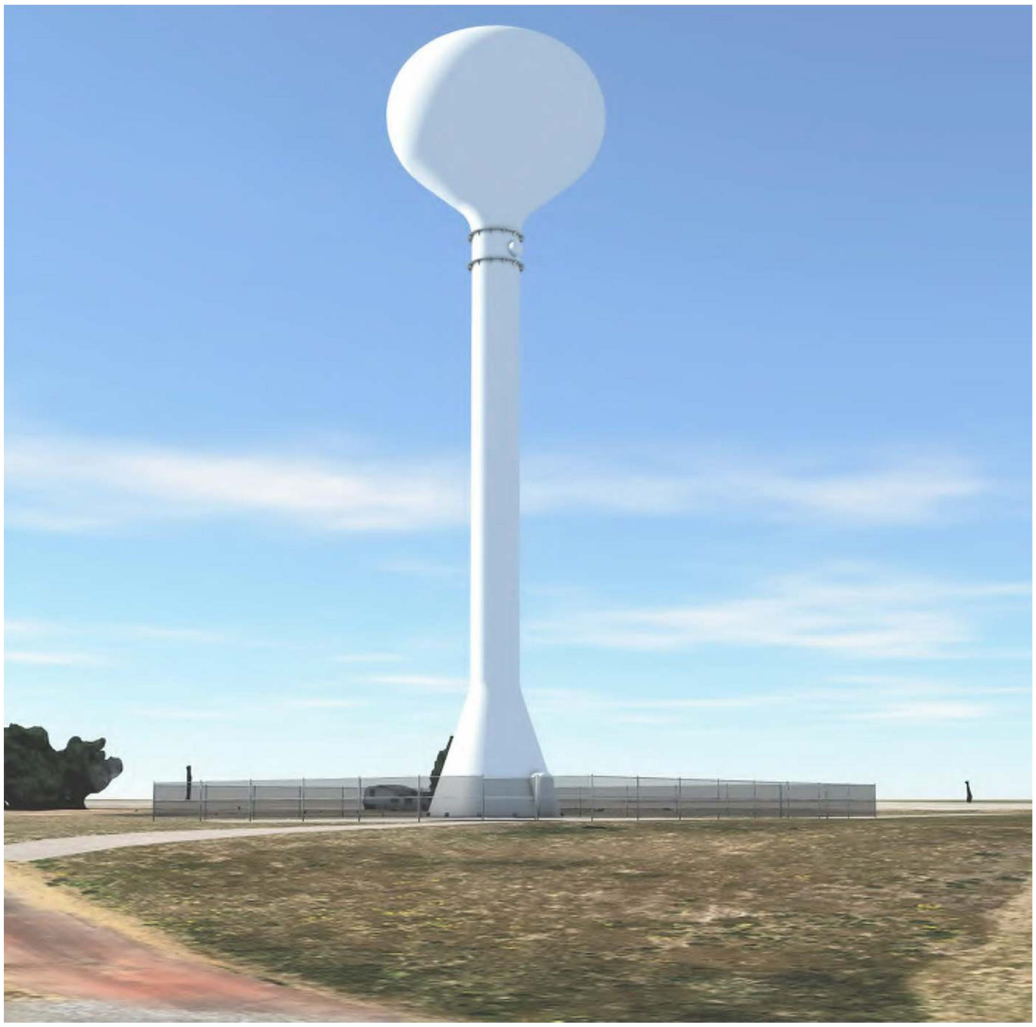


Photo 4.1-8. Elevated Water Tank – Conceptual Design.

The existing PRV station is located in an underground concrete vault in the shoulder of SR 299, east of the Fall River Mills Airport (**Photo 4.1-9**). An aboveground metal enclosure houses the electrical and control panels for the PRV station, which is cleared of surrounding vegetation. Proposed improvements include replacing the PRV with a supervisory valve or modifying the existing valve. No new electrical power infrastructure is anticipated at the site. However, it may be necessary to install a new pole-mounted antenna adjacent to the existing aboveground metal enclosure. The pole would be ~20 to 30 feet in height.



Photo 4.1-9. Existing PRV station and attached antenna facing east from SR 299.

In addition to residences and commercial structures, other features in the built environment surrounding the PRV station include utility poles and overhead utility lines. If a pole-mounted antenna is necessary, it would be similar to other pole-mounted facilities in the study area and would not significantly change the visual character of the area.

Improvements at the Fall River Mills Well No. 2 site include subsurface piping improvements, which would not result in a significant visual change in the area.

Improvements at the Country Club Booster Pump Station site include abandoning the existing booster pump station facilities, including the hydropneumatic tank, and constructing a new booster pump facility immediately southwest of the existing building. Features in the built environment include the existing booster pump station facilities immediately northwest, existing water storage tanks to the northwest, and the existing Fall River Mills Well No. 2 building to the north. The new facilities would be the same style and color as the existing booster pump station and would be consistent with the existing built environment. Therefore, improvements at the Country Club Booster Pump Station site would not result in a significant visual change in the area.

Therefore, because the proposed improvements are consistent with existing features in the built environment, the project would not have an adverse effect on a scenic vista, and the project would not significantly degrade the existing visual character or quality of public views of the site and its surroundings, impacts would be ***less than significant.***

Question B

According to the California Scenic Highway Mapping System, there are no designated scenic highways within a 50-mile radius of the project area. Although a segment of SR 299 that runs through the project area is eligible for scenic highway designation, it is not currently designated as a state scenic highway (Caltrans, 2023). Therefore, the proposed project would have ***no impact*** on scenic resources within a designated State Scenic Highway.

Question D

The proposed project would include installation of security lighting at the new water tank site and McArthur Well No. 2 well building. New permanent lighting must comply with CALGreen light pollution reduction measures for non-residential uses as described under Regulatory Context. The intent of the measures is to maintain dark skies and to ensure that newly constructed projects reduce the amount of backlight, uplight, and glare (BUG). In addition, due to the height of the tank, obstruction lighting would be installed on top of the tank in accordance with Federal Aviation Administration regulations.

It is not anticipated that temporary lighting during construction would be needed because the majority of work would occur during times of the year with extended daylight. Further, as discussed in Section 4.13 (Noise), work is limited to between to between the hours of 7:00 AM and 7:00 PM.

As further discussed in Section 4.9 (Hazards and Hazardous Materials) under Question F, if work occurs in the public road ROW, a traffic control plan must be prepared in accordance with the procedures, methods, and guidance given in the current edition of the California Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD addresses the use of temporary lighting and requires that construction work lighting not create glare that could interfere with the vision of oncoming motorists (e.g., by installing screens, mounting lamps below the top edge of a barrier wall, adjusting the beam angle, etc.) (Caltrans, 2025).

Compliance with existing requirements ensures that impacts associated with light and glare would be ***less than significant*** and the proposed project would not adversely affect day or nighttime views in the area.

CUMULATIVE IMPACTS

Potential cumulative projects in the area include growth according to the build-out projections in the Shasta County General Plan. As documented above, the proposed project does not include any features that would have an adverse effect on a scenic vista or substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Due to the height of the elevated tank, obstruction lighting would be installed on top of the tank in accordance with FAA regulations. Project-related lighting would include new security lighting at the new tank site and McArthur Well No. 2 site and limited construction lighting. The new light sources would be confined to the premises and would comply with CALGreen light pollution reduction requirements, and construction lighting would be temporary in nature and cease at the completion of construction. Therefore, the proposed project's aesthetic impacts would not be cumulatively considerable.

MITIGATION

None necessary.

DOCUMENTATION

California Department of Transportation (Caltrans). 2023. California Road System – Functional Classification. https://www.arcgis.com/apps/webappviewer/index.html?id=026e830c914c495797c969a3e5668538. Accessed August 2025.

_____. 2025. California Manual on Uniform Traffic Control Devices. https://dot.ca.gov/programs/safety-programs/camutcd. Accessed September 2025.

4.2 AGRICULTURE AND FOREST RESOURCES

Would the project:

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

REGULATORY CONTEXT

There are no federal regulations pertaining to agriculture or forest resources that apply to the proposed project.

STATE

California Farmland Mapping and Monitoring Program (FMMP)

The FMMP was established in 1982 to assist decision makers in making informed decisions for the best utilization of California's farmland. Under the FMMP, the Department of Conservation (DOC) is responsible for mapping, monitoring, and reporting on the conversion of the State's farmland to and from agricultural use. Important Farmland Maps are updated and released every two years. The following mapping categories, which are determined based on soil qualities and current land use information, are included in the FMMP: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, grazing land, urban and built-up land, other land, and water.

Williamson Act

The Williamson Act (California Land Conservation Act of 1965) was enacted as a means to protect agricultural uses in the State. Under the Williamson Act, local governments can enter into contracts with private landowners to ensure that specific parcels are restricted to agricultural and related open space uses. In return, landowners receive reduced property tax assessments. The minimum term for a Williamson Act contract is ten years, and the contract is automatically renewed for one-year terms unless the landowner files a notice of nonrenewal or a petition for cancellation.

Forest Land and Timberland

PRC §12220(g) defines forest land as *"land that can support 10% native tree cover 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."

PRC §4526 defines timberland as *"land, other than land owned by the federal government, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees."* Government Code §51104(g) defines Timberland Production Zone as *"an area which has been zoned pursuant to [Government Code] §51112 or §51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h)."*

LOCAL

Shasta County

The Shasta County General Plan includes the following Objective and Policy that apply to the proposed project:

Chapter 6.1, Agricultural Lands		
Objective:	AG-5	Protection of agricultural lands from development pressures and or uses which will adversely impact or hinder existing or future agricultural operations.
Policy:	AG-h	The site planning, design, and construction of on-site and off-site improvements for nonagricultural development in agricultural areas shall avoid unmitigable short- and long-term adverse impacts on facilities, such as irrigation ditches, used to supply water to agricultural operations.

DISCUSSION OF IMPACTS

Questions A, B, and D

According to the *Important Farmland in California* map, the eastern portions of Shasta County were not surveyed for inclusion in the FMMP (DOC, 2025). Section 21060.1(b) of the California Environmental Quality Act states *"In those areas of the state where lands have not been surveyed… 'agricultural land' means land that meets the requirements of "prime agricultural land" as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code."* "Prime agricultural land" means any of the following:

(1) All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.

(2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.

(3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per month (AUM) as defined by the United States Department of Agriculture.

(4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars ($200) per acre.

The Land Capability Classification (LCC) indicates the suitability of soils for most kinds of crops. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). The LCC also includes capability subclasses, which are soil groups that identify soil limitations that interfere with plant growth or cultivation. The subclasses are designated by the letters e (erosion), w (water), s (rooting zone issues), or c (very cold or very dry climate). The Storie Index provides a numeric rating (based upon a 100-point scale) of the relative degree of suitability or value

of a given soil for intensive agriculture. The rating is based upon the character of the soil profile, surface texture, steepness of the slope, drainage, alkalinity, fertility, wind and water erosion, acidity, and microrelief.

Improvements at the Country Club Booster Pump Station/Fall River Mills Well No. 2 site, the waterline corridors, and the water meter sites would be in previously disturbed areas and in roadways that are not conducive for agricultural purposes. Therefore, this evaluation focuses on the elevated water tank site and McArthur Well No. 2 site. Soil types present in these two sites are summarized in **Table 4.2-1.**

TABLE 4.2-1
Project Site Soils – Farmland Designations

Map Unit Symbol	Soil Name	NRCS Designation	LCC Class and Subclass (nonirrigated)	Storie Index	AUM
159	Dudgen-Graven complex, 0 to 5 percent slopes *(Elevated Water Tank Site)*	Not prime farmland	IVw	Grade 4 Poor (21 – 40)	7.5
282	Pittville sandy loam, drained, 0 to 5 percent slopes (McArthur Well No. 2 Site)	Prime farmland if irrigated	IIIe	Grade 3 Fair (41 - 60)	N/A

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, n.d. Soil Survey for Intermountain Area, California, Parts of Lassen, Modoc, Shasta and Siskiyou Counties, 2000.

As indicated in **Table 4.2-1**, neither of the soils has an LCC classification of I or II, and neither of the soils has a Storie Index rating that classifies it as prime farmland. Although Dugden-Graven complex has an AUM of 7.5, the land does not support livestock used for the production of food and fiber. In addition, the land is not planted with fruit- or nut-bearing trees, vines, bushes, or crops.

According to the County's GIS data, the elevated water tank site is zoned Interim Rural Residential (I-R), which allows agricultural uses outright, provided that the parcel size is at least one gross acre. Section 17.88.100 of the Shasta County Code also allows public utilities, including public utility towers that are not associated with high voltage electrical transmission and distribution projects, regardless of height, as permitted uses in all zoning districts. Based on review of historical aerial imagery, it does not appear that the property has been used for agricultural purposes.

The McArthur Well No. 2 site is zoned Exclusive Agricultural (EA-AP). The EA-AP zone is intended to preserve lands with agricultural value that have a combination of adequate size and quality. The EA zoning district allows other permitted uses including public uses and utilities (Shasta County, 2025).

The McArthur Well No. 2 site is located on ~0.5 acres of a ~159.75-acre privately owned parcel that is currently under a Williamson Act contract (DOC, 2024). Based on review of aerial imagery, this area of the property has not been used for agricultural crop production for approximately five years. In addition, the ~0.5-acre area is located between ground-mounted solar panels and an existing District well; as such, it is not conducive to farming activities.

The District plans to acquire the ~0.5-acre property to construct and operate the new McArthur Well No. 2 following project approval. In accordance with the Williamson Act, the District must complete the public acquisition notification process outlined in California Government Code Section 51291 (California DOC, n.d.). Purchase of the property would remove the new well site from the existing Williamson Act contract and include rezoning the well site to Public Facilities.

Given that the ~0.5-acre site is not conducive to farming activities, has not been used for agricultural uses in recent years, and represents a small percentage of the total acreage of the property, the project's impacts would be ***less than significant***. Further, the improvements would not hinder the continued use of adjacent lands for agricultural purposes.

Question C

According to the Shasta County General Plan and County Zoning Map, there are no Timberland Production zones or Timberland (TL) zones in the project area. The project does not involve any work in or adjacent to timberlands. As stated under Regulatory Context above, "forest land" is defined in PRC §12220(g) as land that can support 10 percent native tree cover 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. There are no properties within the project sites that meet the definition of forest land. Therefore, there would be ***no impact*** on timberland or forest land.

CUMULATIVE IMPACTS

As documented above, the project would not result in impacts to forest resources; therefore, the proposed project would not contribute to adverse cumulative impacts to forest resources. The proposed project, in combination with other cumulative projects, would contribute to the conversion of agricultural land, including land covered under a Williamson Act contract. The conversion of farmland on a regional level as a result of cumulative development could potentially result in a regionally significant cumulative impact on prime farmland, unique farmland, or farmland of statewide importance, and or result in rezoning of farmland or cancellation of Williamson Act contracts.

Construction of the McArthur Well No. 2 would result in the conversion of ~0.5 acres of a ~159.75-acre privately owned parcel. As documented above, this area of the parcel is located between ground-mounted solar panels and an existing District well and is not conducive to farming activities. Further, the ~0.5-acre area has not been used for agricultural uses in recent years. No portion of the proposed project would hinder continued use of adjacent lands for agricultural purposes. Therefore, the project's cumulative impacts to agricultural resources would be less than significant.

MITIGATION

None necessary.

DOCUMENTATION

California Department of Conservation (DOC). 2025. Important Farmland Finder. https://maps.conservation.ca.gov/dlrp/ciff/. Accessed August 2025.

_____. 2024. California Williamson Act Enrollment Finder. https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html. Accessed August 2025.

_____. n.d. Public Acquisition Notification Procedures, a Step-By-Step Guide. https://www.conservation.ca.gov/dlrp/wa/Documents/Public%20Acquisition%20A%20Step%20by%20Step%20Guide.pdf. Accessed August 2025.

Shasta County. 2025. Shasta County Municipal Code, Chapter 17.28 (Zoning – Interim Rural Residential District) and Chapter 17.66 (Zoning – Agricultural Preserve District). https://library.municode.com/ca/shasta_county/codes/code. Accessed August 2025.

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____. n.d. Explore Shasta County Map Viewer (GIS Data). https://www.shastacounty.gov/information-technology/page/explore-shasta-county-web-map. Accessed August 2025.

U.S Department of Agriculture (USDA), Natural Resource Conservation Service. n.d. Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed August 2025.

_____. 2000. Soil Survey for Intermountain Area, California, Parts of Lassen, Modoc, Shasta, and Siskiyou Counties. https://nrcs.app.box.com/s/33gxkiz34ss3pbvcerixev0wz547r0u0/folder/167181950964. Accessed August 2025.

4.3 AIR QUALITY

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in 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?	☐	☐	☒	☐

REGULATORY CONTEXT

FEDERAL

Federal Ambient Air Quality Standards

The U.S. Environmental Protection Agency (USEPA), under the federal Clean Air Act (CAA), establishes maximum ambient concentrations for criteria air pollutants (CAPs), known as the National Ambient Air Quality Standards (NAAQSs). The NAAQSs are designed to protect the health and welfare of the populace with a reasonable margin of safety. **Table 4.3-1** identifies the seven CAPs as well as characteristics, health effects and typical sources for each CAP:

TABLE 4.3-1
Federal Criteria Air Pollutants

Pollutant	Characteristics	Primary Effects	Major Sources
Ozone (O_3)	Ozone is a colorless or bluish gas formed through chemical reactions between two major classes of air pollutants: reactive organic gases (ROG) and oxides of nitrogen (NO_X). These reactions are stimulated by sunlight and temperature; thus, ozone occurs in higher concentrations during warmer times of the year.	• Respiratory symptoms. • Worsening of lung disease leading to premature death. • Damage to lung tissue. • Crop, forest, and ecosystem damage. • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.	Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.

Pollutant	Characteristics	Primary Effects	Major Sources
Carbon Monoxide (CO)	Carbon monoxide is an odorless, colorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline and wood. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of carbon monoxide.	• Chest pain in patients with heart disease. • Headache. • Light-headedness. • Reduced mental alertness.	Motor vehicle exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a reddish-brown gas formed when nitrogen (N_2) combines with oxygen (O_2). Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere and is related to traffic density.	• Respiratory symptoms. • Damage to lung tissue. • Worsening of cardiovascular disease. • Precursor to ozone and acid rain. • Contributes to global warming and nutrient overloading which deteriorates water quality. • Causes brown discoloration of the atmosphere.	Automobile and diesel truck exhaust, petroleum-refining operations, industrial sources, aircraft, ships, railroads, and fossil-fueled power plants.
Sulfur Dioxide (SO_2)	Sulfur dioxide is a colorless, nonflammable gas that results mainly from burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries.	• Respiratory symptoms. • Worsening of cardiovascular disease. • Damage to a variety of materials, including marble, iron, and steel. • Damages crops and natural vegetation. • Impairs visibility. • Precursor to acid rain.	Petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and large ships, and fuel combustion in diesel engines.
Particulate Matter ($PM_{2.5}$ and PM_{10})	Particulate matter is a major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols that are small enough to remain suspended in the air for a long period of time. Particulate matter with a diameter of 10 microns or less (PM_{10}) is inhalable into the lungs and can induce adverse health effects. Fine particulate matter is defined as particles that are 2.5 microns or less in diameter ($PM_{2.5}$). Therefore, $PM_{2.5}$ comprises a portion of PM_{10}.	• Premature death. • Hospitalization for worsening of cardiovascular disease. • Hospitalization for respiratory disease • Asthma-related emergency room visits. • Increased symptoms, increased inhaler usage	Dust- and fume-producing construction activities, power plants, steel mills, chemical plants, unpaved roads and parking lots, woodburning stoves and fireplaces, wildfires, motor vehicles, and other combustion sources. Also a result of photochemical processes.

Pollutant	Characteristics	Primary Effects	Major Sources
Lead (Pb)	A heavy metal that occurs both naturally in the environment and in manufactured products.	• Impaired mental functioning in children • Learning disabilities in children • Brain and kidney damage. • Reproductive disorders. • Osteoporosis.	Lead-based industrial production (e.g., battery production and smelters), recycling facilities, combustion of leaded aviation gasoline by piston-driven aircraft, and crustal weathering of soils followed by fugitive dust emissions.

Source: U.S. Environmental Protection Agency (USEPA, 2025)

STATE

State Ambient Air Quality Standards

The California CAA establishes maximum concentrations for the seven federal CAPs, as well as the four additional air pollutants identified below (California Air Resources Board [CARB], n.d.a). The four additional standards are intended to address regional air quality conditions, not project-specific emissions.

These maximum concentrations are known as the California Ambient Air Quality Standards (CAAQSs). CARB has jurisdiction over local air districts and has established its own standards for each CAP under the CAAQS. For areas within the State that have not attained air quality standards, CARB works with local air districts to develop and implement attainment plans to obtain compliance with both federal and State air quality standards.

Visibility-Reducing Particles. Visibility-reducing particles vary greatly in shape, size, and chemical composition, and come from a variety of natural and manmade sources. Major sources include wildfires, residential fireplaces and woodstoves, windblown dust, ocean sprays, biogenic emissions, dust and fume-producing construction, industrial and agricultural operations, and fuel combustion. Primary effects include visibility impairment, respiratory symptoms, and worsening of cardiovascular disease.

Sulfate (SO_4). Sulfate is oxidized to sulfur dioxide (SO_2) during the combustion process and is subsequently converted to sulfate compounds in the atmosphere. Major sources include industrial processes and the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. Primary effects include respiratory symptoms, worsening of cardiovascular disease, damage to a variety of materials, including marble, iron, and steel, damage to crops and natural vegetation, and visibility impairment.

Hydrogen Sulfide (H_2S). Hydrogen sulfide is a colorless gas with the odor of rotten eggs. Major sources include geothermal power plants, petroleum refineries, and wastewater treatment plants. Primary effects include eye irritation, headache, nausea, and nuisance odors.

Vinyl Chloride (chloroethene). Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. It is also listed as a toxic air contaminant because of its carcinogenicity. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites due to microbial breakdown of chlorinated solvents. Primary effects include dizziness, drowsiness, headaches, and liver damage.

Table 4.3-2 provides the federal and State ambient air quality standards:

TABLE 4.3-2
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards Primary	National Standards Secondary
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	-	Same as Primary Standard
	8 Hour	0.07 ppm (137 µg/m^3)	0.07 ppm (137 µg/m^3)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m^3	-	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	-	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m^3	9.0 µg/m^3	15.0 µg/m^3
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	-
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	-
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	-
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as Primary Standard
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	-
	3 Hour	-	-	0.5 ppb (1300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)	-
	Annual Arithmetic Mean	-	0.030 ppm (for certain areas)	-
Lead	30 Day Average	1.5 µg/m^3	-	-
	Calendar Quarter	-	1.5 µg/m^3 (for certain areas)	Same as Primary Standard
	Rolling 30-Month Average	-	0.15 µg/m^3	
Visibility Reducing Particulates	8 Hour	Extinction of 0.23 per kilometer	No National Standards	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

Source: CARB, 2024. Notes: mg/m^3=milligrams per cubic meter; ppm=parts per million; ppb=parts per billion; µg/m^3=micrograms per cubic meter

Toxic Air Contaminants

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Assembly Bill 2588) was adopted in response to public concern regarding potential adverse health effects associated with emissions of toxic air contaminants (TACs) (CARB, n.d.b). TACs are regulated under the California CAA. A "hot spot" is an area where air toxics levels are higher than in the overall region, which may be caused by emissions from a specific facility. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), grading and demolition of structures (asbestos), and diesel-motor vehicle exhaust. Facilities found to release high volumes of TACs are required to conduct a detailed health risk assessment that estimates emission impacts to the neighboring community and recommends mitigation to minimize TACs (CARB, n.d.c).

In-Use Off-Road Diesel-Fueled Fleets Regulation

CARB adopted the In-Use Off-Road Diesel-Fueled Fleets Regulation to reduce NO_X, diesel particulate matter, and other criteria pollutant emissions from various vehicles subject to the regulation. The regulation covers a wide range of vehicle types, including, but not limited to, vehicles used in construction, mining, industrial operations, and other industries. The regulations were most recently updated in August 2023 and became effective on October 1, 2023 (CARB, 2023a).

The regulations require fleets to phase-out use of the oldest and highest polluting off-road diesel vehicles in California earlier or beyond what was required of fleets in the previous Off-Road Regulation. The amended regulations will be phased in starting in 2024 through the end of 2036. Beginning January 1, 2024, the updated regulations also require the use of renewable diesel (99 or 100 percent renewable) in all vehicles that are subject to the regulation, subject to certain exemptions.

The amended regulations require that beginning January 1, 2024, public agencies that award or enter into contracts for public works projects obtain fleet Certificates of Reported Compliance from fleets prior to awarding public works contracts. These requirements will ensure that only compliant fleets are being used on public works projects. CARB estimates that from 2024 through 2038, the amendments will generate an additional reduction above and beyond the previous regulation of approximately 31,087 tons of NO_X and 2,717 tons of $PM_{2.5}$ (CARB, 2022a). About half of those additional reductions are expected to be realized within the first five years of implementation.

Mobile Source Strategy

CARB's 2020 Mobile Source Strategy (Strategy) identifies the levels of cleaner and zero-emission technologies that are necessary to meet the State's reduction goals for criteria pollutants, greenhouse gas emissions, and toxic air contaminants from mobile sources (CARB, 2021). The Strategy provides data to support the development of other planning documents, including the State Implementation Plan, the Climate Change Scoping Plan Update, and the Community Emissions Reduction Plans required for communities selected as a part of CARB's Community Air Protection Program.

LOCAL

Shasta County Air Quality Management District (SCAQMD):

The SCAQMD has the responsibility of enforcing federal and state air quality regulations in Shasta County. The SCAQMD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs, and it regulates agricultural burning. All projects in Shasta County are subject to applicable SCAQMD rules and regulations in effect at the time of construction (SCAQMD, 2013). Descriptions of specific rules applicable to the proposed project may include, but are not limited to:

- SCAQMD Rule 3-2, Specific Air Contaminants, states that no person shall discharge contaminants from any single source into the atmosphere above the amounts designated in the Rule.
- Cutback and emulsified asphalt application shall be conducted in accordance with SCAQMD Rule 3-15, Cutback and Emulsified Asphalt.
- SCAQMD Rule 3-16, Fugitive, Indirect, or Non-Traditional Sources, controls the emission of fugitive dust during earth-moving, construction, demolition, bulk storage, and conditions resulting in wind erosion.
- Architectural coatings and solvents shall be compliant with SCAQMD Rule 3-31, Architectural Coatings.

Shasta County is currently designated as a non-attainment-transitional area for State ozone standards; the County is designated as an attainment or unclassified area for all other federal and State ambient air quality standards (CARB, 2023b).

The SCAQMD, along with other air districts in the Northern Sacramento Valley Air Basin (NSVAB), jointly prepared an Air Quality Attainment Plan (AQAP) for the purpose of achieving and maintaining healthful air quality throughout the air basin. The Northern Sacramento Valley Planning Area (NSVPA) 2021 AQAP constitutes the region's State Implementation Plan (SIP) and was adopted by the SCAQMD Board on April 5, 2022. The 2021 AQAP states that air pollution transport studies have demonstrated that a significant number of the ozone violations occurring in Shasta County are caused when pollutants from urban areas are transported aloft throughout the air basin. Shasta County's primary emphasis in implementing the 2021 AQAP is to attempt to reduce emissions from mobile sources through public education and grant programs.

As shown in **Table 4.3-3**, Shasta County has adopted air quality thresholds for emissions of Reactive Organic Gases (ROG), Oxides of Nitrogen (NO_x) and Particulate Matter, 10 microns in size (PM_{10}) to determine the level of significance for projects subject to CEQA review (Shasta County Rule 2:1, New Source Review, Part 300) (SCAQMD, 2013).

TABLE 4.3-3
Thresholds of Significance for Criteria Pollutants of Concern

Level	ROG	NOx	PM_{10}
Level A: Indirect Source	25 lbs/day	25 lbs/day	80 lbs/day
Level B: Indirect Source	137 lbs/day	137 lbs/day	137 lbs/day
Direct Sources	25 tons/year	25 tons/year	25 tons/year

Source: 2004 Shasta County General Plan, Chapter 6.5 (Air Quality).

All discretionary projects in Shasta County are required to implement Standard Mitigation Measures (SMMs) to minimize emissions and contribute to a reduction in cumulative impacts. Projects that generate unmitigated emissions above Level A must implement Best Available Mitigation Measures (BAMM) in addition to the SMMs. If a project is not able to reduce emissions below the Level B threshold, emissions offsets are required. If after applying the emissions offsets, the project emissions still exceed the Level B threshold, an Environmental Impact Report is required.

Shasta County

The Shasta County General Plan includes the following Objective and Policies related to air quality:

Chapter 6.5, Air Quality Element		
Objective	AQ-2	To meet the requirements of the: (1) Federal Clean Air Act, and (2) the California Clean Air Act as soon as feasible.
Policies	AQ-2b	Work to accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the unincorporated portions of Shasta County.
	AQ-2c	New projects shall be required to reduce their respective air quality impacts to below levels of significance, or proceed as indicated in Policy AQ-2e.
	AQ-2d	Ensure that air quality impacts identified during CEQA review are; (1) consistently and fairly mitigated, and (2) mitigation measures are feasible.
	AQ-2e	Cooperate with the AQMD in assuring that new projects with stationary sources of emissions of non-attainment pollutants or their precursors that exceed 25 tons per year shall provide appropriate emission offsets. A comparable program which offsets indirect emissions of these pollutants exceeding 25 tons per year from development projects shall also be utilized to mitigate air pollution impacts. An Environmental Impact Report will be required for all projects that have unmitigated emissions of non-attainment pollutants exceeding 25 tons per year.

AQ-2f	Require appropriate Standard Mitigation Measures and Best Available Mitigation Measures on all discretionary land use applications as recommended by the AQMD in order to mitigate both direct and indirect emissions of non-attainment pollutants.

DISCUSSION OF IMPACTS

Questions A and B

As discussed above, the NSVAB 2021 AQAP serves as the air quality plan for the region. The project would result in the temporary generation of ROG, NOx, PM_{10}, and other regulated pollutants during construction. ROG and NOx emissions would be associated with employee vehicle trips, delivery of materials, and construction equipment exhaust. PM_{10} would be generated during site preparation, excavation, road paving, and from exhaust associated with construction equipment.

Construction Emissions

Project emissions were estimated using Version 2022.1.1.30 of the California Emissions Estimator Model (CalEEMod). CalEEMod provides default values when site-specific inputs are not available. CalEEMod does not directly calculate ozone (O_3) emissions. Instead, emissions associated with ozone precursors, (ROG and NO_X), are calculated. For the proposed project, site-specific inputs and assumptions include, but are not limited to, the following:

- Emissions from construction are based on all construction-related activities associated with the proposed uses, including but not limited to grading, site preparation, use of construction equipment, material hauling, trenching, site preparation, application of architectural coatings, and paving.
- For purposes of the CalEEMod Analysis, it was assumed construction would start in June 2028 and occur over a period of approximately 24 months.
- Total land disturbance would be approximately 2.6 acres; 3,500 cubic yards (CY) of material would be imported; 5,000 CY would be exported.
- The total area to be paved would be 0.8 acres.
- The total weight of demolition debris (pavement) to be removed from the project site would be approximately 640 tons.
- The total area receiving architectural coatings would be 20,650 square feet.
- To represent a worst-case scenario, it was assumed that approximately 3 trees with a diameter of 6 inches at breast height (DBH) and larger would be removed to facilitate construction at the McArthur Well No. 2 site and the Fall River Mills Well No. 2 site.

Output files, including all site-specific inputs and assumptions, are provided in **Appendix A**. The proposed project would result in the temporary generation of ROG, NOx, PM_{10}, and other regulated pollutants during construction. ROG and NOx emissions are associated with employee vehicle trips, delivery of materials, and construction equipment exhaust. PM_{10} would be generated during site preparation, excavation, paving, and from exhaust associated with construction equipment. **Table 4.3-4** shows the highest daily levels of project construction emissions regardless of construction phase.

TABLE 4.3-4
Estimated Construction Emissions

Construction Year	Pollutants of Concern					
	ROG	NO_X	PM_{10}	$PM_{2.5}$	CO	SO_2
	Max. lbs/day	Max. lbs/day	Max. lbs/day	Max. lbs/day	Max. lbs/day	Max. lbs/day
2028	2.52	23.8	4.35	2.32	26.7	0.06
2029	1.04	8.89	0.26	0.24	11.6	0.02
2030	4.35	0.78	0.01	0.01	1.11	0.02

Source: CalEEMod, 2025

As shown in **Table 4.3-4,** construction of the proposed project would not exceed the County's thresholds for ROG, NO_X, and PM_{10}. As stated under Regulatory Context, all discretionary projects in Shasta County are required to implement SMMs to minimize emissions and contribute to a reduction in cumulative impacts. **Mitigation Measure (MM)** 4.3.1 includes SMMs that would apply to the project.

Operational Emissions

Operation of the project would generate criteria pollutants from area sources (e.g., cleaning supplies, maintenance activities such as painting, etc.) and mobile sources (e.g., vehicle trips for employees, deliveries, etc.), as well as indirect emissions associated with energy use (operation of the new well, water tank, and PRV station). Vehicle traffic on graveled surfaces would also generate $PM_{2.5}$ and PM_{10} emissions.

Table 4.3-5 shows the estimated highest daily levels of operational emissions by source. For the proposed project, mobile sources include on-road motor vehicles and off-road engines and equipment used for maintenance activities. Area-wide sources include consumer products, architectural coatings, and road dust. Energy sources include electricity generated from fossil fuels (indirect emissions) that is used to operate pumps, motors, aerators, etc. Stationary sources include the emergency backup generators at the McArthur Well No. 2 site and Country Club Booster Pump Station site.

TABLE 4.3-5
Estimated Operational Emissions

Source	Pollutants of Concern					
	ROG	NO_X	PM_{10}	$PM_{2.5}$	CO	SO_2
	Max. lbs/day	Max. lbs/day	Max. lbs/day	Max. lbs/day	Max. lbs/day	Max. lbs/day
Mobile	0.03	0.02	0.04	0.01	0.19	<0.005
Area	0.09	<0.005	<0.005	<0.005	0.05	<0.005
Energy	<0.005	0.01	<0.005	<0.005	0.01	<0.005
Stationary	6.26	3.72	0.17	0.17	17.3	0.01
Total	**<6.39**	**<3.76**	**<0.22**	**<0.19**	**17.6**	**<0.03**

Source: CalEEMod, 2025

Note: Totals may not add due to rounding.

The project does not include any other components that would increase long-term operational emissions above existing conditions. The proposed project would not exceed the SCAQMD thresholds for ROG, NO_X, and PM_{10}. Therefore, operational impacts would be less than significant.

For both construction and operational emissions, the proposed project would not result in significant impacts associated with ozone (O_3), lead (Pb), hydrogen sulfide (H_2S), vinyl chloride, or visibility reducing particles as discussed below.

Ozone. CalEEMod does not directly calculate ozone emissions. Instead, the emissions associated with ozone precursors (ROG and NO_X) are calculated. The project construction and operation would generate relatively low amounts of both ROG and NO_x and **MM 4.3.1** includes SMMs that would apply to the project. Implementation of **MM 4.3.1** and compliance with State regulations ensures that impacts associated with ozone precursor emissions are less than significant.

Lead. Elevated levels of airborne lead at the local level are usually found near industrial operations that process materials containing lead, such as smelters and battery manufacturing/ recycling facilities. As these conditions are not applicable to the proposed project, the potential for lead emissions is less than significant.

Hydrogen Sulfide. Hydrogen sulfide is a colorless gas with the odor of rotten eggs. The most common sources of hydrogen sulfide emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. It is also formed during bacterial decomposition of human and animal wastes, and is present in emissions from sewage treatment facilities and landfills. The project does not include any components that would generate hydrogen sulfide emissions.

Vinyl Chloride. Vinyl chloride is used to manufacture polyvinyl chloride (PVC) plastic and other vinyl products. Additionally, vinyl chloride is produced during the microbial breakdown of chlorinated solvents (e.g., engine cleaner, degreasing agent, adhesive solvents, paint removers, etc.). The potential for vinyl chloride exposure is primarily limited to areas in close proximity to PVC production facilities. Because PVC manufacturing facilities are absent from the project area, and project implementation would not result in increased use of chlorinated solvents, there is no potential for vinyl chloride emissions.

Visibility-Reducing Pollutants. Visibility-reducing pollutants generally consist of sulfates, nitrates, organics, soot, fine soil dust, and coarse particulates. These pollutants contribute to the regional haze that impairs visibility, in addition to affecting public health.

For the proposed project, visibility-reducing pollutants (e.g., $PM_{2.5}$ and PM_{10}), would be generated only during construction activities. According to the California Regional Haze Plan (CARB, 2022b), air pollutants that contribute to regional haze come from natural sources (e.g., wildfires, windblown dust, plants, etc.) and human-made sources (e.g., industrial/manufacturing processes, motor vehicle exhaust, residential wood burning, etc.). For the proposed project, the majority of visibility-reducing pollutants (e.g., $PM_{2.5}$ and PM_{10}) would be generated during construction activities and would be minimal during the operational lifetime of the project. Because only relatively small amounts of particulates would be generated, potential impacts with respect to visibility-reducing pollutants are less than significant.

Compliance with applicable federal, State, and local regulations and implementation of **MM 4.3.1** ensures that the project would not conflict with the NSVAB 2021 AQAP and would not result in a cumulatively considerable net increase in ROG, NOx, PM_{10}, and other regulated pollutant emissions; impacts would be ***less than significant.***

Question C

See discussion under Questions A and B. Sensitive receptors are individuals or groups of people that are more affected by air pollution than others, including young children, elderly people, and people weakened by disease or illness. Locations that may contain high concentrations of sensitive receptors include residential areas, schools, playgrounds, childcare centers, hospitals, convalescent homes, and retirement homes.

As discussed in Questions A and B above, the proposed project does not have any components that would result in significant long-term operational emissions; however, construction activities would generate NO_X, PM_{10} and other pollutants. Construction would occur adjacent to single-family residences throughout most of the work area. Construction would also occur in proximity to Fall River Elementary School on Curve Street in Fall River Mills; Soldier Mountain Continuation and Fall River Community Day School on A Street in McArthur; Intermountain Preschool Co-Op and Shasta Head Start – McArthur on A Street in McArthur; and the Fall River Junior-Senior High School on Walnut Street in McArthur, and Mayers Memorial Hospital on SR 299 in Fall River Mills. Although emissions from construction activities would cease with completion of the project, sensitive receptors adjacent to the construction area could be exposed to elevated dust levels and other pollutants on a short-term basis. **MM 4.3.1** is included to minimize temporary impacts on sensitive receptors.

Compliance with federal, State, and local regulations, and implementation of **MM 4.3.1** would reduce impacts to a ***less-than-significant*** level.

Question D

The project does not include any components that would result in the generation of long-term odors or similar emissions adversely affecting a substantial number of people. Construction activities that have the potential to emit odors and similar emissions include diesel equipment, paints, generation of fugitive dust, and paving (asphalt). Odors and similar emissions from construction are intermittent and temporary, and generally would not extend beyond the construction area. Due to the temporary and intermittent nature of construction odors, impacts during construction would be ***less than significant***.

CUMULATIVE IMPACTS

Past, present, and future development projects contribute to a region's air quality conditions on a cumulative basis; therefore, by its very nature, air pollution is largely a cumulative impact. If a project's individual emissions contribute toward exceedance of the NAAQSs or the CAAQSs, then the project's cumulative impact on air quality would be considered significant. In developing attainment designations for criteria pollutants, the USEPA considers the region's past, present, and future emission levels. In addition, local air districts determine suitable significance thresholds based on an area's designated nonattainment status, which also considers the region's past, present, and future emissions levels.

The proposed project combined with future development within the project area could lead to cumulative impacts to air quality. However, as stated under Regulatory Context, all projects in the County are subject to SCAQMD rules and regulations, including mitigation measures that address impacts during construction. As documented above, the project would not result in significant impacts associated with hydrogen sulfide/odors. In addition, implementation of **MM 4.3.1**, and compliance with the regulations identified under Regulatory Context, ensures that the proposed project would have a less-than-significant cumulative impact on local and regional air quality.

MITIGATION

MM 4.3.1 The following measures shall be implemented throughout construction:

a. All material excavated, stockpiled, or graded shall be covered or sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of ambient air quality standards. Watering shall occur at least twice daily, preferably in the mid-morning and after work is completed each day, with care given to work sites with bare soil.

b. All material transported offsite shall be either sufficiently watered or securely covered to prevent a public nuisance.

c. All areas (other than paved roads) with vehicle traffic shall be watered periodically or have dust palliatives applied for stabilization of dust emissions.

d. All on-site vehicles shall be limited to a speed of 15 miles per hour on unpaved surfaces.

e. All land clearing, grading, earth moving, and excavation activities on the project site shall be suspended when winds are causing excessive dust generation.

f. All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least two feet of free board in accordance with the requirements of Section 23114 of the California Vehicle Code.

g. Paved streets in and adjacent to active construction sites shall be swept or washed at the end of the day (or more frequently if needed) to remove excessive accumulations of silt and/or mud resulting from activities on the development site.

h. When not in use, motorized construction equipment shall not be left idling for more than five minutes.

DOCUMENTATION

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4.4 BIOLOGICAL RESOURCES

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community, including oak woodland, 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 wetlands, 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?	☐	☐	☐	☒

REGULATORY CONTEXT

FEDERAL

Federal Clean Water Act

Section 404

Under Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into wetlands and waters of the U.S. The USACE requires that a permit be obtained prior to the placement of structures within, over, or under navigable waters and/or prior to discharging dredged or fill material into waters below the ordinary high-water mark (OHWM).

There are several types of permits issued by the USACE that are based on the project's location and/or level of impact. Regional general permits are issued for recurring activities at a regional level. Nationwide permits (NWPs) authorize a wide variety of minor activities that have minimal effects. Projects that are not covered under a regional general permit and do not qualify for a NWP are required to obtain a standard permit (e.g., individual permit or letter of permission).

Section 401

Under Section 401 of the CWA, a project requiring a USACE Section 404 permit is also required to obtain a State Water Quality Certification (or waiver) to ensure that the project will not violate established State

water quality standards. The Regional Water Quality Control Board (RWQCB) regulates waters of the State and has a policy of no-net-loss of wetlands. The RWQCB typically requires mitigation for impacts to wetlands before it will issue a water quality certification.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 requires that all federal agencies ensure that any action they authorize, fund, or carry out will not likely jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of critical habitat. Projects that would result in "take" of any federally listed species are required to obtain authorization from National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project.

Federal Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act (MBTA) of 1918, as amended, migratory bird species listed in CFR Title 50, §10.13, including their nests and eggs, are protected from injury or death, and any project-related disturbances. The MBTA applies to over 1,000 bird species, including geese, ducks, shorebirds, raptors, and songbirds, some of which were near extinction before MBTA protections were put in place in 1918. The MBTA provides protections for nearly all native bird species in the U.S., including non-migratory birds.

Fish and Wildlife Conservation Act

Under the Fish and Wildlife Conservation Act of 1980, as amended, the USFWS maintains lists of migratory and non-migratory birds that, without additional conservation action, are likely to become candidates for listing under the FESA. These species are known as Birds of Conservation Concern and represent the highest conservation priorities.

Bald and Golden Eagle Protection Act

This Act provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds and their occupied and unoccupied nests.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), also known as the Sustainable Fisheries Act, requires the identification of Essential Fish Habitat (EFH) for federally managed fishery species and implementation of appropriate measures to conserve and enhance EFH that could be affected by project implementation. All federal agencies must consult with NMFS on projects authorized, funded, or undertaken by that agency that may adversely affect EFH for species managed under the MSFCMA.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code §13000 *et seq.*) is the principal law governing water quality in California. It establishes a comprehensive program to protect water quality and the beneficial uses of waters of the State. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater, and to both point and non-point sources of pollution. The Act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. The RWQCBs enforce waste discharge requirements (WDRs) identified in the Report.

Water Quality Control Plan (Basin Plans)

The CVRWQCB adopted a Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins, Fifth Edition, in May 2018, as well as subsequent amendments to the Plan. The

Basin Plan identifies beneficial uses to be protected for both surface water and groundwater and establishes water quality criteria designed to protect those uses. WDRs were adopted in order to attain the beneficial uses identified in the Basin Plan. Water quality affects municipal, industrial, agricultural, and in-stream water uses as well as the health of terrestrial habitats. Because changes in water quality can indicate changes in other watershed processes or components, measurements of water quality are a favored, non-biological indicator of watershed condition.

State Water Resources Control Board Wetland Riparian Area Protection Policy and Water Quality Certification Program

In 2019, the State Water Resources Control Board (SWRCB) adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) (SWRCB, 2021a, 2021b). The Procedures consist of four major elements:

1. A wetland definition;
2. A framework for determining if a wetland feature is a water of the State;
3. Wetland delineation procedures; and
4. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

The Water Quality Certification Program regulates the removal or placement of materials in wetlands and waterways in the State. The Program protects all waters, but has special responsibility for wetlands, riparian areas, and headwaters because these waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs.

The State's Water Quality Certification is issued pursuant to Section 401 of the Clean Water Act to certify that the project approved by the USACE Section 404 permit will also meet State water quality requirements. The Program implements the State's no-net-loss policy for wetlands to ensure no overall net loss and long-term gain in the quantity, quality, and permanence of wetland acreage and values. Mitigation for the loss of wetlands could include creating new wetlands and/or preserving/restoring existing wetlands and enhancing their functionality.

California Endangered Species Act

Under the California Endangered Species Act (CESA), the Fish and Game Commission is responsible for listing and delisting threatened and endangered species, including candidate species for threatened or endangered status. California Department of Fish and Wildlife (CDFW) provides technical support to the Commission, and may submit listing petitions and assist with the evaluation process. CDFW maintains documentation on listed species, including occurrence records. In addition, CDFW maintains a list of fully protected species, most of which are also listed as threatened or endangered. CDFW also maintains a list of species of special concern (SSC). SSC are vulnerable to extinction but are not legally protected under CESA; however, impacts to SSC are generally considered significant under CEQA.

CESA prohibits the take of State-listed threatened and endangered species, but CDFW has the authority to issue incidental take permits under special conditions when it is demonstrated that impacts are minimized and mitigated. Fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take. One exception allows the collection of fully protected species for scientific research.

California Fish and Game Code §1600-1616 (Streambed Alteration)

California Fish and Game Code §1600 *et seq.*, requires that a project proponent enter into a Streambed Alteration Agreement (SAA) with CDFW prior to any work that would divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; and/or deposit or dispose of material into any river, stream, or lake. An SAA will typically include conditions that minimize/avoid potentially significant adverse impacts to riparian habitat and waters of the state.

California Fish and Game Code §3503 and 3503.5 (Nesting Bird Protections)

These sections of the Code provide regulatory protection to resident and migratory birds and all birds of prey within the State and make it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code.

California Fish and Game Code §1900-1913 (Native Plant Protection Act)

The Native Plant Protection Act (NPPA) includes measures to preserve, protect, and enhance native plants that are listed as rare and endangered under the CESA. The NPPA states that no person shall take, possess, sell, or import into the state any rare or endangered native plant, except in compliance with provisions of the Act.

Oak Woodlands Conservation (SB 1334, 2004)

SB 1334 of 2004 added §21083.4 to CEQA to require counties to determine whether a project within the county's jurisdiction may result in the conversion of oak woodlands that would have a significant effect on the environment. If a county determines that there may be a significant effect on oak woodlands, the county must require mitigation to minimize/offset the conversion of oak woodlands.

LOCAL

Shasta County

The Shasta County General Plan includes the following Objective and Policy that apply to the proposed project:

Chapter 6.7, Fish and Wildlife		
Objective:	FW-1	Protection of significant fish, wildlife, and vegetation resources.
Policy:	FW-c	Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U. S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.

DISCUSSION OF IMPACTS

Question A

The evaluation of potential impacts on special-status species and sensitive natural communities entailed records searches and field evaluations conducted by Catalyst Environmental Solutions (Catalyst), formerly ENPLAN, as discussed below. **Appendix B** includes the following:

- California Natural Diversity Database (CNDDB) Query Summary (CDFW, 2025a)
- California Native Plant Society (CNPS) Query Summary (CNPS, 2025)
- U.S. Fish and Wildlife Service List of Threatened and Endangered Species and Critical Habitats (USFWS, 2024, 2025)
- Catalyst's evaluation of the potential for special-status species to occur on the project site
- A list of vascular plants observed during the botanical surveys

The records search included a review of CNDDB records for special-status plants and wildlife (CDFW, 2025); CNPS records for special-status plant species (CNPS, 2025); Xerces Society records for special-status bumble bees (Xerces, 2025); federal records for listed, proposed, and candidate plant and wildlife species under jurisdiction of the USFWS; critical habitat data maintained by the USFWS (USFWS, 2024, 2025); The National Marine Fisheries Service (NMFS) does not maintain species lists for the project quadrangle because Shasta Dam and Keswick Dam prevent anadromous

salmonids in the Sacramento River from accessing spawning/rearing habitat in the Pit River. The USFWS does not identify designated critical habitat in the study area.

To determine the presence/absence of special-status plant and wildlife species in the study area, an ENPLAN biologist conducted botanical and wildlife surveys on August 14, 2024, and May 23 and 30, 2025. The special-status plant species potentially occurring in the study area would have been evident at the time the fieldwork was conducted. Some of the special-status wildlife species would not have been evident at the time the fieldwork was conducted; however, determination of their potential presence could readily be made based on observed habitat characteristics. The potential for each special-status species to occur in the project site is evaluated in **Appendix B**.

Special-Status Plant Species

Review of the USFWS species list for the project area identified no federally listed plant species as potentially being present in the project area. The project site does not contain designated critical habitat for federally listed plant species (USFWS, 2025).

Review of CNDDB records showed that three special-status plant species have been broadly mapped within the project area: marsh skullcap (California Rare Plant Rank [CRPR] 2B.2), tufted loosestrife (CRPR 2B.3), and watershield (CRPR 2B.3). However, the only prior report of marsh skullcap is from 2000; at that time, the plants were scattered throughout a marshy flat and riverbed below the SR 299 bridge over the Fall River. In addition, the only prior reports of tufted loosestrife are from 1949 and 1992, and the only prior report of watershield is from 1863 (CDFW, 2025a).

The following special-status plant species have been reported within a five-mile radius of the project sites: Boggs Lake hedge-hyssop (CRPR 1B.2, State Endangered [SE]), bristly sedge (CRPR 2B.1), hairy marsh hedge-nettle (CRPR 2B.3), Howell's thelypodium (CRPR 1B.2), Lemmon's milk-vetch (CRPR 1B.2), long-leaved starwort (CRPR 2B.2), and water star-grass (CRPR 2B.2). In addition, one non-status plant species, profuse-flowered pogogyne (CRPR 4.2), has been reported within a five-mile radius of the project site (CDFW, 2025a).

The CNPS Inventory identified one additional special-status plant within the USGS Fall River Mills and Hogback Ridge 7.5-minute quadrangles: Tracy's eriastrum (State Rare, CRPR 3.2). The following additional non-status plant species have been reported within these quadrangles: Baker cypress (CRPR 4.2), Castlegar hawthorne (CRPR 3), Susanville milk-vetch (CRPR 4.3), and Tehama navarretia (CRPR 4.3) (CNPS, 2025).

The potential for each special-status plant species to occur in the project site is evaluated in **Table 3** (Potential for Federal and State Special-Status Species to Occur on the Project Site) in **Appendix B**. The non-status Tehama navarretia was found to be abundant on the proposed water tank site. However, as documented in **Table 3**, no special-status plant species were observed during the botanical survey, nor are any expected to be present; therefore, the proposed project would have no impact on special-status plant species.

Special-Status Wildlife Species

Review of the USFWS species list for the project area identified the following federally listed wildlife species as potentially being present in the project area: California condor (Experimental Population Non-Essential [EPNE], SE, State Fully Protected [SFP]), gray wolf (Federally Endangered [FE], SE), monarch butterfly (Federally Proposed Threatened [FPT]), northern spotted owl (Federally Threatened [FT], State Threatened [ST]), northwestern pond turtle (FPT, State Species of Special Concern [SSSC]), Shasta crayfish (FE, SE), and Suckley's cuckoo bumble bee (Federally Proposed Endangered [FPE], State Candidate Endangered [SCE]) (USFWS, 2025).

Review of the CNDDB records showed that five special-status wildlife species have been broadly reported within the project area: American badger (SSSC), bank swallow (ST), Oregon spotted frog (FT, SSSC), northwestern pond turtle (FPT, SSSC), and Shasta crayfish (FE, SE). The following special-status wildlife species have been reported within a five-mile radius of the project area: bald eagle (Federally Delisted, SE, SFP), bigeye marbled sculpin (SSSC), greater sandhill crane (SFP,

ST), green sturgeon – southern Distinct Population Segment (DPS) (FT, SSSC), hardhead (SSSC), Oregon snowshoe hare (SSSC), rough sculpin (SFP, ST), Sierra Nevada red fox – southern Cascades DPS (ST), tricolored blackbird (SSSC, ST), Townsend's big-eared bat (SSSC), and wolverine (FT, SFP, ST) (CDFW, 2025a).

The following non-status wildlife species have also been reported within a five-mile radius of the project area: Archimedes pyrg, Great Basin rams-horn, great blue heron, kneecap lanx, montane peaclam, North American porcupine, nugget pebblesnail, osprey (State Watchlist [WL]), prairie falcon (WL), scalloped juga, Sucker Springs pyrg, topaz juga, western pearlshell, and western ridged mussel (CDFW, 2025a). Review of Bumble Bee Watch records indicates that no special-status bumble bees have been reported within ~20 miles of the study area (Xerces, 2025).

The potential for each special-status species to occur in the project site is evaluated in **Table 3** (Potential for Federal and State Special-Status Species to Occur on the Project Site) in **Appendix B**. However, as documented in **Table 3**, no special-status wildlife species were observed during the field surveys, nor are any expected to be present; therefore, the project would have no impact on special status wildlife species. A list of plant species observed during the field survey is provided in **Appendix B**.

Birds of Conservation Concern

The USFWS identified the following Birds of Conservation Concern as potentially being present in the project area: American avocet, American white pelican, black tern, California gull, calliope hummingbird, Cassin's finch, Clark's grebe, evening grosbeak, Forster's tern, Franklin's gull, lesser yellowlegs, Lewis's woodpecker, northern harrier, rufous hummingbird, western grebe, and willet. The bald eagle and golden eagle are not listed as Birds of Conservation Concern, but the USFWS noted that they are birds that warrant attention because they are protected under the Bald and Golden Eagle Protection Act (USFWS, 2025).

The project area is located within the Pacific Flyway, and it is possible that birds could nest in or adjacent to the study area. Nesting birds, if present, could be directly or indirectly affected by construction activities. Direct effects could include mortality resulting from vegetation removal and/or construction equipment operating in an area with an active nest with eggs or chicks. Indirect effects could include nest abandonment by adults in response to loud noise levels or human encroachment, or a reduction in the amount of food available to young birds due to changes in feeding behavior by adults.

Construction activities, particularly those involving vegetation removal, have the potential to directly impact nesting birds, if present. In the local area, most birds nest between February 1 and August 31. As required by **MM 4.4.1**, the potential for adversely affecting nesting birds can be greatly minimized by removing vegetation and conducting construction activities either before February 1 or after August 31. If this is not possible, a nesting survey would be conducted within one week prior to removal of vegetation and/or the start of construction. If active nests are found in the project site, the District would implement measures to comply with the Migratory Bird Treaty Act and California Fish and Game Code. Compliance measures may include, but are not limited to, exclusion buffers, sound-attenuation measures, seasonal work closures based on the known biology and life history of the species identified in the survey, as well as ongoing monitoring by biologists.

Potential Introduction and Spread of Noxious Weeds

The introduction and spread of noxious weeds during construction activities has the potential to adversely affect habitats that may support sensitive species. Each noxious weed identified by the California Department of Food and Agriculture (CDFA) receives a rating which reflects the importance of the pest, the likelihood that eradication or control efforts would be successful and the present distribution of the pest within the State. Four CDFA-ranked weeds were observed in the study area during the botanical surveys: Russian thistle, bindweed, Klamath weed, and downy brome.

A broader view of invasive plants is provided by the California Invasive Plant Council (Cal-IPC), a nonprofit organization that aims to protect California's environment and economy from invasive

plants. Cal-IPC maintains the California Invasive Plant Inventory, a comprehensive list of invasive plants based on ecological impacts, as well as "Watch" plants that may become invasive in the future. The following additional weeds that are assigned a "Moderate" or "High" rating by Cal-IPC were also observed on-site: downy brome (high), foxtail barley (moderate), foxtail fescue (moderate), greater periwinkle (moderate), medusahead (high), and yellow star-thistle (high) (Cal-IPC, n.d.).

Weeds observed in the project area are of widespread distribution in the County and further spread of these weeds is not anticipated. However, other noxious weeds could be introduced into the project area during construction if construction vehicles are not properly washed before entering the project site. Soil import/export and use of certain erosion-control materials such as straw can also result in the spread of noxious weeds. As required by **MM 4.4.2,** the potential for introduction and spread of noxious weeds can be avoided/minimized by using only certified weed-free erosion control materials, mulch, and seed; limiting any import or export of fill material to material that is known to be weed free; and requiring the construction contractor to thoroughly wash all construction vehicles and equipment before entering and upon leaving the job site. Implementation of **MM 4.4.2** would reduce the potential impacts related to the introduction and spread of noxious weeds to a ***less-than-significant*** level.

With implementation of **MM 4.4.1** and **MM 4.4.2**, direct and indirect impacts to special-status species and their habitats would be ***less than significant***.

Question B

According to CDFW, since the inception of the Natural Heritage Program in 1979, natural communities have been considered for their conservation significance. Unique natural communities were recorded in the CNDDB until the mid-1990s; at that time, funding for the natural community portion of the program was eliminated. Although natural communities are no longer being added to the CNDDB, many of the natural community occurrences maintained in the CNDDB still have significance for conservation, and their existence should be considered in the environmental review process.

Habitat Types/Sensitive Natural Communities

CNDDB records identified three sensitive natural communities, all are inland waters, within a five-mile radius of the project area. The nearest is the Pit R. Drainage Rough Sculpin/Shasta Crayfish Spring Stream. This sensitive community includes the Fall River, which runs directly beneath the planned waterline improvements on the bridge at Bridge Street. However, all work would occur within the existing paved road ROWs and would not impact the community.

The Lower Pit River/Canyon River (Hardhead/Tule Perch River) is ~1.5 miles southeast of the Fall River Mills Well No. 2 site. Big Lake is ~2.5 miles northeast of the McArthur Well No. 2 site. Due to the distances, the proposed improvements would have no impact on the latter two communities. CNDDB records do not identify any other sensitive natural communities within a five-mile radius of the project site (CDFW, 2025a, 2025b). In addition, the USFWS does not identify any designated critical habitats for federally listed species within the study area (USFWS, 2024, 2025).

The study area is largely within developed portions of Fall River Mills and McArthur. Habitat types in and adjacent to the study area include urban, annual grassland, and stream/riverine. The urban habitat type consists primarily of horticultural shrubs and trees, including various pines, spruce, elms, cottonwood, and ornamental plum, with an understory of maintained lawns or unmaintained disturbed areas dominated by weedy species. The undeveloped portions of the study area consist primarily of grassland. This habitat type is best developed at the proposed McArthur Well No. 2 site, where it consists of low-growing grasses and annual forbs such as bulbous bluegrass, smooth brome, Mediterranean barley, dwarf lupine, hawksbeard, blepharipappus, and blow-wives.

Stream/riverine habitats in the study area include roadside and constructed ditches, ephemeral streams, and seasonal wetlands. The onsite seasonal wetlands are dominated by annual hairgrass and Mediterranean barley (see discussion under Question C below).

Urban habitat is not considered as a natural or semi-natural habitat and is not included in CDFW's *California Natural Communities List* (CDFW, 2025d). The grassland habitat is a semi-natural community in that it has been leveled and is mowed annually to reduce fire hazards. Nonetheless, although the community is dominated by introduced grasses, it supports an abundance of native annual wildflowers. The onsite grassland community is not described in CDFW's *California Natural Communities List;* none of the dominant species in the onsite community are addressed in the CDFW document except for Mediterranean barley. Neither of the two communities in which Mediterranean barley occurs is identified as sensitive.

The majority of the improvements would involve disturbance of urban and annual grassland habitat due to trenching required to install waterlines as well as improvements on the elevated water tank site. Although these communities are not considered sensitive and mitigation is not required to offset impacts to these habitats, temporarily disturbed areas would be revegetated upon completion of construction. Therefore, impacts would be ***less than significant***.

Question C

ENPLAN conducted field investigations on May 23 and 28, 2025, to identify wetlands and other waters of the U.S. and State. The field investigations were conducted in accordance with technical methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (U.S. Department of the Army, Corps of Engineers, 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE, 2008), and the *Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States (USACE, 2008).*

As a result of the field delineation effort, a total of ~0.068 acres of waters were mapped in the study area: two segments of an ephemeral stream (~0.0094 acres), two seasonal wetlands (~0.033 acres), and two constructed ditches (~0.025 acres). These features are described below.

Ephemeral Streams

Ephemeral streams are drainage channels that have flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral streams are located above the water table year-round. Runoff from rainfall is the primary source of water for stream flow. Groundwater is not a source of water for ephemeral streams.

As shown in **Figure 4.4-1**, the ephemeral stream is located east of Shasta Street, west of Fourth and Fifth Streets.

The on-site ephemeral stream appears to follow a natural stream corridor that has been channelized and modified. The stream enters and exits the project area multiple times and has therefore been mapped as two features (5:ES and 6:ES) (see **Figure 4.4-1**). The stream originates from runoff near the Fall River Mills Airport to the north. Water flows in a southwesterly direction, entering the project area west of Fifth Street (5:ES) and Fourth Street (6:ES). The stream continues southwest, crossing under Third Street via a culvert; at Curve Street, the stream enters another culvert and remains underground until it discharges into the Fall River. The stream lacked surface water in the project area during the May 23 and 28 field surveys and appears to infrequently have a surface connection with the Fall River.

Seasonal Wetland

Seasonal wetlands are inundated during the winter wet season and dry during the dry season. They generally have a sparse to moderate cover of grass and forb species and may be subject to long-term surface ponding. As shown in **Figure 4.4-2**, two seasonal wetlands (1:SW and 2:SW) were identified at the elevated tank site within the project area. The dominant plant species growing within the on-site seasonal wetlands is annual hair grass (*Deschampsia danthonioides*, FACW). Indicators of wetland hydrology in the on-site wetlands consisted of depressional features at a slightly lower elevation than the surrounding terrain. The wetland boundaries were primarily determined based on vegetation patterns and surface topography.

Constructed Ditch

Constructed ditches are excavated features that may be located in either wetlands or uplands, and may convey water collected from sheet flow or diverted from other water bodies.

As shown in **Figure 4.4-2**, two constructed ditches (3:CD and 4:CD) are present at the elevated water tank site. The first constructed ditch (3:CD) runs adjacent to SR 299, and serves as a drainage point for highway runoff. The feature flows from east to west before draining into an offsite constructed ditch and continuing south. The second constructed ditch (4:CD) occurs at the southern edge of the elevated water tank site, just north of Cedar Street. The ditch receives flow from a culvert underneath a private road; the ditch flows from east to west for less than 30 feet before it dissipates into an upland swale.

The on-site ephemeral streams, seasonal wetlands, and constructed ditches do not appear to be subject to federal jurisdiction as currently defined, consistent with the September 8, 2023, revised definition of Waters of the U.S. and subsequent guidance. The streams and constructed ditches do not have relatively permanent flow, and the seasonal wetlands do not appear to have a continuous surface connection to a jurisdictional water.

Although they are not subject to federal jurisdiction and no permits from the USACE are required, all delineated waters remain subject to State jurisdiction under the Porter-Cologne Act, and issuance of a Waste Discharge Permit (or waiver) by the RWQCB is required prior to fill of the waters. The State has a "no-net-loss" policy for wetlands, and compensatory mitigation requirements will be determined by the RWQCB.

Following completion of the aquatic resources delineation, the location of the elevated water tank was shifted south to avoid/minimize impacts to the on-site seasonal wetlands. **MM 4.4.3** requires that prior to commencement of earth-disturbing activities, exclusionary flagging or other markers shall be installed around wetlands and other jurisdictional waters that are to be avoided; the location of the flagging/markers must be verified by a qualified biologist.

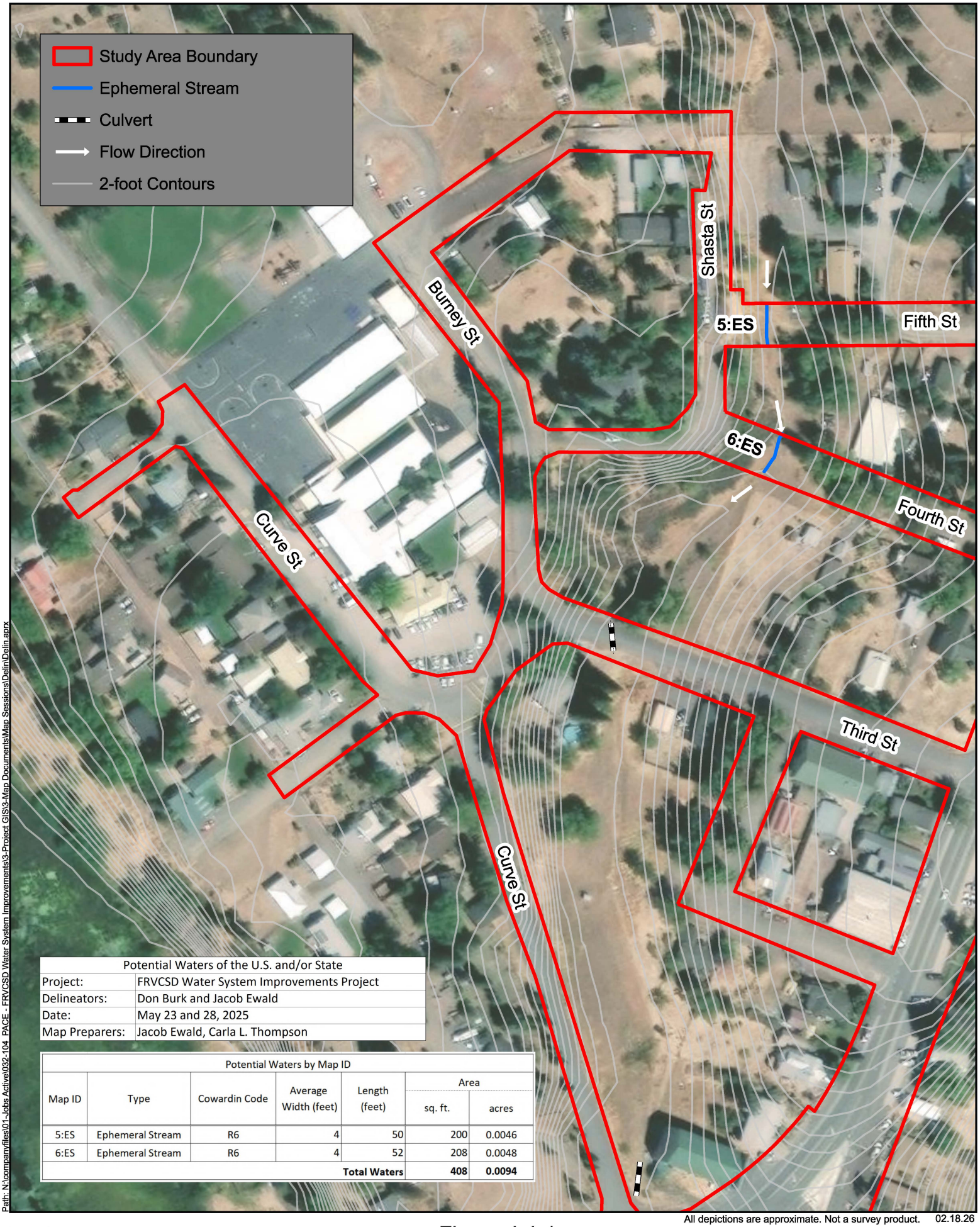
In addition, as noted in Section 1.8 (Permits and Approvals), to address potential indirect impacts on surface waters in the area, the applicant is required to obtain coverage under the NPDES permit for *Discharges of Storm Water Runoff Associated with Construction Activity* (Construction General Permit) by submitting a Notice of Intent to the RWQCB. The permitting process requires the development and implementation of an effective SWPPP that includes BMPs to reduce pollutants as well as any additional controls necessary to meet water quality standards. Measures that may be implemented to minimize erosion include, but are not limited to, limiting construction to the dry season; use of straw wattles, silt fences, and/or gravel berms to prevent sediment from discharging off-site; and revegetating temporarily disturbed sites upon completion of construction.

As documented above, use of BMPs for spill prevention and erosion control, compliance with the conditions of resource agency permits, and implementation of **MM 4.4.3** would reduce the project's potential impacts on wetlands to a ***less-than-significant*** level.

Question D

The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, nor would it impede the use of native wildlife nursery sites. Native wildlife nursery sites are locations where native fish and wildlife gather for breeding and raising young. These areas may include spawning areas for fish, fawning areas for deer, nesting rookeries for birds, and maternal roosts for bats.

CDFW identifies critical winter range for mule deer as close as ~0.8 miles southwest of the nearest project site (Fall River Mills Well. No. 2 site) (CDFW, 2024a). Due to the distance from the proposed improvements, the project would not impact the critical winter range for mule deer. There is no habitat for fish in the project site.



Potential Waters of the U.S. and/or State	
Project:	FRVCSD Water System Improvements Project
Delineators:	Don Burk and Jacob Ewald
Date:	May 23 and 28, 2025
Map Preparers:	Jacob Ewald, Carla L. Thompson

Potential Waters by Map ID

Map ID	Type	Cowardin Code	Average Width (feet)	Length (feet)	Area	
					sq. ft.	acres
5:ES	Ephemeral Stream	R6	4	50	200	0.0046
6:ES	Ephemeral Stream	R6	4	52	208	0.0048
				Total Waters	**408**	**0.0094**

Path: N:\companyfiles\01-Jobs Active\032-104_PACE - FRVCSD Water System Improvements\3-Project GIS\3-Map Documents\Map Sessions\Delin\Delin.aprx

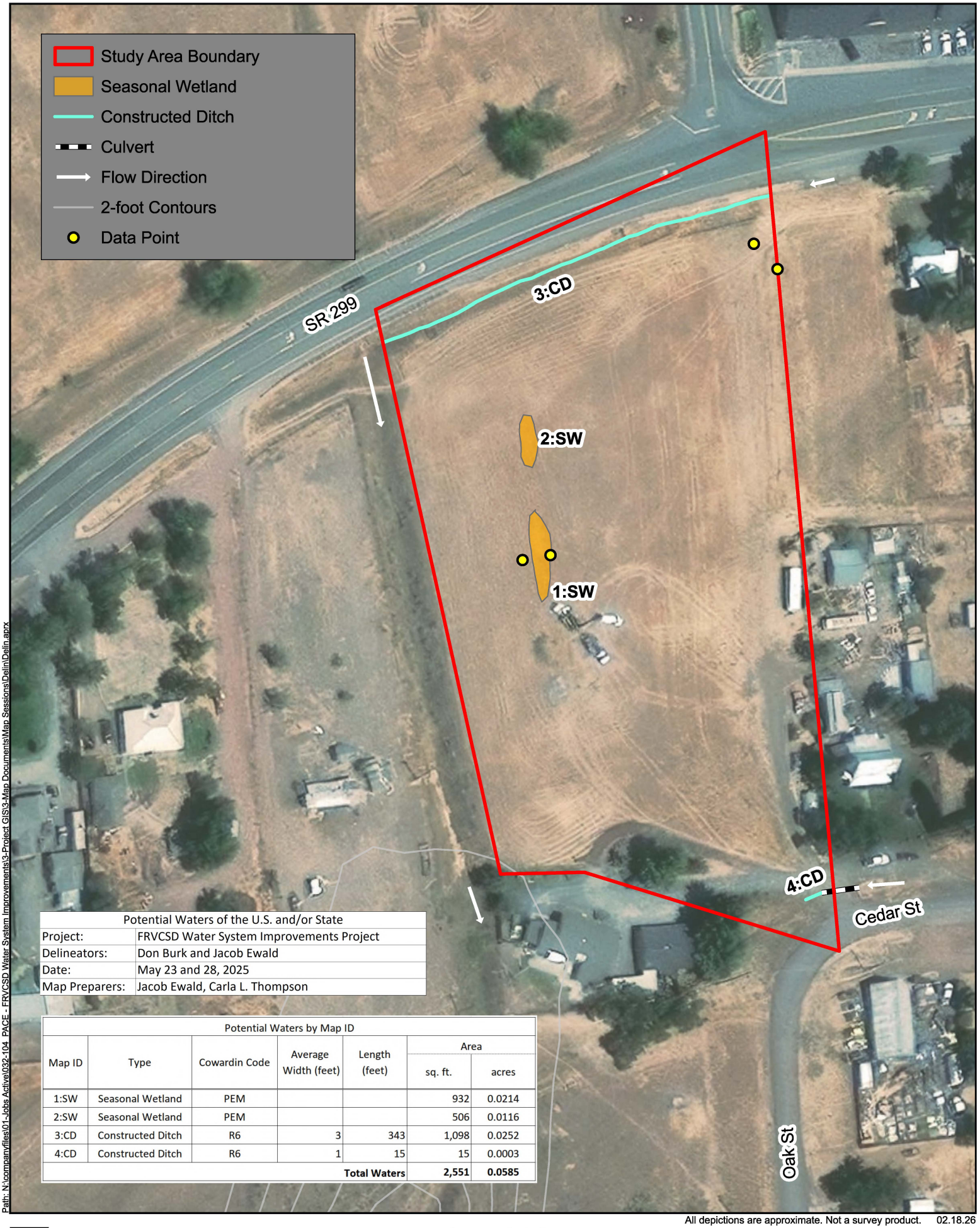
All depictions are approximate. Not a survey product. 02.18.26

0 150 Feet

Figure 4.4-1

Fall River Mills Aquatic Resources

Catalyst ENVIRONMENTAL SOLUTIONS



Potential Waters of the U.S. and/or State	
Project:	FRVCSD Water System Improvements Project
Delineators:	Don Burk and Jacob Ewald
Date:	May 23 and 28, 2025
Map Preparers:	Jacob Ewald, Carla L. Thompson

Potential Waters by Map ID

Map ID	Type	Cowardin Code	Average Width (feet)	Length (feet)	Area	
					sq. ft.	acres
1:SW	Seasonal Wetland	PEM			932	0.0214
2:SW	Seasonal Wetland	PEM			506	0.0116
3:CD	Constructed Ditch	R6	3	343	1,098	0.0252
4:CD	Constructed Ditch	R6	1	15	15	0.0003
				Total Waters	**2,551**	**0.0585**

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All depictions are approximate. Not a survey product. 02.18.26

0 100 Feet

Figure 4.4-2

Elevated Storage Tank Aquatic Resources

Catalyst ENVIRONMENTAL SOLUTIONS

However, as discussed under Question A, trees on and adjacent to the project site could provide habitat for nesting birds. Implementation of **MM 4.4.1** (nesting bird protections) ensures that the project does not interfere with wildlife nursery sites for birds. Daytime movements of deer and other terrestrial wildlife species may be temporarily affected during construction activities; however, wildlife species would be able to alter their routes to move around the construction area. There is a slight possibility that wildlife could be trapped in open trenches and pipes during construction. **MM 4.4.4** would prevent the inadvertent entrapment of wildlife.

In summary, construction-related activities that may impede the movement of wildlife would be temporary and would cease at completion of the project, permanent fencing would not significantly impede the movement of wildlife, **MM 4.4.1** minimizes the potential to adversely affect nesting birds, and **MM 4.4.4** would prevent the inadvertent entrapment of wildlife. Therefore, with implementation of the referenced mitigation measures, impacts on wildlife movement and use of nursery sites would be ***less than significant***.

Question E

As identified under Regulatory Context, the County's General Plan includes goals, objectives, policies, and programs related to the conservation of natural resources. Implementation of **MM 4.4.1** through **MM 4.4.4** and compliance with resource agency permits, including those identified in Section 1.8 (Permits and Approvals), ensures consistency with local policies that protect biological resources. Therefore, impacts would be ***less than significant***.

Question F

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of FESA when a project results in the "take" of threatened or endangered wildlife. Regional HCPs address the "take" of listed species at a broader scale to avoid the need for project-by-project permitting. A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFW. There are no HCPs, NCCPs or other habitat conservation plans that apply to the proposed project (CDFW, 2024b). Therefore, there would be ***no impact***.

CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area, including growth resulting from build-out of the County's General Plan, are anticipated to permanently remove plant and wildlife resources. Continued conversion of existing open space to urban development may result in the loss of sensitive plant and wildlife species native to the region, habitats for such species, wetlands, wildlife migration corridors, and nursery sites.

The conversion of plant and wildlife habitat on a regional level as a result of cumulative development would potentially result in a regionally significant cumulative impact on special-status species and their habitats. Implementation of **MM 4.4.1** through **MM 4.4.4**, implementation of BMPs for erosion and sediment control, and compliance with resource agency permit conditions ensures that the project's contribution to cumulative regional impacts is less than significant.

MITIGATION

MM 4.4.1 In order to avoid impacts to nesting migratory birds and/or raptors protected under the federal Migratory Bird Treaty Act and California Fish and Game Code §3503 and §3503.5, including their nests and eggs, one of the following shall be implemented:

a. Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31 when birds are not nesting; or

b. If vegetation removal or ground disturbance activities commence during the nesting season, a pre-construction nesting survey shall be conducted by a qualified biologist to identify active nests in and adjacent to the work area.

Surveys shall begin prior to sunrise and continue until vegetation and nests have been sufficiently observed. The survey shall take into account acoustic impacts and line-of-sight disturbances occurring as a result of the project in order to determine a sufficient survey radius to avoid nesting birds. At a minimum, the survey report shall include a description of the area surveyed, date and time of the survey, ambient conditions, bird species observed in the area, a description of any active nests observed, any evidence of breeding behaviors (e.g., courtship, carrying nest materials or food, etc.), and a description of any outstanding conditions that may have impacted the survey results (e.g., weather conditions, excess noise, the presence of predators, etc.).

The results of the survey shall be submitted electronically to the California Department of Fish and Wildlife at **R1CEQARedding@wildlife.ca.gov** upon completion. The survey shall be conducted no more than one week prior to the initiation of construction. If construction activities are delayed or suspended for more than one week after the pre-construction survey, the site shall be resurveyed.

If active nests are found, the applicant shall consult with CDFW and the USFWS regarding appropriate action to comply with the Migratory Bird Treaty Act and California Fish and Game Code §3503. Compliance measures may include, but are not limited to, exclusion buffers, sound-attenuation measures, seasonal work closures based on the known biology and life history of the species identified in the survey, as well as ongoing monitoring by biologists.

MM 4.4.2 The potential for introduction and spread of noxious weeds shall be avoided/minimized by:

a. Using only certified weed-free erosion control materials, mulch, and seed.

b. Limiting any import or export of fill material to material that is known to be weed free.

c. Requiring the construction contractor to thoroughly inspect and clean construction equipment prior to entering and upon leaving the job site. All equipment and vehicles shall be washed off-site at a commercial facility when possible. If off-site washing is infeasible, an on-site cleaning station shall be set up at a specified location. Either high-pressure water or air shall be used to clean equipment. The cleaning station shall be located away from sensitive biological resources, and wastewater from the cleaning station shall not be allowed to run off the cleaning station site.

   Construction equipment shall be cleaned of dirt and mud that could contain invasive plants, roots, or seeds; tracks, outriggers, tires, and undercarriages shall be carefully washed, with special attention being paid to axles, frames, cross members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies. Other construction vehicles (e.g., pick-up trucks) that will be frequently entering and exiting the site shall be inspected and washed on an as-needed basis.

MM 4.4.3 Prior to the commencement of construction activities, high-visibility indicators such as marking whiskers, pin flags, stakes with flagging tape, or other markers shall be installed along the outer edges of the construction zone adjacent to wetlands and other waters designated for avoidance. The marker/flag locations shall be determined by a qualified biologist in consultation with the project engineer and the Fall River Valley Community Services District. No construction activities (e.g., clearing, grading, trenching, etc.), including vehicle parking and materials stockpiling, shall occur within the marked/flagged area. The exclusionary markers/flags shall be periodically inspected during construction activities to ensure the markers/flags are properly maintained. The markers/flags shall be removed upon completion of work.

MM 4.4.4 To prevent the inadvertent entrapment of wildlife, the construction contractor shall ensure that at the end of each workday trenches and other excavations that are over one foot deep have been backfilled or covered with plywood or other hard material. If backfilling or covering is not feasible, one or more wildlife escape ramps constructed

of earth fill or wooden planks shall be installed in the open trench. Pipes shall be inspected for wildlife prior to capping, moving, or placing backfill over the pipes to ensure that animals have not been trapped. If animals have been trapped, they shall be allowed to leave the area unharmed.

DOCUMENTATION

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_____. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: : Arid West Region.* U.S. Army Engineer Research and Development Center, Vicksburg, MS.

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4.5 CULTURAL RESOURCES

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐

REGULATORY CONTEXT

FEDERAL

Section 106 of the National Historic Preservation Act (NHPA)

Section 106 of the NHPA and its implementing regulations require federal agencies to take into account the effects of their activities and programs on historic properties. A historic property is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places (NRHP), including artifacts, records, and material remains related to such a property (NHPA Sec. 301[5]). A resource is considered eligible for listing in the NRHP if it meets the following criteria as defined in CFR Title 36, §60.4:

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*
>
> - *The property is associated with events that have made a significant contribution to the broad patterns of our history;*
> - *The property is associated with the lives of persons significant in our past;*
> - *The property embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
> - *The property has yielded, or is likely to yield, information important to prehistory or history.*

Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP. In addition to meeting at least one of the criteria outlined above, the property must also retain enough integrity to enable it to convey its historic significance. To retain integrity, a property will always possess several, and usually most, of the seven aspects of integrity noted above. If a site is determined to be an eligible or historic property, impacts are assessed in terms of "effects." An undertaking is considered to have an adverse effect if it results in any of the following:

1. Physical destruction or damage to all or part of the property;
2. Alteration of a property;
3. Removal of the property from its historic location;
4. Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

5. Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features; and

6. Neglect of a property that causes its deterioration; and

7. The transfer, lease, or sale of the property out of federal ownership or control without restrictions or conditions to ensure long-term preservation of the property's historic significance.

If a project will adversely affect a historic property, feasible mitigation measures must be incorporated. The State Historic Preservation Officer (SHPO) must be provided an opportunity to review and comment on these measures prior to commencement of the proposed project.

STATE

California Environmental Quality Act (CEQA)

CEQA requires that projects financed by or requiring the discretionary approval of public agencies in California be evaluated to determine potential adverse effects on historical and archaeological resources (CCR §15064.5). Historical resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. Pursuant to §15064.5 of the CCR, a property may qualify as a historical resource if it meets any of the following criteria:

1. The resource is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR).

2. The resource is included in a local register of historic resources, as defined in §5020.1(k) of the PRC, or is identified as significant in a historical resources survey that meets the requirements of §5024.1(g) of the PRC (unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant).

3. The lead agency determines that the resource may be a historical resource as defined in PRC §5020.1(j), or §5024.1, or may be significant as supported by substantial evidence in light of the whole record. Pursuant to PRC §5024.1, a resource may be eligible for inclusion in the CRHR if it:

    - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    - Is associated with the lives of persons important in our past;

    - Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or

    - Has yielded, or may be likely to yield, information important in prehistory or history.

Resources must retain integrity to be eligible for listing on the CRHR. Resources that are listed in or formally determined eligible for listing in the NRHP are included in the CRHR, and thus are significant historical resources for the purposes of CEQA (PRC §5024.1(d)(1)). A unique archaeological resource means an artifact, object, or site that meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

LOCAL

Shasta County

The Shasta County General Plan includes the following Objective and Policy that apply to the proposed project:

Chapter 6.10, Heritage Resources		
Objective:	HER-1	Protection of significant prehistoric and historic cultural resources.
Policy:	HER-a	Development projects in areas of known heritage value shall be designed to minimize degradation of these resources. Where conflicts are unavoidable, mitigation measures which reduce such impacts shall be implemented. Possible mitigation measures may include clustering, buffer or nondisturbance zones, and building siting requirements.

DISCUSSION OF IMPACTS

Questions A and B

A Cultural Resources Inventory (CRI) Report was completed for the proposed project by Catalyst Environmental Solutions (Catalyst), formerly ENPLAN, in August 2025. The study included a records search, Native American consultation, and field evaluation. The records search was conducted to identify previously conducted cultural resources surveys and recorded sites in the project area. The records search included review of records at the Northeast Information Center of the California Historical Resources Information System at California State University, Chico (NEIC/CHRIS); National Register of Historic Places (NRHP); California Register of Historical Resources (CRHR); California Inventory of Historic Resources; California Historical Landmarks; California Points of Historical Interest; Native American Heritage Commission (NAHC); and historical maps and aerial photographs.

Area of Potential Effects (APE)

The APE boundaries were devised in consultation with PACE Engineering, based on the project design. The APE includes areas for staging and construction access, as well as sufficient area for construction. The horizontal APE includes the entirety of the project site, totaling ~33.1 acres, as depicted in **Figure 2**. The vertical APE (i.e., associated with the potential for buried cultural resources) is based on the engineering design of the project and reflects the planned depths of the excavations associated with the project. The maximum vertical APE is approximately 13 feet and is associated with the footings for the elevated water tank.

Records Search

Research was conducted at the NEIC/CHRIS on July 25, 2024. The records search covered an approximate 1/2-mile radius around the APE for previously recorded archaeological sites and for previously conducted surveys. The size and scope of the search area was determined to be sufficient based on the results.

The records search revealed that 38 cultural resource surveys have been conducted within a 1/2-mile radius of the project APE, 25 of which encompassed a portion of the APE. There are 62 previously recorded sites in the 1/2-mile search radius; however, none of the sites are within the APE. Several previously recorded historic buildings and residences are adjacent to the APE; however, the proposed improvements in these areas are restricted to replacing the water meters and water meter boxes located within the public road ROWs. Therefore, no modifications to the buildings would be required that would affect their historical integrity.

Review of the NRHP, the CRHR, California Historical Landmarks, and California Points of Historical Interest identified three additional resources in the general vicinity of the APE. However, they are located outside of the APE and would not be impacted by the proposed project.

Native American Consultation

In response to ENPLAN's request for information of the Sacred Lands File, the NAHC responded by e-mail on June 21, 2024, indicating that their files showed a presence of Native American sacred sites or cultural resources in the project vicinity. The NAHC provided contact information for several Native American representatives and organizations.

Comment solicitation letters and maps of the project area were sent by ENPLAN on July 1, 2024, to Vi Riley, Cultural Resources Coordinator, and the Tribal Administrator/Environmental Coordinator, Alturas Rancheria of Pit River Indians; Agnes Gonzalez, Chairperson, and Natalie Forrest-Perez, Tribal Historic Preservation Officer (THPO), Pit River Tribe of California; Jack Potter, Chairperson, Lillie Lucero, Tribal Historic Preservation Agent, and Tracy Edwards, Chief Executive Officer, Redding Rancheria; James Russ, President, Round Valley Reservation/Covelo Indian Community; and Deana Bovee, Chairperson, Susanville Indian Rancheria.

Follow-up correspondence was conducted on August 6, 2024. A response was received from THPO Forrest-Perez with the Pit River Tribe of California on August 6, 2024, stating that the Tribe has an interest in the project and recommended contacting the Ajumawi Cultural Representative, Virginia "Ginger" Amoroso. No other responses were received from any of the other tribes who were contacted.

In accordance with AB 52, the District delivered a letter to Ginger Amoroso, Ajumawi Cultural Representative with the Pit River Tribe, on August 7, 2024. Ms. Amoroso responded via email on August 8, 2024, requesting that she accompany the project archaeologist during the cultural field survey.

Fieldwork Evaluation

Archaeological fieldwork was completed by ENPLAN archaeologists on August 7, 13, and 18, 2024, and October 18, 2024, and April 28, 2025, to identify cultural resources that would be potentially affected by the proposed project. Ms. Amoroso participated in the field surveys on August 18, and October 18, 2024, and April 28, 2025. The entire APE was surveyed with transects spaced 10 to 15 meters apart at varying intensities due to the presence of paved roads, concrete coverage, graded roads, and gravel fill. Areas with exposed subsurface soil were thoroughly inspected for evidence of any possible buried cultural deposits and/or soil differentiation. Ground visibility ranged from poor to excellent (0 to 100 percent) throughout the APE. Visibility was primarily constrained because most of the APE is built environment covered with pavement, gravel, and structures.

Conclusions

The cultural resources evaluation concluded that there are no known prehistoric or historical-era resources in the APE. Therefore, the project would not affect any resource on, or eligible for listing on, the NRHP or CRHR. However, there is always some potential for previously unknown cultural resources to be encountered during project excavation.

During the field surveys with ENPLAN staff, Virginia Amoroso, Ajumawi Band Cultural Representative with the Pit River Tribe, highlighted the lack of ground visibility during the survey. Ms. Amoroso stated that this contributed to a lack of identified resources and that monitoring of the project in resource-sensitive areas should occur during construction.

Based on the geomorphological and topographic characteristics of the project area, the results of the records and literature search, Native American consultation, and the age of soils mapped in the area, the majority of the project area has a low to moderate potential for intact surface and buried historical and prehistoric cultural resources.

MM 4.5.1 addresses the inadvertent discovery of cultural resources. **MM 4.5.2** addresses comments expressed by the Pit River Tribe and requires that the tribe be notified a minimum of two weeks in advance of any ground-disturbing activities and offered the opportunity for a tribal monitor to be present. **MM 4.5.3** requires that in the event that cultural resources or human remains of Native

American descent are identified during earth disturbance, the Pit River Tribe shall be requested to provide a Native American monitor to observe subsequent earth-disturbing construction activities on potentially sensitive lands. Implementation of **MM 4.5.1** through **MM 4.5.3** ensures that the project would not cause a substantial adverse change in the significance of a historical or archaeological resource; impacts would be ***less than significant***.

Question C

The project area does not include any known cemeteries, burial sites, or human remains. However, it is possible human remains may be unearthed during construction activities. **MM 4.5.4** ensures if human remains are discovered, there shall be no further excavation or disturbance of the site until the County coroner has been contacted and has made the necessary findings as to origin and disposition in accordance with §15064.5(e) of the CEQA Guidelines. As stated under Questions A and B, **MM 4.5.3** requires that if human remains are determined to be of Native American descent, the Pit River Tribe shall be requested to provide a Native American monitor. Therefore, impacts would be ***less than significant.***

CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area have the potential to impact cultural resources. Archaeological and historic resources are afforded special legal protections designed to reduce the cumulative effects of development. Cumulative projects and the proposed project are subject to the protection of cultural resources afforded by the CEQA Guidelines §15064.5 and related provisions of the PRC. In addition, projects with federal involvement would be subject to Section 106 of the NHPA.

Given the non-renewable nature of cultural resources, any impact to protected sites could be considered cumulatively considerable. As documented above, **MM 4.5.1** and **MM 4.5.4** address the inadvertent discovery of cultural resources and human remains. **MM 4.5.2** and **MM 4.5.3** address comments expressed by the Pit River Tribe and require that the tribe be notified prior to ground-disturbing activities and that a monitor be requested if cultural resources or human remains of Native American descent are discovered. All development projects in the State are subject to the same measures pursuant to PRC §21083.2 and CEQA Guidelines §15064.5. With implementation of **MM 4.5.1** through **MM 4.5.5,** the proposed project's cumulative impact to cultural resources would be less than significant.

MITIGATION

MM 4.5.1 In the event of any inadvertent discovery of cultural resources (i.e., burnt animal bone, midden soils, projectile points or other humanly modified lithics, historic artifacts, etc.), all work within 50 feet of the find shall be halted until a professional archaeologist can evaluate the significance of the find in accordance with PRC §21083.2(g) and §21084.1, and CEQA Guidelines §15064.5(a). If any find is determined to be significant by the archaeologist, the Fall River Valley Community Services District (FRVCSD) shall meet with the archaeologist to determine the appropriate course of action. If necessary, a Treatment Plan prepared by an archeologist outlining recovery of the resource, analysis, and reporting of the find shall be prepared. The Treatment Plan shall be reviewed and approved by the FRVCSD prior to resuming construction.

MM 4.5.2 A minimum of two weeks in advance of any ground-disturbing activities (e.g., clearing, grading, trenching, etc.), the Tribal Historic Preservation Officer of the Pit River Tribe shall be notified and offered the opportunity for a Native American representative to monitor ground-disturbing activities.

MM 4.5.3 In the event that cultural resources or human remains of Native American descent are identified during earth disturbance, the Pit River Tribe shall be requested to provide a Native American monitor to observe subsequent earth-disturbing construction activities on potentially sensitive lands.

MM 4.5.4 In the event that human remains are encountered during construction activities, the FRVCSD shall comply with §15064.5 (e) (1) of the CEQA Guidelines and PRC §7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the County coroner has been notified. If the coroner determines that the remains are Native American, the coroner will notify the NAHC to identify the most likely descendants of the deceased Native Americans. Project-related ground disturbance in the vicinity of the find shall not resume until the process detailed in §15064.5 (e) has been completed.

DOCUMENTATION

ENPLAN. 2025. Cultural Resources Inventory Report: Fall River Valley Community Services District Water Improvements Project, Shasta County, California. Confidential document on file at NEIC/CHRIS.

Shasta County. 2004. Shasta County General Plan, Chapter 6.1 (Heritage Resources). https://www.shastacounty.gov/planning/page/general-plan. Accessed August 2025.

4.6 ENERGY

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

REGULATORY CONTEXT

There are no federal or local regulations pertaining to energy that apply to the proposed project.

STATE

California Environmental Quality Act (CEQA)

Section 15126.2(b) of the CEQA Guidelines states that if analysis of a project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, the effects must be mitigated. The Guidelines provide suggestions of topics that may be included in the energy analysis, including identification of energy supplies that would serve the project and energy use for all project phases and components. In addition to building code compliance, other relevant considerations may include the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project.

Renewables Portfolio Standard

In 2002, SB 1078 was passed to establish the State's Renewables Portfolio Standard (RPS) Program, with the goal of increasing the amount of electricity generated and sold to retail customers from eligible renewable energy resources. The initial goal was to increase the percentage of renewable energy in the State's electricity mix to 20 percent of retail sales by 2017. SB 350 (2015) codified a target of 50 percent renewable energy by 2030, and requires California utilities with an average load greater than 700 gigawatt hours (GWh) to develop integrated resource plans that incorporate a GHG emission reduction planning component beginning January 1, 2019.

Senate Bill 100 (2018), The 100 Percent Clean Energy Act

SB 100 (2018) was signed by the Governor on September 10, 2018, and established new standards for the RPS goals established by SB 350 (2015). The new standards established by SB 100 increased previously established RPS goals to now require 60 percent renewable energy by 2030 and 100 percent renewable energy by 2045 for both investor-owned utilities and publicly owned utilities. Interim targets require that energy providers have a renewable energy supply of 44 percent by 2024 and 52 percent by 2027.

In-Use Off Road Diesel-Fueled Fleets Regulation

CARB adopted the In-Use Off-Road Diesel-Fueled Fleets Regulation to reduce NO_X, diesel particulate matter, and other criteria pollutant emissions from various vehicles subject to the regulation. The regulation covers a wide range of vehicle types, including, but not limited to, vehicles used in construction, mining, industrial operations, and other industries. The regulations were most recently updated in August 2023 and became effective on October 1, 2023 (CARB, 2023).

The regulations require fleets to phase-out use of the oldest and highest polluting off-road diesel vehicles in California earlier or beyond what was required of fleets in the previous Off-Road Regulation. The amended regulations are being phased starting in 2024 and ending in 2036. Beginning January 1, 2024, the updated regulations also require the use of renewable diesel (99 or 100 percent renewable) in all vehicles that are subject to the regulation, subject to certain exemptions.

The amended regulations require that beginning January 1, 2024, public agencies that award or enter into contracts for public works projects obtain fleet Certificates of Reported Compliance prior to awarding public works contracts. These requirements will ensure that only compliant fleets are being used on public works projects. CARB estimates that from 2024 through 2038, the amendments will generate an additional reduction above and beyond the current regulation of approximately 31,218 tons of NO_X and 2,729 tons of $PM_{2.5}$ (CARB, 2022). About half of those additional reductions are expected to be realized within the first five years of implementation.

California Building Standards Code

Title 24 of the CCR, also known as the California Building Standards Code (CBSC), is based on the International Building Code used widely throughout the country. The CBSC has been modified for California conditions to include more detailed and/or more stringent regulations. The CBSC consists of 13 parts, including the California Building Code, Energy Code, and Green Building Standards Code. The California Energy Code (Part 6 of the CBSC), also known as the State's Energy Efficiency Standards, was established by the California Building Standards Commission in 1978 with a goal of reducing California's energy consumption for residential and nonresidential buildings. The Standards include mandatory measures related to building envelopes, mechanical systems, indoor and outdoor lighting, and electrical power distribution.

The California Green Building Code (CALGreen Code) requires new residential and commercial buildings to comply with mandatory measures related to planning and design, energy efficiency, water efficiency/ conservation, material conservation, resource efficiency, and environmental quality. Although it was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code has the added benefit of reducing energy consumption from residential and nonresidential buildings that are subject to the Code.

Warren-Alquist Act (1974)

The Warren-Alquist Act (Public Resources Code §25000 *et seq.*) established the California Energy Resources Conservation and Development Commission (California Energy Commission [CEC]) in 1974 to respond to the energy crisis of the early 1970s and the State's unsustainable growing demand for energy resources (PRC, 2024). The Act mandates that the CEC create and periodically update Building Energy Efficiency Standards for the State.

DISCUSSION OF IMPACTS

Question A

Energy consumption during construction would occur primarily from the use of fuels for construction equipment and haul trucks, and construction workers traveling to and from the work site. As stated under Regulatory Context, the In-Use Off-Road Diesel-Fueled Fleets Regulation applies to off-road heavy-duty diesel vehicles in California, including vehicles used in construction. The regulation imposes limits on idling, restricts adding older vehicles into fleets, and requires that fleet owners reduce their emissions by retiring, replacing, repowering, or retrofitting older engines. Additional requirements, including the requirement to use renewable diesel fuel in off-road diesel vehicles, are being phased in starting in 2024 through 2036 (CARB, 2023).

Power would be provided to the project by Pacific Gas and Electric (PG&E). The project would result in an increase in energy use due to electricity used to operate the new McArthur Well No. 2, water tank, PRV station, and for security lighting. As described under Regulatory Context, design of the project would be in conformance with the CBSC, including the energy efficiency standards included in the California Energy Code and CALGreen.

The use of fuel-efficient equipment during construction, compliance with State building codes, and installation of energy efficient equipment and facilities ensures that energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary, and that the project would not conflict with or obstruct a plan for renewable energy or energy efficiency. Therefore, impacts associated with energy use would be ***less than significant***.

CUMULATIVE IMPACTS

Completion of the proposed project and other potential cumulative projects in the region, including growth resulting from build-out of the County's General Plans, could result in potentially significant impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources. However, all new development projects in the State are required to comply with the State's regulations that require the use of fuel-efficient equipment during construction. In addition, new construction must comply with energy efficiency standards included in the CBSC. Compliance with State regulations ensures that the proposed project's cumulative impacts on energy resources would be less than significant.

MITIGATION

None necessary.

DOCUMENTATION

California Air Resources Board (CARB). 2023. In-Use Off-Road Diesel-Fueled Fleets, Final Regulation Order (Rulemaking Website). https://ww2.arb.ca.gov/rulemaking/2022/off-roaddiesel. Accessed August 2025.

_____. 2022. Standardized Regulatory Impact Assessment (SRIA), Proposed Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation. https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/appb.pdf. Accessed August 2025.

California Public Resources Code (PRC). 2025. §25000 *et seq.*, Warren-Alquist State Energy Resources Conservation and Development Act. https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=PRC&division=15.&title=&part=&chapter=&article=&nodetreepath=35. Accessed August 2025.

4.7 GEOLOGY AND SOILS

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☒	☐	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☒	☐	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial 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?	☐	☒	☐	☐

REGULATORY CONTEXT

FEDERAL

National Earthquake Hazards Reduction Act

The National Earthquake Hazards Reduction Act was passed in 1977 to reduce the risks to life and property from future earthquakes in the United States. The Act established the National Earthquake Hazards Reduction Program to reduce the adverse effects of earthquakes in order to strengthen earthquake resilience among at-risk communities. The Federal Emergency Management Agency (FEMA) is designated as the lead agency of the program.

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained federal and/or state agency permits and agree to donate any recovered materials to recognized public institutions, where they will remain accessible to the public and to other researchers. The Act incorporates key findings of a report, *Fossils on Federal Land and Indian Lands*, issued by the Secretary of the Interior in 2000, that established that most vertebrate fossils and some invertebrate and plant fossils are considered rare resources.

STATE

California Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (PRC §2621 *et seq.*) was passed in 1972 to reduce the risk to life and property from surface faulting in California. The Act prohibits the siting of most structures intended for human occupancy on the surface trace of active faults. Before a project can be permitted in a designated Alquist-Priolo Fault Study Zone, a geologic investigation must be prepared to demonstrate that proposed buildings would not be constructed across active faults.

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act (SHMA) of 1990 (PRC §2690–2699.6) addresses non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction and seismically induced landslides. The SHMA also addresses expansive soils, settlement, and slope stability. Under the SHMA, cities and counties may withhold development permits for sites within seismic hazard areas until geologic/geotechnical investigations have been completed and measures to reduce potential damage have been incorporated into development plans.

California Building Standards Code

Title 24 of the CCR, also known as the California Building Standards Code (CBSC), provides minimum standards for building design and construction, including excavation, seismic design, drainage, and erosion control. The CBSC is based on the International Building Code (IBC) used widely throughout the country. The CBSC has been modified for California conditions to include more detailed and/or more stringent regulations.

Protection of Paleontological Resources

Under CEQA, a project is considered to have a significant impact on paleontological resources if it would disturb or destroy a unique paleontological resource or site or unique geologic feature. In addition, Public Resources Code (PRC) Section 5097.5 provides for the protection of paleontological resources. Local agencies are required to comply with PRC 5097.5 when the agency has discretionary authority over a project undertaken by others (e.g., issuance of use permits, grading permits, etc.).

LOCAL

Shasta County

The Shasta County General Plan includes the following Objectives and Policy that apply to the proposed project:

Chapter 5.1, Seismic and Geologic Hazards		
Objectives:	SG-1	Protection of all development from seismic hazards by developing standards for the location of development relative to these hazards; and protection of essential or critical structures, such as schools, public meeting facilities, emergency services, high-rise and high-density structures, by developing standards appropriate for such protection.
	SG-2	Protection of development on unstable slopes by developing standards for the location of development relative to these hazards.
	SG-3	Protection of development from other geologic hazards, such as volcanoes, erosion, and expansive soils.
	SG-4	Protection of waterways from adverse water quality impacts caused by development on highly erodible soils.

Policy:	SG-e	When soil tests reveal the presence of expansive soils, engineering design measures designed to eliminate or mitigate their impacts shall be employed.

DISCUSSION OF IMPACTS

Question A

i and ii)

According to the Alquist-Priolo Earthquake Fault Zoning Map, the nearest Alquist-Priolo Special Study Zone to the project area is the McArthur Fault Zone, located as close as ~0.8 miles west of the project sites. As shown in **Figure 4.7-1**, faults affiliated with this Zone are located ~0.8 miles west of the McArthur Well No. 2 site, ~0.5 miles east of the water tank site, and over 2.5 miles northeast of the improvements in Fall River Mills (DOC, n.d.).

The California Geological Survey (CGS) identifies two potentially active faults in the Hat Creek Zone in the project area (DOC, 2022a). As shown in **Figure 4.7-1**, the potentially active Quaternary-age faults bisect the existing Fall River Mills Well No. 2 site and areas where water line and water meter improvements are proposed.

The proposed project would include construction of a new well, well building, water tank, and associated appurtenances within the Holocene-active McArthur fault zone. Some of the existing water meters and water lines and the Fall River Mills Well No. 2 facilities are within the potentially active Hat Creek fault zone. Project implementation would not increase the exposure of people to risks associated with a seismic event; however, if not properly designed, project components such as the proposed water tank could be susceptible to seismic-related damage.

As required by **MM 4.7.1**, a geotechnical study will be completed for the proposed project. The study will include site reconnaissance, drilling and logging of exploratory borings, sampling of the subsurface soils, and laboratory testing of the soil samples. The study will include an evaluation of physical and engineering properties of the subsurface soils, and engineering analysis of potential geologic hazards (i.e., seismic hazards, landslides, liquefaction, settlement, expansive soils, etc.).

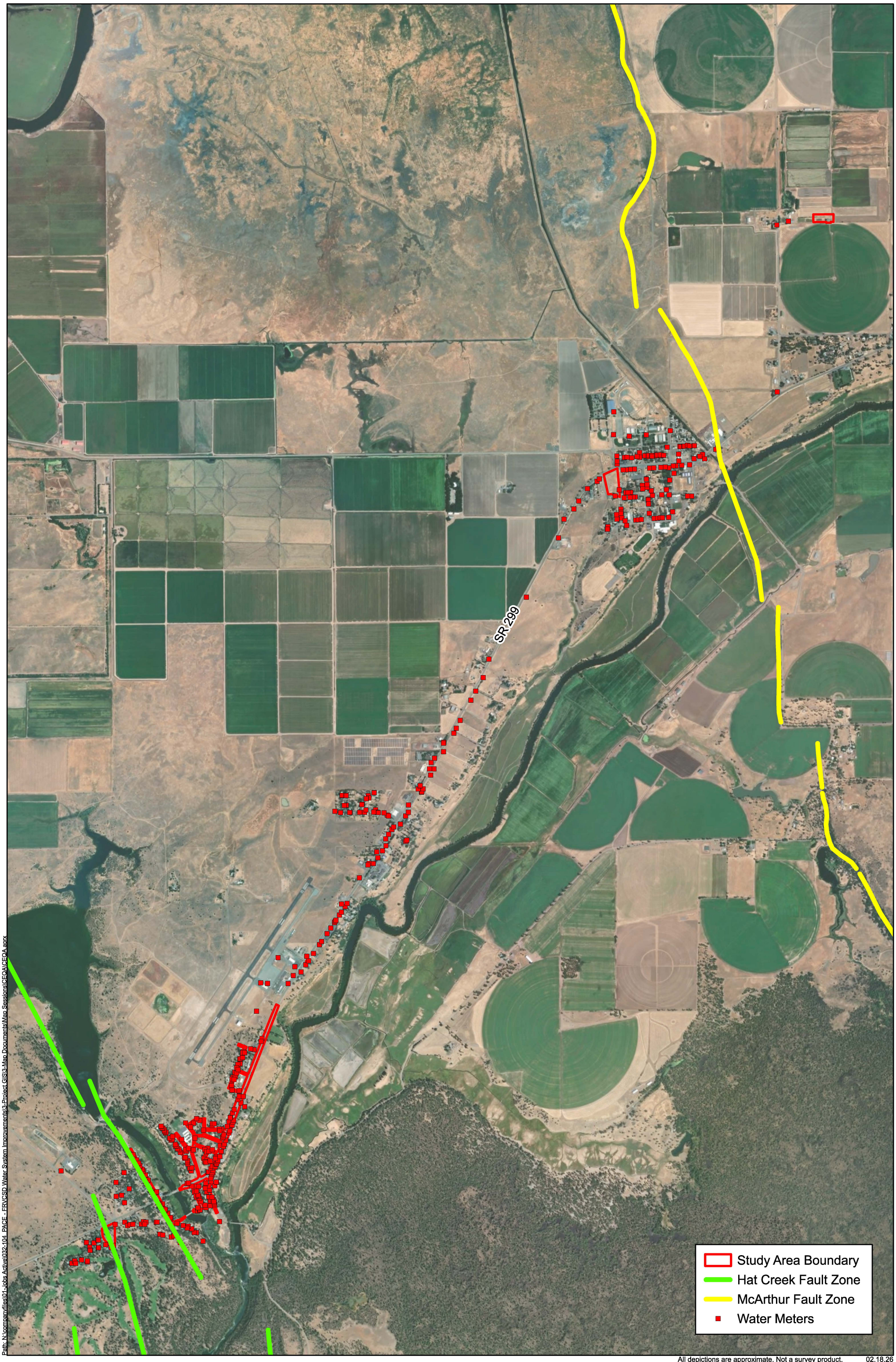
The project would be designed in accordance with USGS Seismic Design Maps, CBSC seismic design specifications, and other applicable seismic design standards. Recommendations for project design and construction methods would be included in the geotechnical report.

To ensure that the recommendations in the geotechnical report are incorporated into the project design, **MM 4.7.1** requires that grading and foundation plans for the water tanks site must be reviewed by a qualified professional to ensure that the recommendations are implemented. **MM 4.7.2** requires that work activities are monitored and inspected as recommended in the geotechnical report. Implementation of **MM 4.7.1** and **MM 4.7.2** ensures that impacts associated with seismic activity and seismic-related ground failure would be ***less than significant.***

iii)

See discussion under Question A i) and ii) above. Liquefaction results from an applied stress on the soil, such as earthquake shaking or other sudden change in stress condition, and is primarily associated with saturated, cohesionless soil layers located close to the ground surface. During liquefaction, soils lose strength, and ground failure may occur. Building foundations can sink, break apart or tilt, and gravity-fed pipelines can back up. This is most likely to occur in alluvial deposits (geologically recent, unconsolidated sediments), stream channel deposits, and glacial outwash deposits, especially when the groundwater table is high.

As shown in **Table 4.7-1**, due to soil type, it is possible that liquefaction could occur in some areas.



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All depictions are approximate. Not a survey product. 02.18.26

0 2,000 Feet

Figure 4.7-1

Earthquake Faults

Catalyst ENVIRONMENTAL SOLUTIONS

TABLE 4.7-1
Soil Type and Characteristics

Location / Acreage	Soil Unit Symbol and Name	Landform and Parent Material	Drainage	Surface Runoff	Permeability	Shrink-Swell Potential
Portions of Water Tank and Fall River Mills Well Sites 4.0 acres	159 - Dudgen-Graven complex, 0 to 5 percent slopes	Stream terraces; Alluvium from extrusive igneous rock	Moderately well drained	High	Slow	Moderate
Portions of Waterline Corridors 0.04 acres	184 - Henhill silt loam, partially drained, 0 to 2 percent slopes	Stream terraces; Lake sediments and alluvium from extrusive igneous rock	Somewhat poorly drained	High	Moderately slow	Low
Portion of Waterline Corridors 3.9 acres	200 - Jellycamp-Lassen-Longcreek complex, 2 to 15 percent slopes	Lava plateaus; Alluvium from extrusive igneous rock	Well drained	Very High	Very slow to slow	Moderate
Fall River Mills Well No. 2 Site 2.8 acres	201 - Jellycamp-Ollierivas complex, 2 to 9 percent slopes	Lava plateaus; Alluvium from extrusive igneous rock	Moderately well drained	Very High	Very slow to slow	Moderate
Portions of Waterline Corridors, Water Tank Site, and McArthur Well No. 2 Site 22.1 acres	282 - Pittville sandy loam, 0 to 5 percent slopes	Stream terraces; Alluvium from extrusive igneous rock	Well drained	Low	Moderately slow	Low
Portions of Waterline Corridors 0.1 acres	397 - Water	N/A	N/A	N/A	N/A	N/A

Source: U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, n.d.; USDA, Soil Survey of Intermountain Area, California, Parts of Lassen, Modoc, Shasta, and Siskiyou Counties, 2000.

As stated under Questions i) and ii), a geotechnical report will be prepared for the elevated water tank site and will include an evaluation of physical and engineering properties of the subsurface soils, and engineering analysis of potential geologic hazards, including liquefaction. Recommendations would be included to ensure that potential geologic hazards are addressed through engineering design and construction methods.

MM 4.7.1 requires that grading and foundation plans for the water tank site must be reviewed by a qualified professional to ensure that the recommendations are implemented. **MM 4.7.2** requires that work activities are monitored and inspected as recommended in the geotechnical report. Implementation of **MM 4.7.1** and **MM 4.7.2** ensures that impacts associated with potential liquefaction would be ***less than significant***.

iv)

A landslide is a mass of rock, earth, or debris moving down a slope. Landslides are most likely to occur in steep areas with weak rocks where the soil is saturated from heavy rains or snowmelt. According to the 2023 Shasta County Multi-Jurisdictional Hazard Mitigation Plan, there are no recorded incidents of landslides to date in Shasta County (Shasta County, 2023).

Earthwork that alters the shape of a slope or imposes new loads on an existing slope could increase the potential for landslides. The geotechnical report will evaluate site-specific conditions and include recommendations as necessary to minimize potential impacts related to landslides. Implementation of **MM 4.7.1** and **MM 4.7.2** ensures that potential impacts would be ***less than significant***.

Question B

Construction of the proposed project would involve excavation, grading activities, and installation of project components, which would result in the temporary disturbance of soil and would expose disturbed areas to potential storm events. This could generate accelerated runoff, localized erosion, and sedimentation. In addition, construction activities could expose soil to wind erosion that could adversely affect on-site soils and the re-vegetation potential of the area.

As noted in Section 1.8 (Permits and Approvals), the FRVCSD is required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) permit for *Discharges of Storm Water Runoff Associated with Construction Activity* (Construction General Permit) by submitting a Notice of Intent to the RWQCB. The permitting process requires the development and implementation of an effective SWPPP that includes BMPs to minimize erosion. Measures could include limiting construction to the dry season; use of straw wattles, silt fences, and/or gravel berms to prevent sediment from discharging off-site; and revegetating temporarily disturbed sites upon completion of construction. Because BMPs for erosion and sediment control would be implemented in accordance with existing requirements, the potential for soil erosion and loss of top soil would be ***less than significant***.

Questions C and D

See discussion under Questions A and B above. Unstable soils consist of loose or soft deposits of sands, silts, and clays. Expansive soils generally contain clays that swell when they absorb water and shrink when they dry out. When expansive soils swell, the change in volume can exert pressure on loads that are upon them.

As shown in **Table 4.7-1**, one of the soils, Pit silty clay, drained, 0 to 2 percent slopes, in the project area have a high shrink-swell potential; however, this soil is located in a ~0.4-acre portion of the proposed waterline improvements. Further, as stated under Questions A (iii and iv), any areas within the project site with unstable and/or expansive soils would be identified during completion of the geotechnical study as required by **MM 4.7.1. MM 4.7.2** ensures that construction activities are monitored as recommended in the geotechnical study. The geotechnical report will include recommendations for building foundation, structural systems, ground stabilization, and/or other measures to minimize impacts. Implementation of **MM 4.7.1** and **MM 4.7.2** ensures that impacts associated with unstable and expansive soils would be ***less than significant***.

Question E

The proposed project does not include the installation or use of alternative wastewater disposal systems. Therefore, there would be ***no impact***.

Question F

Paleontological resources include fossils and deposits that contain fossils. Fossils are evidence of ancient life preserved in sediments and rock, such as the remains of animals, animal tracks, plants, and other organisms; as such, they are a non-renewable resource. Fossils are found primarily embedded in sedimentary rocks, mostly shale, limestone, and sandstone. With rare exceptions, metamorphic and igneous rocks have undergone too much heat and pressure to preserve fossils; however, when ash from volcanic eruptions buries the surrounding area, the ash sometimes encapsulates organisms.

A review of U.C. Berkeley Museum of Paleontology (UCMP) records showed that 838 paleontological resources sites have been discovered in Shasta County (UCMP, n.d.a). Within these sites, 11,470 fossils have been recorded in the County (UCMP, n.d.b); however, specific locations of these specimens are not disclosed.

According to the DOC, the southwestern extent of the project area, including the Fall River Mills Well No. 2 site and areas of several water meter replacements, consists of Quaternary era volcanic flow rocks with minor pyroclastic deposits. The geology of the remainder of the project area consists of Pleistocene era and Pleistocene-Holocene era marine and nonmarine (continental) sedimentary

rocks (DOC, 2022b). Because paleontological resources and fossils are found primarily within sedimentary rock deposits, fossilized paleontological resources may be present in the project area. **MM 4.7.3** addresses the inadvertent discovery of paleontological resources and ensures that impacts would be ***less than significant.***

CUMULATIVE IMPACTS

Completion of the proposed project and other potential cumulative projects in the region, including growth resulting from build-out of the County's General Plan, could result in increased erosion and soil hazards and could expose additional structures and people to seismic hazards. In addition, ground disturbance has the potential to destroy paleontological resources.

As discussed above, all development projects in the County that are over one acre in size are required to obtain coverage under the NPDES permit for *Discharges of Storm Water Runoff Associated with Construction Activity* by submitting a Notice of Intent to the SWRCB and implementing a SWPPP that includes BMPs to minimize erosion. In addition, pursuant to existing State regulations, incorporation of CBSC seismic design criteria and engineering design measures are required for all new development projects. Implementation of **MM 4.7.1**, **MM 4.7.2**, and **MM 4.7.3** ensures that the project's impacts are not cumulatively considerable.

MITIGATION

MM 4.7.1 Prior to approval of the final improvement plans for the water tank site, a geotechnical exploration report shall be prepared by a geotechnical engineer or other qualified professional to evaluate the surface and subsurface soil conditions at the water tanks site and identify geotechnical criteria for site excavations, design of foundations, installation of drainage facilities, and other related improvements.

All grading plans and foundation plans for the water tank shall be reviewed by a qualified professional to ensure that all recommendations included in the geotechnical report are implemented. Applicable notes shall be placed on the attachment sheet to the improvements plans and in applicable project plans and specifications.

If significant engineering design changes occur during construction, the Fall River Valley Community Services District shall consult with a qualified geotechnical engineer to identify any geotechnical constraints related to the design changes. Recommendations of the geotechnical engineer shall be implemented as warranted.

MM 4.7.2 The Fall River Valley Community Services District shall ensure through contractual obligations that earthwork activities are monitored by a qualified professional to ensure that recommendations included in the geotechnical report are implemented.

MM 4.7.3 If paleontological resources (fossils) are discovered during construction, all work within a 50-foot radius of the find shall be halted until a professional paleontologist can evaluate the significance of the find. If any find is determined to be significant by the paleontologist, Fall River Valley Community Services District (District) representatives shall meet with the paleontologist to determine the appropriate course of action. If necessary, a Treatment Plan prepared by a paleontologist outlining recovery of the resource, analysis, and reporting of the find, shall be prepared. The Treatment Plan shall be reviewed and approved by the District prior to resuming construction.

DOCUMENTATION

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4.8 GREENHOUSE GAS EMISSIONS

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

REGULATORY CONTEXT

There are no federal regulations pertaining to greenhouse gas emissions that apply to the proposed project.

STATE

California Executive Order S-3-05

EO S-03-05 was signed by the Governor on June 1, 2005, and established the goal of reducing statewide GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32 (Global Warming Solutions Act of 2006)

As required by AB 32 (2006), CARB adopted the initial Climate Change Scoping Plan in 2008 that identified the State's strategy to achieve the 2020 GHG emissions limit via regulations, market-based mechanisms, and other actions. AB 32 requires that the Scoping Plan be updated every five years. CARB's first update to the Climate Change Scoping Plan (2014) addressed post-2020 goals and identified the need for a 2030 mid-term target to establish a continuum of actions to maintain and continue reductions. Executive Order B-30-15 (2015) extended the goal of AB 32 and set a GHG reduction goal of 40 percent below 1990 levels by 2030. In December 2017, CARB adopted the second update to the Scoping Plan that includes strategies to achieve the 2030 mid-term target and substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

The 2017 Scoping Plan Update recommends that local governments aim to achieve a community-wide goal of no more than 6 metric tons (MT) CO_2 equivalent (CO_2e) units per capita by 2030 and no more than 2 MT CO_2e per capita by 2050, which is consistent with the State's long-term goals.

California Executive Order B-55-18

EO B-55-18 was issued by the Governor on September 10, 2018. It sets a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets.

2022 Scoping Plan for Achieving Carbon Neutrality

On November 16, 2022, the 2022 Scoping Plan for Achieving Carbon Neutrality was published by CARB (CARB, 2022a). The Plan lays out the sector-by-sector plan that outlines a technologically feasible, cost-effective, and equity-focused path to achieve the State's climate target. The 2022 Plan extends and expands upon earlier plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, and also outlines how carbon neutrality can be achieved by meeting the anthropogenic emissions target and by expanding actions to capture and store carbon through the State's natural and

working lands and implementing mechanical approaches (e.g., capture at point sources and direct removal from the atmosphere through direct air capture).

Senate Bill 32/Assembly Bill 197 (2016)

As set forth in EO B-30-15, SB 32 requires CARB to reduce GHG emissions to 40 percent below the 1990 levels by 2030. AB 197 requires CARB to prioritize direct GHG emission reductions in a manner that benefits the state's most disadvantaged communities and to consider social costs when adopting regulations to reduce GHG emissions.

Renewables Portfolio Standard

In 2002, SB 1078 was passed to establish the State's Renewables Portfolio Standard (RPS) Program, with the goal of increasing the amount of electricity generated and sold to retail customers from eligible renewable energy resources. The initial goal was to increase the percentage of renewable energy in the State's electricity mix to 20 percent of retail sales by 2017. SB 350 (2015) codified a target of 50 percent renewable energy by 2030, and requires California utilities with an average load greater than 700 GWh to develop integrated resource plans that incorporate a GHG emission reduction planning component beginning January 1, 2019.

Senate Bill 100 (2018), The 100 Percent Clean Energy Act

SB 100 (2018) was signed by the Governor on September 10, 2018, and established new standards for the RPS goals established by SB 350 (2015). The new standards established by SB 100 increased previously established RPS goals to now require 60 percent renewable energy by 2030 and 100 percent renewable energy by 2045 for both investor-owned utilities and publicly owned utilities. Interim targets require that energy providers have a renewable energy supply of 44 percent by 2024 and 52 percent by 2027.

Senate Bill 375 (Sustainable Communities and Climate Protection Act of 2008)

Under SB 375, the CARB sets regional targets for the reduction of GHG emissions from passenger vehicles and light duty trucks. Each Metropolitan Planning Organization (MPO) in the State, or Regional Transportation Planning Agency for regions without a MPO, must include a Sustainable Communities Strategy in the applicable Regional Transportation Plan that demonstrates how the region will meet the GHG emissions reduction targets.

Mobile Source Strategy

CARB's 2020 Mobile Source Strategy (Strategy), describes the State's strategy for containing air pollutant emissions from vehicles, and quantifies growth in vehicle miles traveled that is compatible with achieving state climate targets (CARB, 2021). The Strategy demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risks from transportation emissions, and reduce petroleum consumption over the next fifteen years.

In-Use Off-Road Diesel-Fueled Fleets Regulation

CARB adopted the In-Use Off-Road Diesel-Fueled Fleets Regulation to reduce NO_X, diesel particulate matter, and other criteria pollutant emissions from off-road heavy-duty diesel vehicles in California. The regulation covers a wide range of vehicle types, including, but not limited to, vehicles used in construction, mining, industrial operations, and other industries. The regulations were most recently updated in August 2023 and became effective on October 1, 2023 (CARB, 2023).

The regulations require fleets to phase-out use of the oldest and highest polluting off-road diesel vehicles in California earlier or beyond what was required of fleets in the previous Off-Road Regulation. The amended regulations are being phased which started in 2024 and would end in 2036. Beginning January 1, 2024, the updated regulations also require the use of renewable diesel (99 or 100 percent renewable) in all vehicles that are subject to the regulation, subject to certain exemptions.

The amended regulations require that beginning January 1, 2024, public agencies that award or enter into contracts for public works projects obtain fleet Certificates of Reported Compliance prior to awarding

public works contracts. These requirements will ensure that only compliant fleets are being used on public works projects. CARB estimates that from 2024 through 2038, the amendments will generate an additional reduction above and beyond the current regulation of approximately 31,218 tons of NO_X and 2,729 tons of $PM_{2.5}$ (CARB, 2022b). About half of those additional reductions are expected to be realized within the first five years of implementation.

CEQA Guidelines

§15064.4 of the California Environmental Quality Act (CEQA) Guidelines states that the lead agency should focus its GHG emissions analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A lead agency has the discretion to determine whether to use a model or methodology to quantify GHG emissions or to rely on a qualitative or performance-based standard.

The GHG analysis should consider: 1) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, 2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and 3) the extent to which the project complies with any regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an Environmental Impact Report (EIR) must be prepared for the project. To determine transportation-generated GHG emissions in particular, lead agencies may determine that it is appropriate to use the same method used to determine the transportation impacts associated with a project's vehicle miles traveled (VMT).

In *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, which involved the Newhall Ranch project, the California Supreme Court concluded that a legally appropriate approach to assessing the significance of GHG emissions was to determine whether a project was consistent with "*'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions' (CEQA Guidelines §15064.4(a)(2), (b)(3)… §15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)"* (62 Cal.4th app. 229.)

Greenhouse Gases Defined

Table 4.8-1 provides descriptions of the GHGs identified in California Health and Safety Code §38505(g).

TABLE 4.8-1
Greenhouse Gases

Greenhouse Gas	Description
Carbon dioxide (CO_2)	CO_2 is the primary greenhouse gas emitted through human activities. In 2014, CO_2 accounted for about 80.9 percent of all U.S. greenhouse gas emissions from human activities. The main human activity that emits CO_2 is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation, although certain industrial processes and land-use changes also emit CO_2.
Methane (CH_4)	CH_4 is the second most prevalent greenhouse gas emitted in the United States from human activities. Methane is emitted by natural sources such as wetlands, as well as human activities such as the raising of livestock; the production, refinement, transportation, and storage of natural gas; methane in landfills as waste decomposes; and in the treatment of wastewater.

Greenhouse Gas	Description
Nitrous oxide (N_2O)	In 2014, N_2O accounted for about 6 percent of all U.S. greenhouse gas emissions from human activities. Nitrous oxide is naturally present in the atmosphere as part of the Earth's nitrogen cycle. Human activities such as agricultural soil management (adding nitrogen to soil through use of synthetic fertilizers), fossil fuel combustion, wastewater management, and industrial processes are also increasing the amount of N_2O in the atmosphere.
Hydrofluorocarbons (HFCs)	HFCs are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products such as refrigerants, aerosol propellants, solvents, and fire retardants. They are released into the atmosphere through leaks, servicing, and disposal of equipment in which they are used.
Perfluorocarbons (PFCs)	PFCs are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane (CF_4), perfluoroethane (C_2F_6), perfluoropropane (C_3F_8), perfluorobutane (C_4F_{10}), perfluorocyclobutane (C_4F_8), perfluoropentane (C_5F_{12}), and perfluorohexane (C_6F_4). Perfluorocarbons are produced as a byproduct of various industrial processes associated with aluminum production and the manufacturing of semiconductors.
Sulfur hexafluoride (SF_6)	SF_6 is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. SF_6 is primarily used in magnesium processing and as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80 percent of all SF_6 produced worldwide.
Nitrogen trifluoride (NF_3)	Nitrogen trifluoride is a colorless, odorless, nonflammable gas that is highly toxic by inhalation. It is one of several gases used in the manufacture of liquid crystal flat-panel displays, thin-film photovoltaic cells and microcircuits.

Source: U.S. Environmental Protection Agency (USEPA, 2025).

LOCAL

Shasta County

Shasta County developed a draft Shasta Regional Climate Action Plan in August 2012 (RCAP). The RCAP includes GHG inventories and projections for each jurisdiction in Shasta County for 2008, 2020, 2035, and 2050. The plan also shows that the County would achieve a reduction in GHG emissions in the year 2020 below 2008 business as usual emissions with the implementation of state and federal reduction measures. However, the County has not adopted thresholds of significance for GHGs.

DISCUSSION OF IMPACTS

Question A

Gases that trap heat in the atmosphere create a greenhouse effect that results in global warming and climate change. These gases are referred to as greenhouse gases (GHGs). As described in **Table 4.8-1**, some GHGs occur both naturally and as a result of human activities, and some GHGs are exclusively the result of human activities.

The atmospheric lifetime of each GHG reflects how long the gas stays in the atmosphere before natural processes (e.g., chemical reactions) remove it. A gas with a long lifetime can exert more warming influence than a gas with a short lifetime. In addition, different GHGs have different effects on the atmosphere. For this reason, each GHG is assigned a global warming potential (GWP) which is a measure of the heat-trapping potential of each gas over a specified period of time (CARB, n.d.).

Gases with a higher GWP absorb more heat than gases with a lower GWP and thus have a greater effect on global warming and climate change. The GWP metric is used to convert all GHGs into CO_2e units, which allows policy makers to compare impacts of GHG emissions on an equal basis. The GWPs and atmospheric lifetimes for each GHG are shown in **Table 4.8-2**.

TABLE 4.8-2
Greenhouse Gases: Global Warming Potential and Atmospheric Lifetime

GHG	GWP (100-year time horizon)	Atmospheric Lifetime (years)
CO_2	1	100*
CH_4	25	12
N_2O	298	114
HFCs	Up to 14,800	Up to 270
PFCs:	Up to 12,200	2,600 – 50,000
SF_6	22,800	3,200
NF_3	17,200	740

Source: California Air Resources Board (CARB, n.d.).

** No single lifetime can be given for CO_2 because it moves throughout the earth system at differing rates. Some CO_2 will be absorbed very quickly, while some will remain in the atmosphere for thousands of years.*

Thresholds of Significance

As stated under Regulatory Context, §15064.4 of the CEQA Guidelines gives lead agencies the discretion to determine whether to use a model or other method to quantify GHG emissions and/or to rely on a qualitative or performance-based standard.

For a quantitative analysis, a lead agency could determine a less-than-significant impact if a project did not exceed an established numerical threshold. For a qualitative/performance-based threshold, a lead agency could determine a less-than-significant impact if a project complies with State, regional, and/or local programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

If a qualitative approach is used, lead agencies should still quantify a project's construction and operational GHG emissions to determine the amount, types, and sources of GHG emissions resulting from the project. Quantification may be useful in indicating to the lead agency and the public whether emissions reductions are possible, and if so, from which sources. For example, if quantification reveals that a substantial portion of a project's emissions result from mobile sources (automobiles), a lead agency may consider whether design changes could reduce the project's vehicle miles traveled (OPR, 2018).

Neither the District nor SCAQMD have adopted numerical thresholds of significance or performance-based standards for GHG emissions. Numerical thresholds that have been referenced for other projects in the region range from 900 MT/year CO_2e (Tehama County) to 1,100 MT/year CO_2e for both construction and operational emissions and 10,000 MT/year CO_2e for stationary sources (various communities in the Sacramento Valley and Northeast Plateau air basins). For this project, the FRVCSD has determined that a conservative threshold of 900 MT/year CO_2e is appropriate.

Project GHG Emissions

GHG emissions for the proposed project were estimated using the CalEEMod Version 2022.1.1.30 software. Output files, as well as site-specific inputs and assumptions, are provided in **Appendix A**. CalEEMod is a statewide model designed to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation

(including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

CalEEMod also includes the intensity factors for CO_2, CH_4, and N_2O for the utility company that will serve the proposed project. Therefore, CalEEMod uses PG&E's mix of renewable and non-renewable energy sources to estimate indirect GHG emissions associated with electricity use. Site-specific inputs and assumptions for the proposed project include, but are not limited to, the following.

- Emissions from construction are based on all construction-related activities associated with the proposed uses, including but not limited to grading, site preparation, use of construction equipment, material hauling, trenching, site preparation, application of architectural coatings, and paving.
- For purposes of the CalEEMod Analysis, it was assumed construction would start in June 2028 and occur over a period of approximately 24 months.
- Total land disturbance would be approximately 2.6 acres; 3,500 cubic yards (CY) of material would be imported; 5,000 CY would be exported.
- The total area to be paved would be 0.8 acres.
- The total weight of demolition debris (pavement) to be removed from the project site would be approximately 640 tons.
- The total area receiving architectural coatings would be 20,650 square feet.
- To represent a worst-case scenario, it was assumed that approximately 3 trees with a diameter of 6 inches at breast height (DBH) and larger would be removed to facilitate construction at the McArthur Well No. 2 site and the Fall River Mills Well No. 2 site.

Construction Emissions

Estimated construction-related GHG emissions are shown in **Table 4.8-3**; the majority of emissions are from the combustion of diesel fuel in heavy equipment.

TABLE 4.8-3
Estimated Construction-Related Greenhouse Gas Emissions

Total Construction Emissions (Metric Tons/Year)					
Year	**Carbon Dioxide (CO_2)**	**Methane (CH_4)**	**Nitrous Oxide (N_2O)**	**Refrigerants (Type of HFCs)**	**Carbon Dioxide Equivalent (CO_2e)**
2028	314	0.01	0.01	0.03	317
2029	261	0.01	< 0.005	< 0.005	262
2030	44.3	< 0.005	< 0.005	< 0.005	44.5
Total	**619.3**	**< 0.03**	**< 0.02**	**< 0.04**	**623.5**

Source: CalEEMod, 2025. Note: Totals may not add due to rounding.

Operational Emissions

As stated in Section 4.3 (Air Quality) under Questions A and B, the project's increase in operational emissions over existing levels would be attributed to the addition of energy consumption to operate the new pumps and motors inside the well building, electrical equipment for the new water tank and PRV station, and lighting at the well and water tank sites. The generation of electricity through combustion of fossil fuels (e.g., coal, natural gas, and petroleum) produces GHG emissions.

Table 4.8-4 shows the estimated highest daily levels of operational emissions by source. For the proposed project, Mobile sources include on-road motor vehicles and off-road engines and equipment used for maintenance activities. Area sources include consumer products, architectural coatings, and road dust. Energy sources include electricity generated from fossil fuels (indirect emissions) that is used to operate pumps, motors, etc. Reporting under Water includes increased demand associated with general maintenance activities. Solid waste includes increased solid waste generation associated with the project. Refrigerants include those used in vehicles and cooling systems.

Stationary sources include the emergency back-up generators. Reporting under Vegetation reflects changes in sequestration from land use changes and tree removal. Construction emissions are amortized over a 30-year period, which is considered the minimum service life of the project, and added to the operational emissions.

TABLE 4.8-4
Estimated Annual Operational Greenhouse Gas Emissions

Total Operational Emissions (Metric Tons/Year)					
Source	**Carbon Dioxide (CO_2)**	**Methane (CH_4)**	**Nitrous Oxide (N_2O)**	**Refrigerants (Type of HFCs)**	**Carbon Dioxide Equivalent (CO_2e)**
Mobile	37.5	< 0.005	< 0.005	0.04	38.1
Area	0.10	< 0.005	< 0.005	-	0.10
Energy	22.7	< 0.005	< 0.005	-	22.8
Water	0.98	0.05	< 0.005	-	2.66
Solid Waste	0.77	0.08	0	-	2.69
Refrigerants	-	-	-	0.30	0.30
Stationary	27.6	0.02	< 0.005	0	28.3
Vegetation	3.28	-	-	-	3.28
Amortized Construction Emissions	20.6	< 0.001	< 0.001	< 0.001	20.8
Total	**113.5**	**< 0.17**	**< 0.03**	**< 0.34**	**119**

Source: CalEEMod, 2025. Note: Totals may not add due to rounding.

As indicated in **Table 4.8-4**, the project's GHG emissions are minimal in comparison to the referenced numerical threshold of 900 MT/year CO_2e. The highest levels of GHG emissions are anticipated to be generated by mobile sources, stationary sources, and energy use.

Electricity for the project would be provided by Pacific Gas and Electric (PG&E). As stated under Regulatory Context, the new standards established by SB 100 (2018) require 60 percent renewable energy by 2030 and 100 percent renewable energy by 2045 for both investor-owned utilities and publicly owned utilities, resulting in a corresponding decrease in indirect GHG emissions. Although an increase in energy use would occur, the energy use associated with the proposed project would not be wasteful or significant.

Further, as documented in Section 4.17 (Transportation), the project does not include any components that would significantly increase vehicle miles traveled (VMT) or result in significant mobile source emissions over existing levels.

As documented above, the proposed project's impacts associated with GHG emissions would be ***less than significant.***

Question B

See discussions under Regulatory Context and Question A above. There are no adopted local plans associated with GHG emissions. The District would ensure compliance with applicable State regulations adopted for the purpose of reducing GHG emissions through contractual obligations. Therefore, the proposed project would not conflict with a plan, policy, or regulation adopted for the purpose of reducing GHG emissions; there would be ***no impact***.

CUMULATIVE IMPACTS

GHG emissions and global climate change are, by nature, cumulative impacts. Unlike criteria pollutants, which are pollutants of regional and local concern, GHGs are global pollutants and are not limited to the area in which they are generated. As discussed under Regulatory Context above, the State legislature has adopted numerous programs and regulations to reduce statewide GHG emissions, and these regulations apply to all development projects in the State. As documented above, the project's GHG emissions would not exceed the referenced numerical threshold of 900 metric tons/year CO_2e, and would not result in a significant increase in GHG emissions. Therefore, the project's contribution to cumulative GHG emissions would be less than significant.

MITIGATION

None necessary.

DOCUMENTATION

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4.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☐	☐	☒	☐
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 §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 area or, where such a plan has not been adopted, within two miles of a public airport or a 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?	☐	☐	☒	☐

REGULATORY CONTEXT

FEDERAL

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) is the primary federal law for the regulation of solid waste and hazardous waste in the United States and provides for the “cradle-to-grave” regulation that requires businesses, institutions, and other entities that generate hazardous waste to track such waste from the point of generation until it is recycled, reused, or properly disposed of. The U.S. Environmental Protection Agency (USEPA) has primary responsibility for implementing the RCRA.

USEPA’s Risk Management Plan

Section 112(r) of the federal Clean Air Act (CAA) (referred to as the USEPA’s Risk Management Plan) specifically covers “extremely hazardous materials” which include acutely toxic, extremely flammable, and highly explosive substances. Facilities involved in the use or storage of extremely hazardous materials must implement a Risk Management Plan (RMP), which requires a detailed analysis of potential accident factors and implementation of applicable mitigation measures.

Federal Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Act (OSHA) prepares and enforces occupational health and safety regulations with the goal of providing employees with a safe working environment. OSHA regulations apply to the workplace and cover activities ranging from confined space entry to toxic chemical exposure.

U.S. Department of Transportation

The United States Department of Transportation regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA, discussed previously.

STATE

California Code of Regulations (CCR), Title 22, Definition of Hazardous Material

A material is considered hazardous if it is on a list of hazardous materials prepared by a federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22, §66260.10, of the CCR as: *"A substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed."*

Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the State Hazardous Waste Control Law. Both laws impose "cradle-to-grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) has primary responsibility for developing and enforcing state workplace safety regulations, including requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

California Department of Forestry and Fire Protection (CAL FIRE)

The Bates Bill (AB 337), enacted in 1992, required CAL FIRE to work with local governments to identify high fire hazard severity zones throughout each county in the State. CAL FIRE adopted Fire Hazard Severity Zone (FHSZ) Maps for State Responsibility Areas (SRAs) in November 2007. Pursuant to California Government Code §51175-51189, CAL FIRE also recommended FHSZs for Local Responsibility Areas (LRAs). Over the years, CAL FIRE has updated the maps and provided new recommendations to local governments based on fire hazard modeling.

The fire hazard model considers wildland fuels (natural vegetation that burns during the wildfire); topography (fires burn faster as they burn up-slope); weather (fire burns faster and with more intensity when air temperature is high, relative humidity is low, and winds are strong); and ember production and movement (how far embers move and how receptive the landing site is to new fires). The model recognizes that some areas of California have more frequent and severe wildfires than other areas.

Regional Water Quality Control Board (RWQCB)

The State Water Resources Control Board (SWRCB) and RWQCBs regulate hazardous substances, materials, and wastes through a variety of state statutes, including the Porter-Cologne Water Quality Control Act and underground storage tank cleanup laws. The RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Any person proposing to discharge

waste within the State must file a report of waste discharge with the appropriate regional board. The proposed project is located within the jurisdiction of the Central Valley RWQCB (CVRWQCB).

Hazardous Materials Emergency Response/Contingency Plan

Chapter 6.95, §25503, of the California Health and Safety Code requires businesses that handle/store a hazardous material or a mixture containing a hazardous material to establish and implement a Business Plan for Emergency Response (Business Plan). A Business Plan is required when the amount of hazardous materials exceeds 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases. A Business Plan is also required if federal thresholds for extremely hazardous substances are exceeded. The Business Plan includes procedures to deal with emergencies following a fire, explosion, or release of hazardous materials that could threaten human health and/or the environment.

California Accidental Release Prevention Program (CalARP)

The goal of the CalARP is to prevent accidental releases of substances that pose the greatest risk of immediate harm to the public and the environment. Facilities are required to prepare an RMP in compliance with CCR Title 19, Division 2, Chapter 4.5, if they handle, manufacture, use, or store a federally regulated substance in amounts above established federal thresholds; or if they handle a state regulated substance in amounts greater than state thresholds and have been determined to have a high potential for accident risk.

California Fire Code

Chapter 33 of the CFC (Fire Safety During Construction and Demolition) includes minimum safeguards that must be implemented during construction, alteration, and demolition activities to protect adjacent properties and structures from fire. Requirements are provided for cutting and welding activities, storage of flammable and combustible materials, blasting operations, and other construction-related activities. Vehicle access to the construction site for fire department personnel must be provided by either temporary or permanent roads capable of supporting vehicle loading under all weather conditions.

California Building Standards Code

California Building Code Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) includes standards for new construction in Wildland-Urban Interface (WUI) Fire Areas. A WUI includes areas in State Responsibility Areas (SRA) that are designated Very High, High, or Moderate fire hazard severity zones (FHSZs); and areas within a Local Responsibility Area (LRA) that are designated as Very High FHSZs. The purpose of Chapter 7A is to prevent a building from being ignited by flying embers that can travel as much as a mile away from a wildfire, and to contribute to a systematic reduction in fire-related losses through the use of performance and prescriptive requirements.

LOCAL

Shasta County

The Shasta County General Plan includes the following Objectives that apply to the proposed project:

Chapter 5.4, Fire Safety and Sheriff Protection		
Objective:	FS-1	Protect development from wildland and non-wildland fires by requiring new development projects to incorporate effective site and building design measures commensurate with level of potential risk presented by such a hazard and by discouraging and/or preventing development from locating in high-risk fire hazard areas.
Chapter 5.6, Hazardous Materials		
Objectives:	HM-1	Protection of life and property from contact with hazardous materials through site design and land use regulations and storage and transportation standards.

HM-2	Protection of life and property in the event of the accidental release of hazardous materials through emergency preparedness planning.

Shasta County Hazardous Materials Area Plan, 2022

The Shasta County Hazardous Materials Area Plan (2022) establishes policies, responsibilities, and procedures required to protect the health and safety of Shasta County's citizens, the environment, and public and private property from the effects of hazardous materials emergency incidents.

The Area Plan establishes the emergency response organization for hazardous materials incidents occurring within Shasta County including the cities of Redding, Anderson, and Shasta Lake. This Plan documents the operational and general response procedures for the Shasta-Cascade Hazardous Materials Response Team (SCHMRT), which is the primary hazardous materials response group for Shasta County.

DISCUSSION OF IMPACTS

Questions A and B

The project would not result in any long-term impacts related to the transport, use, or disposal of hazardous materials. During construction, limited quantities of hazardous substances, such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc., may temporarily be brought into areas where improvements are proposed. There is a possibility of accidental release of hazardous substances into the environment, such as spilling petroleum-based fuels used for construction equipment. Construction contractors are required to comply with applicable federal and state environmental and workplace safety laws. Additionally, construction contractors are required to implement Best Management Practices (BMPs) for the storage, use, and transportation of hazardous materials. Therefore, impacts would be ***less than significant***.

Question C

According to the Shasta County Office of Education (SCOE), schools in the project vicinity include Fall River Elementary School on Curve Street in Fall River Mills; Soldier Mountain Continuation and Fall River Community Day School on A Street in McArthur; Intermountain Preschool Co-Op and Shasta Head Start – McArthur on A Street in McArthur; and the Fall River Junior-Senior High School on Walnut Street in McArthur (SCOE, n.d.). Replacement of existing water meters would occur near all six local schools and replacement of existing water lines would occur near Fall River Elementary School.

As described under Questions A and B above, although the project construction would involve temporary use of relatively small quantities of materials such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, etc., potential impacts associated with hazardous materials would be ***less than significant*** with compliance with existing laws and regulations, and no mitigation measures are required.

Question D

The following databases were reviewed to locate hazardous waste facilities, land designated as hazardous waste property, and hazardous waste disposal sites in accordance with California Government Code §65962.5:

- List of Hazardous Waste and Substances sites from the DTSC EnviroStor Database.
- SWRCB GeoTracker Database.
- List of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit.
- List of active Cease and Desist Orders and Clean-Up and Abatement Orders from the SWRCB.

The records search revealed that the project is not located on a hazardous waste site (California Environmental Protection Agency, n.d.). There is an active clean-up site, Roy's Chevron, located adjacent to waterline and water meter replacements in the area of SR 299 and Mechanic Street. The case was opened in 1996 due to the release of petroleum hydrocarbons from four gasoline underground storage tanks (SWRCB, n.d.). According to a Phase I/II Investigation prepared in March 2020, there is no indication that soil or groundwater contamination extends beyond the clean-up site (Weston Solutions, Inc., 2020). Therefore, the project would ***not impact*** or be impacted by the active clean-up site.

Question E

According to the Federal Aviation Administration (FAA), the Fall River Mills Airport is the nearest airport to the project area (FAA, n.d.); the airport runway is as close as ~1,000 feet west of the PRV station site, portions of waterline improvements, and several water meter locations. Several water meters proposed to be replaced are located throughout the airport property. According to Shasta County GIS data, all the waterline replacements, a portion of water meter replacements, and the PRV station improvements are located within the Fall River Mills Airport (Airport) Planning Boundary (Shasta County, n.d.).

The project does not include any components that would increase the potential for people living or working in the project area to be exposed to excessive noise or safety hazards associated with the airport in the long term. Although construction workers would be completing improvements as close as ~1,000 feet east of the airport, the airport must comply with FAA regulations enacted to protect public safety. Therefore, potential impacts are ***less than significant***.

Question F

The proposed project does not involve a use or activity that could interfere with long-term emergency response or emergency evacuation plans for the area. Although a temporary increase in traffic could occur during construction and could interfere with emergency response times, construction-related traffic would be minor due to the overall scale of the construction activities. Further, construction-related traffic would be spread over the duration of the construction schedule and would be minimal on a daily basis. The FRVCSD will be required to obtain an encroachment permit from Shasta County prior to working in the County road ROW. An encroachment permit from Caltrans would also be required for work in the SR 299 ROW.

As required by the encroachment permits, temporary traffic control during completion of activities that require work in the public road ROW is required and must adhere to the procedures, methods and guidance given in the current edition of the California Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD requires preparation of a traffic control plan that addresses the needs of all road users (motorists, bicyclists, and pedestrians) and identifies protective measures to ensure the safety of road users, workers, and emergency responders. The plan would identify the location of the work, affected roads, and types and locations of temporary traffic control measures (i.e., signs, cones, flaggers, etc.) that would be implemented during the work (Caltrans, 2025). Implementation of a traffic control plan in accordance with MUTCD requirements ensures that the proposed project would not interfere with emergency response vehicles or an emergency evacuation plan; therefore, impacts during construction would be ***less than significant.***

Question G

As documented in Section 4.20 (Wildfire), the proposed project does not include any development or improvements that would increase the long-term risk of wildland fires or expose people or structures to wildland fires. The majority of improvements are located within a Very High Fire Hazard Severity Zone (FHSZ) in a Local Responsibility Area (LRA); the new McArthur Well No. 2 site is located within an Unzoned area in a LRA; and the existing Fall River Mills Well No. 2 is located within a Very High FHSZ in a State Responsibility Area (SRA) (CAL FIRE, n.d.; Shasta County, 2025). Therefore, as described under Regulatory Context, the project is subject to CFC and CBC requirements to minimize damage or loss due to wildland fires.

Equipment used during construction activities, including power tools and acetylene torches, may create sparks that could ignite dry grass. Because the project is primarily located in a Very High FHSZ, construction activities are subject to the PRC wildfire measures and State Fire Code regulations that identify minimum safeguards that must be implemented during construction, alteration, and demolition activities to protect life and property from fire. In the long term, the project would have a beneficial effect by increasing water storage capacity and improving fire flows, which would improve the ability to fight wildfires in the area. Therefore, impacts would be ***less than significant***.

CUMULATIVE IMPACTS

As documented above, the proposed project would not result in a significant increase in long-term risks associated with hazards or hazardous materials. The transport, use, and disposal of hazardous chemicals by the project and cumulative projects would be conducted in accordance with existing regulations, and steps must be taken during construction to minimize wildfire risks. Construction would be in conformance with the applicable California building and fire codes. Because the proposed project and cumulative projects are required to implement measures to reduce the potential for adverse impacts associated with hazards and hazardous materials, including wildfire, the proposed project's cumulative impacts would be less than significant.

MITIGATION

None necessary.

DOCUMENTATION

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4.10 HYDROLOGY AND WATER QUALITY

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or 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?	☐	☐	☐	☒

REGULATORY CONTEXT

FEDERAL

Clean Water Act (CWA)

The CWA (33 USC §1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality and was established to *"restore and maintain the chemical, physical, and biological integrity of the Nation's waters."* Pertinent sections of the Act are as follows:

1. Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
2. Section 401 (Water Quality Certification) requires an applicant for any federal permit that would authorize a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the Act.
3. Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the U.S. This permit program is administered by the State Water Resources Control Board (SWRCB) and is discussed in detail below.

4. Section 404, jointly administered by the U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA), establishes a permit program for the discharge of dredged or fill material into waters of the U.S.

Federal Anti-Degradation Policy

The federal Anti-Degradation Policy is part of the CWA (Section 303(d)) and is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that protects designated uses of water bodies (e.g., fish and wildlife, recreation, water supply, etc.). The water quality necessary to support the designated use(s) must be maintained and protected.

Safe Drinking Water Act

Under the 1974 Safe Drinking Water Act, most recently amended in 1996, USEPA regulates contaminants of concern to domestic water supply, which are those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are classified as either primary or secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed triennially.

Federal Emergency Management Agency (FEMA)

FEMA is responsible for mapping flood-prone areas under the National Flood Insurance Program (NFIP). Communities that participate in the NFIP are required to adopt and enforce a floodplain management ordinance to reduce future flood risks related to new construction in a flood hazard area. In return, property owners have access to affordable federally-funded flood insurance policies.

National Pollutant Discharge Elimination System (NPDES)

Under Section 402(p) of the CWA, the USEPA established the NPDES to enforce discharge standards for both point-source and non-point-source pollution. Dischargers can apply for individual discharge permits, or apply for coverage under the General Permits that cover certain qualified dischargers. Point-source discharges include municipal and industrial wastewater, stormwater runoff, combined sewer overflows, sanitary sewer overflows, and municipal separate storm sewer systems. NPDES permits impose limits on discharges based on minimum performance standards or the quality of the receiving water, whichever type is more stringent in a given situation.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code §13000 *et seq.*) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of waters of the State. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater, and to both point and non-point sources of pollution. The Act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. The Regional Water Quality Control Boards (RWQCBs) enforce waste discharge requirements identified in the Report.

The State has numerous programs that address groundwater quality, including the Land Disposal Program, which regulates the discharge to land of certain solid and liquid wastes; the Irrigated Lands Program, which regulates discharges from irrigated agricultural lands; and the Drinking Water Source Assessment and Protection Program, which addresses both groundwater and surface water sources and includes State's wellhead protection program.

State Anti-Degradation Policy

In 1968, as required under the Federal Anti-Degradation Policy, the SWRCB adopted an Anti-Degradation Policy, formally known as the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (State Water Board Resolution No. 68-16). Under the Policy, any actions that can adversely affect water quality in surface or ground waters must be consistent with the maximum benefit to

the people of the State, not unreasonably affect present and anticipated beneficial use of the water, and not result in water quality less than that prescribed in water quality plans and policies.

National Pollution Discharge Elimination System (NPDES)

Pursuant to the federal CWA, the responsibility for issuing NPDES permits and enforcing the NPDES program was delegated to the SWRCB and the nine RWQCBs. NPDES permits are also referred to as waste discharge requirements (WDRs) that regulate discharges to waters of the U.S. Below is a description of relevant NPDES general permits.

Construction Activity and Post-Construction Requirements

Discharges from construction sites that disturb one acre or more of total land area are subject to the NPDES permit for *Discharges of Storm Water Runoff associated with Construction Activity* (currently Order No. 2022-0057-DWQ), also known as the Construction General Permit. The permitting process requires the development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP). Coverage under the Construction General Permit is obtained by submitting a Notice of Intent (NOI) to the SWRCB and preparing the SWPPP prior to the beginning of construction. The SWPPP must include Best Management Practices (BMPs) to reduce pollutants and any more stringent controls necessary to meet water quality standards. Dischargers must also comply with water quality objectives as defined in the applicable Basin Plan.

The Construction General Permit includes post-construction requirements for areas in the State not covered by a Standard Urban Storm Water Management Plan (SUSWMP) or a Phase I or Phase II Municipal Separate Storm Sewer System (MS4) Permit. These requirements are intended to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect water quality impacts (i.e., pollution and/or hydromodification) upstream or downstream.

Where applicable, the SWPPP submitted to the SWRCB with the NOI must include a description of all post-construction stormwater management measures. The SWRCB Stormwater Multiple Application and Report Tracking System (SMARTS) post-construction calculator or similar method would be used to quantify the runoff reduction resulting from implementation of the measures. The applicant must also submit a plan for long-term maintenance with the NOI. The maintenance plan must be designed for a minimum of five years and must describe the procedures to ensure that the post-construction stormwater management measures are adequately maintained.

Dewatering Activities (Discharges to Surface Waters and Storm Drains)

Construction dewatering activities that involve the direct discharge of relatively pollutant-free wastewater that poses little or no threat to the water quality of waters of the U.S. are subject to the provisions of Central Valley RWQCB (CVRWQCB) Order R5-2022-0006 (NPDES No. CAG995002), *Waste Discharge Requirements, Limited Threat Discharges to Surface Water*, as amended. WDRs for this order include discharge prohibitions, receiving water limitations, monitoring, and reporting, etc. Coverage is obtained by submitting a NOI to the applicable RWQCB.

Dewatering Activities (Discharges to Land)

Construction dewatering activities that are contained on land and do not discharge to waters of the U.S. are authorized under SWRCB Water Quality Order No. 2003-003-DWQ if the discharge is of a quality as good as or better than the underlying groundwater, and there is a low risk of nuisance. Note: The CVRWQCB may determine that construction dewatering discharges to land should be regulated under other WDRs or a conditional waiver, such as Resolution R5-2018-085, *Waiver of Reports of Waste Discharge and WDRs for Specific Types of Discharge within the Central Valley Region.*

Water Quality Control Plans (Basin Plans)

Each of the State's RWQCBs is responsible for developing and adopting a basin plan for all areas within its region. The Plans identify beneficial uses to be protected for both surface water and groundwater. Water quality objectives for all waters addressed through the plans are included, along with

implementation programs and policies to achieve those objectives. WDRs were adopted in order to attain the beneficial uses listed for the Basin Plan areas.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), enacted in September 2014, established a framework for groundwater resources to be managed by local agencies in areas designated by the Department of Water Resources (DWR) as "medium" or "high" priority basins. Basins were prioritized based, in part, on groundwater elevation monitoring conducted under the California Statewide Groundwater Elevation Monitoring (CASGEM) program.

The SGMA requires local agencies in medium- and high-priority basins to form Groundwater Sustainability Agencies (GSAs) and be managed in accordance with locally developed Groundwater Sustainability Plans (GSPs). Medium- and high-priority basins must be managed under a GSP by January 31, 2022. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans.

Groundwater Ambient Monitoring and Assessment (GAMA) Program

The GAMA program includes a publicly accessible Groundwater Information System that integrates and displays water quality data from various sources on an interactive Google-based map: https://www.waterboards.ca.gov/water_issues/programs/gama/gama-gis.html. The GAMA GIS contains approximately 78 million standardized analytical results from over 282,000 wells throughout the State. Data is compiled from multiple sources and includes well chemical data and depth to water measurements. Improvements and additions are continually added as system needs change.

LOCAL

Shasta County

The Shasta County General Plan includes the following Objective and Policies that apply to the proposed project:

Chapter 5.2, Flood Protection		
Objective:	FL-1	Protection of public health and safety, both on-site and downstream, from flooding through floodplain management which regulates the types of land uses which may locate in the floodplain, prescribes construction designs for floodplain development, and requires mitigation measures for development which would impact the floodplain by increasing runoff quantities.
Policies:	FL-c	Whenever possible, flood control measures should consist of channel diversions or limited floodplain designs which avoid alteration of creeks and their immediate environs.
	FL-h	The impacts of new development on the floodplain or other downstream areas due to increased runoff from that development shall be mitigated. In the case of the urban or suburban areas, and in the urban and town centers, the County may require urban or suburban development to pay fees which would be used to make improvements on downstream drainage facilities in order to mitigate the impacts of upstream development.
Chapter 6.6, Water Resources and Water Quality		
Policy:	W-a	Sedimentation and erosion from proposed developments shall be minimized through grading and hillside development ordinances and other similar safeguards as adopted and implemented by the County.

DISCUSSION OF IMPACTS

Question A

The proposed project has the potential to temporarily degrade water quality due to increased erosion during project construction; however, as discussed under Regulatory Context above, and in Section 4.7 (Geology and Soils) under Question B, the SWRCB Construction General Permit requires implementation of a SWPPP that includes BMPs to control construction-related erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat. In addition, the proposed project is subject to post-construction requirements included in the SWRCB Construction General Permit to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect impacts from stormwater runoff (i.e., pollution and/or hydromodification) upstream or downstream.

In addition, if dewatering is required during construction, the project is subject to a CVRWQCB General Order that includes specific requirements for monitoring, reporting, and implementing BMPs for construction dewatering activities. Implementation of conditions of the required permits would help ensure that the project does not violate water quality standards or waste discharge requirements or otherwise degrade water quality. Impacts would be ***less than significant.***

Question B

As discussed under Regulatory Context above, the SGMA established a framework for groundwater resources to be managed by local agencies in areas designated by the DWR as medium or high priority basins. The project area is located within the Fall River Valley Groundwater Basin, which is currently designated as a low priority basin (DWR, n.d.a, n.d.b). The SGMA does not require low priority basins to submit GSPs; therefore, there is not a GSP for the Fall River Valley Groundwater Basin (DWR, 2025).

According to the Municipal Services Review/Sphere of Influence Update approved by the Shasta Local Agency Formation Commission (LAFCO) in 2021, the District has pre-1914 water rights to divert and use surface water from the Fall River with a maximum direct diversion of 0.5 cubic feet per second, or 225 gallons per minute (GPM), for domestic uses. However, surface water is no longer used for drinking water purposes and is only used for irrigation of the Fall River Mills Golf Course (Shasta LAFCO, 2021; Forsgen, 2014).

The existing water supply consists of two wells, McArthur Well No. 1 and Fall River Mills Well No. 2. McArthur Well No. 1 does not require additional treatment to meet drinking water standards and is the primary source of water production for the District. It consistently produces 400 GPM which provides 576,000 gallons per day (GPD), and has a potential yield of over 1,000 GPM, which could potentially provide up to 1,440,000 GPD when the backup mechanical drive is utilized. Fall River Mills Well No. 2 contains elevated iron and manganese levels and is used only as a standby emergency well. It has a 120 GPM capacity pump and can produce 172,800 GPD (Shasta LAFCO, 2021; Forsgen, 2014).

According to the Water System Master Plan (WMP) prepared Forsgren Associates in 2014, the maximum day demand (MDD) was 390 GPM and the build-out MDD was 569 GPM. As noted above, the McArthur Well No. 1 consistently produces 400 GPM which is greater than the 2014 MDD. When utilizing the backup mechanical drive, the well has a potential yield of over 1,000 GPM, which exceeds the build-out MDD (Forsgren, 2014). Therefore, the existing water system has the capacity to meet the system's MDD.

However, according to the 2014 WMP, Fall River Mills Well No. 2 has a 120 GPM capacity which does not fully meet the current or build-out MDD. Water production from the well must be supplemented by storage capacity available in the Fall River Mills storage tanks in the event that the McArthur Well No. 1 is taken off line (Forsgren, 2014). Therefore, the system is not capable of meeting the current or build-out MDD with the highest-capacity source off line in accordance with Title 22 California Code of Regulations related to drinking water.

The proposed new McArthur Well No. 2 would have a capacity of 480 GPM which would supplement McArthur Well No. 1. As stated above, the current system cannot meet the current or build-out MDD when the highest-capacity source is off line. With the addition of a third well, the system would have a combined capacity of 520 to 1,520 GPM. Therefore, the water system would be capable of meeting the current and build-out MDD with the highest-capacity source off line in accordance with Title 22 California Code of Regulations related to drinking water.

In terms of groundwater supply, the purpose of the project is to meet current State standards for water systems and ensure a safe and reliable water supply to existing customers rather than to accommodate future growth. Future growth would be in accordance with the Shasta County General Plan. Therefore, the project is not expected to substantially decrease groundwater supplies.

Groundwater Recharge

Groundwater recharge to the aquifer system occurs primarily from direct precipitation on land surfaces and from infiltration of surface water runoff along streams. Groundwater recharge can be adversely impacted by increases in impervious surfacing (e.g., pavement and buildings) and due to compaction of topsoil. Construction of the new well, well building, and elevated water storage tank would result in an increase in impervious surface of ~1,200 square feet, which would decrease the area available for groundwater recharge.

The McArthur Well No. 2 site is located within the Tule River hydrologic unit, which encompasses ~35,395 acres (USEPA, 2022). The Elevated Water Tank site is located within the Peacock Creek-Pit River hydrologic unit, which encompasses ~43,205 acres. The project's increase in impervious surface represents a very small percentage of the entire surface area of the hydrologic region. Runoff would be directed to areas with pervious surfaces, and undeveloped land surrounding the project area would remain available for groundwater recharge.

Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge; impacts would be ***less than significant***.

Question C

Storm drainage facilities within the project area consists primarily of surface drainage features such as natural waterways, man-made ditches, and/or remnants of natural watercourses.

The project does not include any components that would alter the course of a stream or river. As stated under Question B, the project would add ~1,200 square feet of impervious surfaces, which would increase runoff from the site above existing conditions. As stated in Section 3.0 (Project Description), a new 5-foot-wide overflow channel would be constructed from the new elevated water tank to the existing drainage channel west of the tank, where it would discharge into an existing well-developed drainage ditch along SR 299 (See **Figures 5 and 6**). This will ensure that any overflow water from the tank does not lead to increased erosion or siltation. Any such discharge would be infrequent, and any significant discharge, such as from drawdown of the tank for maintenance purposes, would be controlled to prevent adverse effects.

The SWRCB Construction General Permit requires implementation of a SWPPP that includes BMPs to control construction-related runoff and erosion to prevent damage to streams, watercourses, and aquatic habitat. The proposed project is also subject to post-construction requirements included in the SWRCB Construction General Permit to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect impacts from stormwater runoff (i.e., pollution and/or hydromodification) upstream or downstream.

Implementation of BMPs and post-construction measures, and completion of the proposed drainage improvements ensures that the project would not alter drainage patterns in the area in a manner that would result in increased surface runoff, flooding on- or off-site, or otherwise degrade water quality; impacts would be ***less than significant.***

Question D

A tsunami is a wave generated in a body of water (typically the ocean) by fault displacement or major ground movement. The project area is located over 140 miles east of the Pacific Ocean, and there is no risk of tsunami.

A seiche is a large wave generated in an enclosed body of water in response to ground shaking. Seiches potentially threaten low lying communities and infrastructure in proximity to the affected water body. As discussed in Section 4.7 under Question A and shown in **Figure 4.7-1**, the active McArthur fault and potentially active Hat Creek fault could produce moderate ground shaking, and seiches could potentially be generated in Fall River Lake. However, it is not likely that such ground shaking would cause a seiche large enough to overtop Fall River Lake and its associated dam.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (Panels 06093C0500G and 06089C0800G, effective March 17, 2011), various sections of the waterline improvements within the public road ROWs of Long Street, Bridge Street, and SR 299 are located within a FEMA-designated 100-year flood hazard zone (Zone A – no base flood elevations determined) (see **Figure 4.10-1**) (FEMA, n.d.). Work within designated floodplain areas includes replacing existing waterlines. The project does not include any components that would increase the risk of release of pollutants due to project inundation by a flood. Therefore, impacts would be ***less than significant***.

Question E

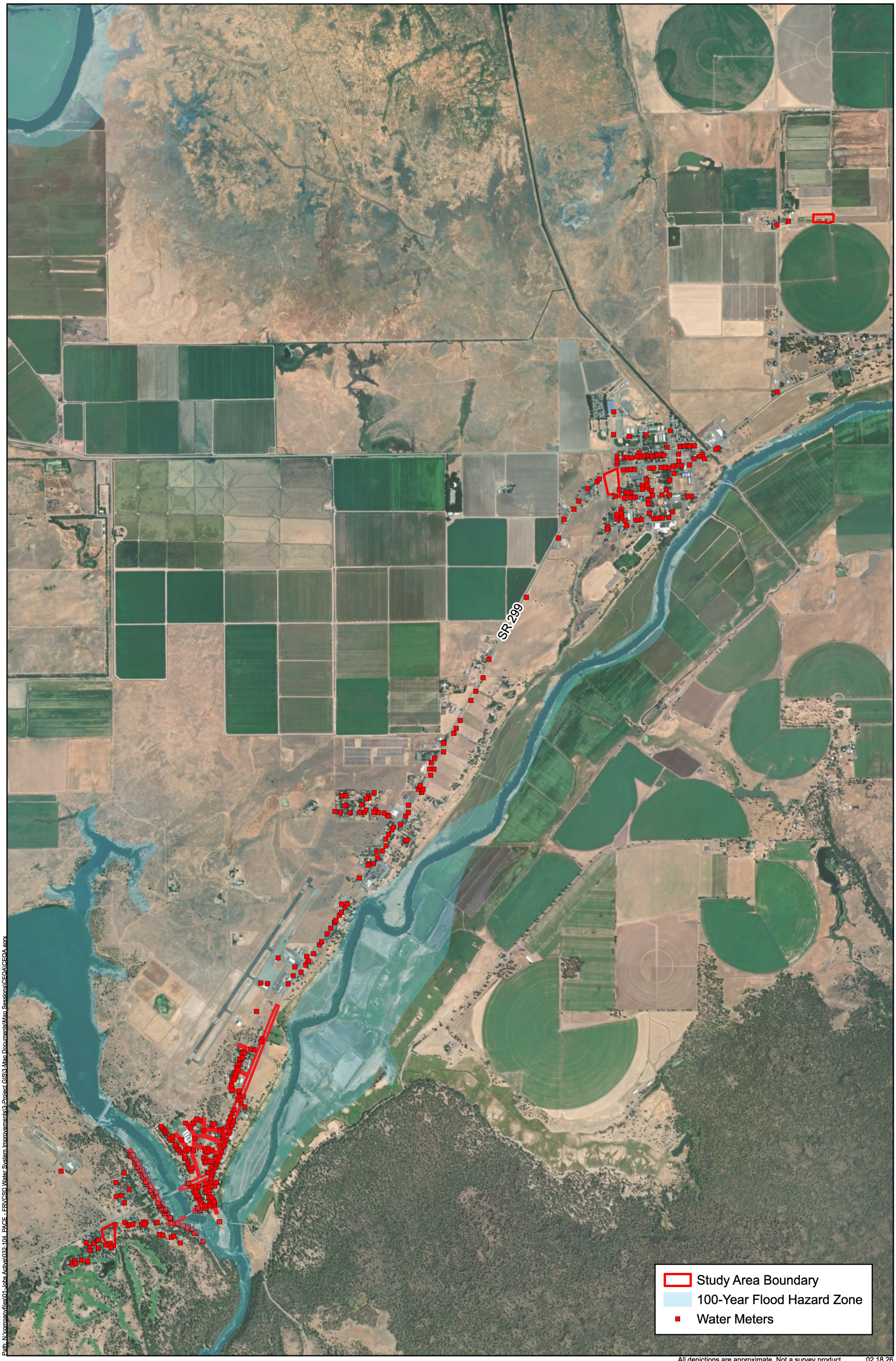
As stated under Question A, the SWRCB Construction General Permit requires implementation of a SWPPP that includes BMPs to control construction-related erosion and sedimentation and prevent damage to streams, watercourses, and aquatic habitat. The project is also subject to post-construction requirements included in the SWRCB Construction General Permit to minimize the potential for long-term impacts to water quality. In addition, if the project impacts waters of the U.S. and/or State, the project would be subject to conditions of resource agency permits (e.g., USACE Section 404 permits, RWQCB Section 401 permit, and potentially a CDFW Lake and Streambed Alteration Agreement). Compliance with existing regulations and resource agency permit conditions ensures that the project would not violate any water quality standards or Waste Discharge Requirements; as such, the project would not obstruct implementation of a water quality control plan.

As discussed under Regulatory Context above, the SGMA established a framework for groundwater resources to be managed by local agencies in areas designated by the DWR as medium or high priority basins. As discussed under Question B above, the project area is not located in a medium or high priority basin, and there is not a sustainable groundwater management plan that applies to the project proposed (DWR, n.d.a, n.d.b). Therefore, the project would have ***no impact*** on a water quality control plan or sustainable groundwater management plan.

CUMULATIVE IMPACTS

The proposed project and other potential cumulative projects in the region, including growth resulting from build-out of the County's General Plans, could result in degradation of water quality, adverse impacts to groundwater supplies and recharge, and an increased risk of flooding due to additional surface runoff generated by the project. All projects in the State that result in land disturbance of one acre or more are required to comply with the State Water Board Construction General permit which requires implementation of a SWPPP that includes BMPs to reduce pollutants and any additional controls necessary to meet water quality standards.

In addition, the proposed project is subject to post-construction requirements included in the SWRCB Construction General Permit to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect impacts from stormwater runoff upstream or downstream.



All depictions are approximate. Not a survey product. 02.18.26

0 2,000 Feet

Figure 4.10-1

FEMA-Designated Flood Hazard Zones

Catalyst ENVIRONMENTAL SOLUTIONS

The District's primary water supply is currently from McArthur Well No. 1. Although the new well would increase groundwater pumping, the primary purpose of the project is to increase fire flows and storage to meet State standards. Future development would be in accordance with the Shasta County General Plan and other applicable land use regulations.

Therefore, the project's contribution to cumulative impacts related to hydrology and water quality would be less than significant. Compliance with existing County and resource agency requirements ensures that the proposed project's cumulative impacts to hydrology and water quality are less than significant.

MITIGATION

None necessary.

DOCUMENTATION

California Department of Finance (DOF). 2025. E1: Population and Housing Estimates for Cities, Counties, and the State – January 1, 2024 and 2025. https://dof.ca.gov/forecasting/demographics/estimates-e1/. Accessed September 2025.

California Department of Water Resources (DWR). 2025. Groundwater Sustainability Plans, Sustainable Groundwater Management Act. https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Groundwater-Sustainability-Plans. Accessed September 2025.

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Federal Emergency Management Agency (FEMA). n.d. National Flood Hazard Map (Panels 06093C0500G and 06089C0800G, effective March 17, 2011). https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed September 2025.

Forsgren Associates Inc. 2014. Fall River Valley Community Service District 2014 Water Master Plan.

Shasta County. 2004. Shasta County General Plan, Chapter 5.2 (Floodplain Protection) and Chapter 6.6 (Water Resources and Water Quality). https://www.shastacounty.gov/planning/page/general-plan. Accessed September 2025.

Shasta Local Agency Formation Commission (LAFCO). 2021. Fall River Valley Community Services District Municipal Service Review and Sphere of Influence Update. https://www.shastalafco.org/images//msrs/FRV_CSD_Commission_Approved_MSR_SOI_Update_8-05-21.pdf. Accessed September 2025.

4.11 LAND USE AND PLANNING

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any applicable land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐

REGULATORY CONTEXT

There are no federal regulations pertaining to land use and planning that apply to the proposed project.

STATE

California Government Code (CGC)

CGC §65300 *et seq.* contains many of the State laws pertaining to the regulation of land uses by cities and counties. These regulations include requirements for general plans, specific plans, subdivisions, and zoning. State law requires that all cities and counties adopt General Plans that include seven mandatory elements: land use, circulation, conservation, housing, noise, open space, and safety. A General Plan is defined as a comprehensive long-term plan for the physical development of the county or city, and any land outside its boundaries that is determined to bear relation to its planning. A development project must be found to be consistent with the General Plan prior to project approval.

LOCAL

Shasta County

The Shasta County General Plan includes objectives and policies designed for the purpose of avoiding or minimizing impacts to the natural environment. The General Plan recognizes that major factors of the natural environment are landforms, water, climate, minerals, soils, vegetation, and wildlife. The Shasta County Code implements the County's General Plan. The purpose of the land use and planning provisions of the Code (Title 17, Zoning) is to provide for the orderly and efficient application of regulations and to implement and supplement related laws of the state of California, including but not limited to the California Environmental Quality Act (CEQA).

DISCUSSION OF IMPACTS

Question A

Land use impacts are considered significant if a proposed project would physically divide an existing community (a physical change that interrupts the cohesiveness of the neighborhood). The proposed project would not create a barrier for existing or planned development; therefore, there would be ***no impact***.

Question B

As discussed in each resource section of this Initial Study, the proposed project is consistent with applicable policies and objectives of the Shasta County General Plan and regulations of the regulatory agencies identified in Section 1.8 of this Initial Study. Where necessary, mitigation measures are included to reduce impacts to less than significant levels. Therefore, with implementation of the Mitigation Measures identified in Section 1.10, the proposed project would not

conflict with any plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect; impacts would be ***less than significant***.

CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area, including population growth resulting from build-out of the County's General Plan, would be developed in accordance with local and regional planning documents. Thus, cumulative impacts associated with land use compatibility are expected to be less than significant. In addition, with implementation of the recommended mitigation measures, the proposed project would not contribute to the potential for adverse cumulative land use effects.

MITIGATION

Implementation of the Mitigation Measures Identified in Section 1.10 (Summary of Mitigation measures).

DOCUMENTATION

Shasta County. 2025. Shasta County Municipal Code, Chapter 17 (Zoning). https://library.municode.com/ca/shasta_county/codes/code. Accessed August 2025.

____. 2004. Shasta County General Plan. https://www.shastacounty.gov/planning/page/general-plan. Accessed August 2025.

4.12 MINERAL RESOURCES

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

REGULATORY CONTEXT

There are no federal or local regulations pertaining to mineral resources that apply to the project.

STATE

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act (SMARA), Chapter 9, Division 2 of the Public Resources Code, provides a comprehensive surface mining and reclamation policy to ensure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. Mineral Resource Zones (MRZs) are applied to sites determined by the California Department of Conservation (DOC), California Geological Survey (CGS) as being a resource of regional significance, and are intended to help maintain mining operations and protect them from encroachment of incompatible uses. The MRZs indicate the potential for an area to contain significant mineral resources.

DISCUSSION OF IMPACTS

Questions A and B

According to the DOC, there are no designated MRZs in the project area (DOC, n.d.a). According to the DOC, Division of Mine Reclamation, there are no active mines near the project area (DOC, n.d.b).

According to the CGS, a SMARA mineral land classification study was conducted for Shasta County in 1997 (Dupras, 1997). The study covers five important industrial mineral resources that were being mined in Shasta County at that time; lands containing these industrial minerals have been classified and designated as MRZs in the County. According to the study, there were 72 MRZs in the County at that time; however, there are no designated MRZs in or near the project area. Therefore, the project would have ***no impact*** on mineral resources.

CUMULATIVE IMPACTS

As stated above, the proposed project would not result in impacts to mineral resources; therefore, the proposed project would not contribute to adverse cumulative impacts to mineral resources.

MITIGATION

None necessary.

DOCUMENTATION

California Department of Conservation (DOC). n.d.a California Geological Survey. Mineral Land Classification Maps. https://maps.conservation.ca.gov/cgs/minerals/?page=All-Data. Accessed June 2025.

_____. n.d.b California Geological Survey. Division of Mine Reclamation. Mines Online Maps. https://maps.conservation.ca.gov/mol/index.html. Accessed June 2025.

Dupras, D.L. 1997. Mineral Land Classification of Alluvial Sand and Gravel, Crushed Stone, Volcanic Cinders, Limestone, and Diatomite within Shasta County, California. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Acces sed June 2025.

4.13 NOISE

Would the project result in:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

NOISE FUNDAMENTALS

Commonly used technical acoustical terms are defined as follows:

Acoustics The science of sound.

Ambient Noise The distinctive pre-project acoustical characteristics of a given area consisting of all noise sources audible at that location.

A-Weighting The sound level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

Decibel dB The fundamental unit of measurement that indicates the intensity of a sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.

L_{eq} L_{eq} (Equivalent Continuous Sound Pressure Level) is the average sound pressure level during a period of time that takes into account the cumulative effect of multiple noise events.

REGULATORY CONTEXT

There are no federal regulations pertaining to noise that apply to the proposed project.

STATE

California Government Code §65302(f)

California Government Code §65302(f) requires a Noise Element to be included in all city and county General Plans. The Noise Element must identify and appraise major noise sources in the community (e.g., highways and freeways, airports, railroad operations, local industrial plants, etc.). A noise contour diagram depicting major noise sources must be prepared and used as a guide for establishing land use patterns to minimize the exposure of residents to excessive noise. The Noise Element must include implementation measures and possible solutions that address existing and foreseeable noise levels.

LOCAL

Shasta County

The Shasta County General Plan includes the following Objectives and Policies that apply to the proposed project:

Chapter 5.5, Noise		
Objectives:	N-1	To protect County residents from the harmful and annoying effects of exposure to excessive noise.
	N-2	To protect the economic base of the County by preventing incompatible land uses from encroaching upon existing or programmed land uses likely to create significant noise impacts.
	N-3	To encourage the application of state-of-the-art land use planning methodologies in the area of managing and minimizing potential noise conflicts.
Policies:	N-b	Noise likely to be created by a proposed non-transportation land use shall be mitigated so as not to exceed the noise level standards of table N-IV as measured immediately within the property line of adjacent lands designated as noise-sensitive. Noise generated from existing or proposed agricultural operations conducted in accordance with generally accepted agricultural industry standards and practices is not required to be mitigated.
	N-i	Where noise mitigation measures are required to achieve the standards of Tables N-IV and N-VI, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving compliance with the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.
	N-l	The use of site planning and building materials/design as primary methods of noise attenuation is encouraged. Recommended techniques include, but are not limited to, such items as: <u>Site Planning</u> • Use of building setbacks and dedication of noise easements to increase the distance between the noise source and the receiver. • Locating uses and orienting buildings that are compatible with higher noise levels adjacent to noise-generators or in clusters as means to shield more noise-sensitive areas and uses. • Using noise-tolerant structures, such as garages or carports, to shield noise-sensitive areas. • Clustering office, commercial, or multiple-family residential structures to reduce interior open-space noise levels. • Locate automobile and truck access to commercial or industrial land uses abutting residential parcels at a maximum practical distance from the residential parcels. • Avoid the siting of commercial and industrial loading and shipping facilities adjacent to residential parcels whenever practicable. • Parking areas for commercial and industrial uses should be set back from adjacent residential uses to the maximum extent feasible, or buffered and shielded by walls, fences, berms, and/or landscaping techniques.

Shasta County General Plan Table N-IV
Noise Level Performance Standards for New Projects Affected By or Including Non-Transportation Sources

Noise Level Descriptor	Daytime (7:00 AM – 10:00 PM)	Nighttime (10:00 PM – 7:00 AM)
Hourly L_{eq}, dB	55 decibels	50 decibels

In rural areas where large lots exist, the exterior noise level standard shall be applied at a point 100 feet away from the residence.

DISCUSSION OF IMPACTS

Question A

Some individuals and groups of people are considered more sensitive to noise than others and are more likely to be affected by the existence of noise. A sensitive receptor is defined as one whose comfort, health, or well-being could be impaired or endangered by the existence of noise. The Shasta County General Plan identifies noise-sensitive areas and uses as residential areas, schools, parks, hospitals, and long-term care facilities.

Sensitive receptors in the study area include single-family residences throughout most of the work area. Schools in the project vicinity include Fall River Elementary School on Curve Street in Fall River Mills; Soldier Mountain Continuation and Fall River Community Day School on A Street in McArthur; Intermountain Preschool Co-Op and Shasta Head Start – McArthur on A Street in McArthur; and the Fall River Junior-Senior High School on Walnut Street in McArthur (SCOE, n.d.). Mayers Memorial Hospital is located adjacent to SR 299 in Fall River Mills. Churches are located in several locations adjacent to SR 299 in Fall River Mills and McArthur.

The effects of noise on people can include annoyance, nuisance, and dissatisfaction; interference with activities such as speech, sleep, and learning; and physiological effects such as hearing loss or sudden startling. A common method to predict human reaction to a new noise source is to compare a project's predicted noise level to the existing environment (ambient noise level). A change of 1 dBA generally cannot be perceived by humans; a 3 dBA change is considered to be a barely noticeable difference; a 5 dBA change is typically noticeable; and a 10 dBA increase is considered to be a doubling in loudness and can cause an adverse response (Caltrans, 2013).

Ambient noise levels in the vicinity of waterline, water meter, and PRV station improvements along the roads in the project area are primarily influenced by traffic noise on SR 299 and local roads, air traffic noise at the Fall River Mills Airport, and typical rural residential noise throughout the communities of Fall River Mills and McArthur. Ambient noise levels in the vicinity of the new elevated water tank and the Country Club Booster Pump Station/Fall River Mills Well and McArthur Well sites are typical of rural residential areas. Primary noise sources in rural environments are household pets, landscape equipment (e.g., lawnmowers, hedge trimmers, leaf blowers, etc.), natural noise (wind, birds, etc.), and vehicular traffic, including cars, trucks, and emergency vehicles.

In addition, agricultural uses, primarily crop production, are prevalent in the study area. Noise sources associated with agricultural uses include tractors, forage harvesters, rice harvesters, loaders, haul trucks, irrigation systems, and other farm equipment. Noise levels from farming activities and equipment typically range from 75 dBA to 95 dBA.

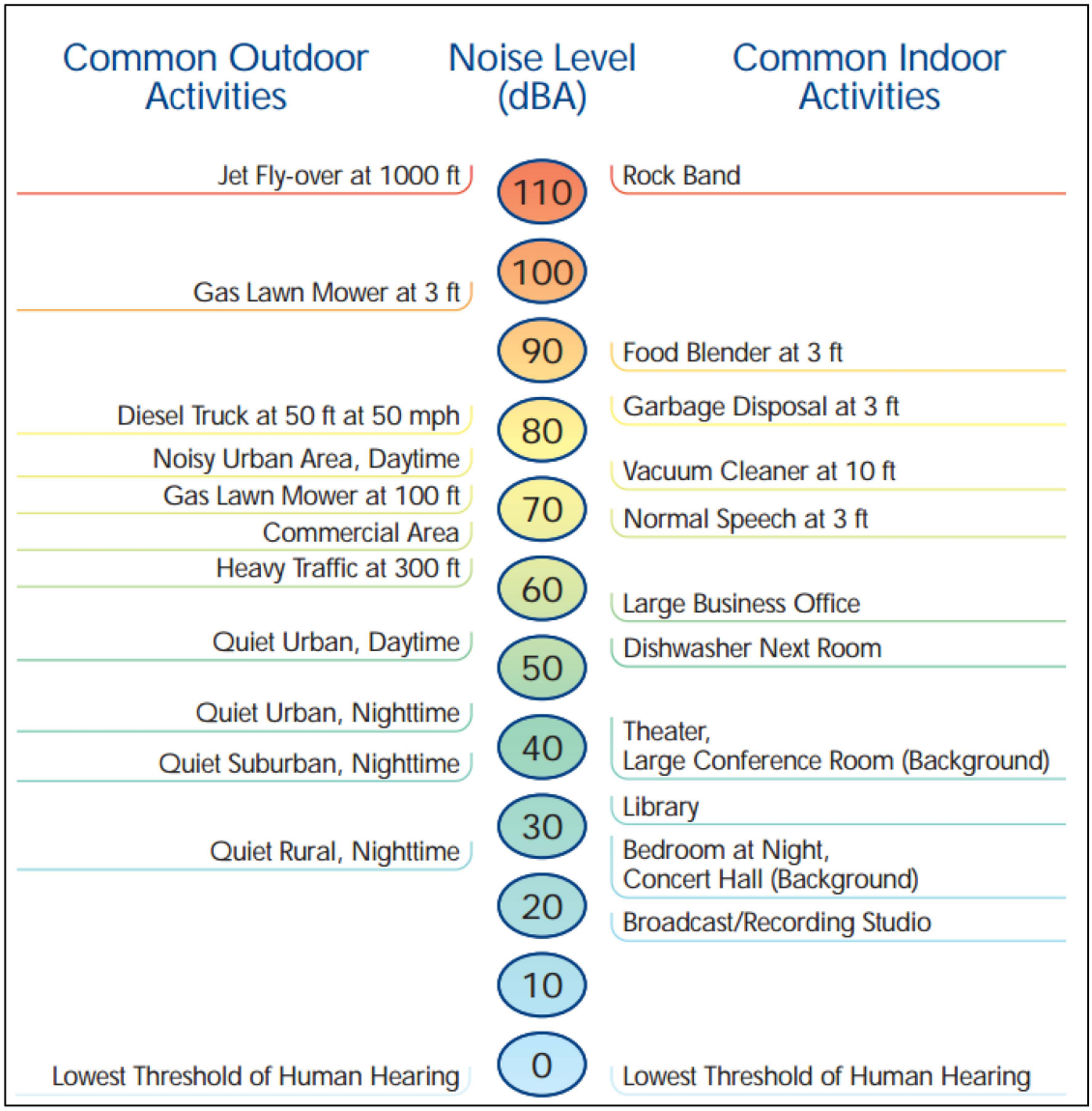
Construction Noise

Construction activities associated with the project would temporarily increase noise levels at nearby sensitive land uses. The use of heavy equipment to install waterlines would occur as close as 15 feet from some of the dwelling units, schools, and churches where work occurs in road ROWs.

The nearest sensitive receptors to the new McArthur Well No. 2 site are single-family residences, ~850 feet to the west. Sensitive receptors adjacent to the new elevated water tank include single-family residences ~180 feet to the south and 150 feet to the east. The nearest sensitive receptors to the existing Fall River Mills Well No. 2 and Country Club Booster Pump Station are single-family residences ~150 feet east of proposed waterline improvements associated with the well, and ~150 feet south of booster pump station improvements.

Temporary traffic noise impacts along local streets would occur due to an increase in traffic from construction workers commuting to the project sites; however, it is not anticipated that worker commutes would significantly increase daily traffic volumes. Noise would be generated during delivery of construction equipment and materials to the project sites. Noise impacts resulting from construction activities would depend on: 1) the noise generated by various pieces of construction equipment; 2) the timing and duration of noise-generating activities; 3) the distance between construction noise sources and noise-sensitive receptors; and 4) existing ambient noise levels. **Figure 4.13-1** shows noise levels of common activities to enable the reader to compare construction-noise with common activities.

Figure 4.13-1
Noise Levels of Common Activities



Source: Caltrans, 2016

Noise levels from construction-related activities would fluctuate, depending on the number and type of construction equipment operating at any given time. As shown in **Table 4.13-1**, construction equipment anticipated to be used for project construction typically generates maximum noise levels ranging from 74 to 89 dBA at a distance of 50 feet.

TABLE 4.13-1
Examples of Construction Equipment
Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 feet from Source
Roller	74
Concrete Vibrator	76
Pump	76
Saw	76
Backhoe	80
Air Compressor	81
Generator	81
Compactor	82
Concrete Pump	82
Compactor (ground)	83
Crane, Mobile	83
Concrete Mixer	85
Dozer	85
Excavator	85
Grader	85
Loader	85
Jack Hammer	88
Truck	88
Paver	89
Scraper	89

Sources: U.S. Department of Transportation, Federal Transit Administration, 2018. Federal Highway Administration, 2017.

In addition, OSHA regulations (Title 29 CFR, §1926.601(b)(4)(i) and (ii) and §1926.602(a)(9)(ii)) state that no employer shall use any motor vehicle, earthmoving, or compacting equipment that has an obstructed view to the rear unless the vehicle has a reverse signal alarm audible above the surrounding noise level or the vehicle is backed up only when an observer signals that it is safe to do so. These regulations require an alarm to be at a level that is distinguishable from the surrounding noise level (~5 dB).

Noise from construction activities generally attenuates at a rate of 6 dBA (on hard and flat surfaces) to 7.5 dBA (on soft surfaces, such as uneven and/or vegetated terrain) per doubling of distance. If the receptor is far from the noise source, other factors come into play. For example, barriers such as fences or buildings that break the line of sight between the source and the receiver typically reduce sound levels by at least 5 dBA. Likewise, wind can reduce noise levels by 20 to 30 dBA over long distances.

Assuming typical California construction methods, interior noise levels are approximately 10 to 15 dBA lower than exterior levels within residential units with the windows partially open, and approximately 20 to 25 dB lower than exterior noise levels with the windows closed.

The McArthur Well No. 2, Fall River Mills Well No. 2, and elevated storage tank would be constructed on soft, semi-vegetated terrain, and it is anticipated that noise would attenuate at 7.5 dBA per doubling distance. Waterline improvements and Country Club Booster Pump Station improvements would occur on hard, flat surfaces, and it is anticipated that noise would attenuate at 6 dBA per doubling distance.

Because it is a logarithmic unit of measurement, a decibel cannot be added or subtracted arithmetically. The combination of two or more identical sound pressure levels at a single location involves the addition of logarithmic quantities as shown in **Table 4.13-2.** A doubling of identical sound sources results in a sound level increase of approximately 3 dB. Three identical sound sources would result in a sound level increase of approximately 4.8 dB. For example, if the sound from one backhoe resulted in a sound pressure level of 80 dB, the sound level from two backhoes would be 83 dB, and the sound level from three backhoes would be 84.8 dB.

TABLE 4.13-2
Cumulative Noise: Identical Sources

Number of Sources	Increase in Sound Pressure Level (dB)
2	3
3	4.8
4	6
5	7
10	10
15	11.8
20	13
50	17

Sources: U.S. Department of Transportation, Federal Transit Administration, 2018. The Engineering Toolbox, 2019.

In addition, as shown in **Table 4.13-3**, the sum of two sounds of a different level is only slightly higher than the louder level. For example, if the sound level from one source is 80, and the sound level from the second source is 85 dB, the level from both sources together would be 86 dB. To calculate cumulative noise for more than two sources, begin with the two lower levels to find their combined level and add their sum to the next highest level; continue until all noise sources are incorporated.

TABLE 4.13-3
Cumulative Noise: Different Sources

Sound Level Difference between two sources (dB)	Decibels to Add to the Highest Sound Pressure Level
0	3
1	2.5
2	2
3	2
4	1.5
5	1
6	1
7	1
8	0.5
9	0.5
10	0.5
Over 10	0

Sources: U.S. Department of Transportation, Federal Transit Administration, 2018. The Engineering Toolbox, 2019.

Disregarding the noise attenuation due to intervening topography, barriers, wind, and other factors, with more than one piece of equipment with a cumulative noise level of 89 dBA operating simultaneously within 15 feet of a sensitive receptor, noise levels could reach ~99 dBA at the exterior of single-family residences where waterline improvements would occur. Interior noise levels could reach ~79 dBA when equipment operates within 15 feet of a residence, provided that the windows were closed.

During construction activities on the McArthur Well No. 2 site, noise levels could reach ~58 dBA at the exterior of the nearest residence and ~38 dBA at the interior of the residence, provided the windows were closed. During construction activities on the new elevated storage tank site, noise levels could reach ~77 dBA at the exterior of the nearest residence and ~57 dBA at the interior of the residence, provided the windows were closed.

During construction activities on the existing Fall River Mills Well No. 2 and Country Club Booster Pump Station site, noise levels at the nearest residences could reach ~79 dBA at the exterior of the residences and ~59 dBA at the interior of the residences, provided the windows were closed. The noise levels noted above could be 5-10 dBA higher during use of back-up alarms.

The exposure to loud noises (above 85 dB) over a long period of time may lead to hearing loss. The longer the exposure, the greater the risk for hearing loss, especially when there is not enough time for the ears to rest between exposures. Hearing loss can also result from a single extremely loud sound at very close range, such as sirens and firecrackers (Centers for Disease Control, 2024). Even when noise is not at a level that could result in hearing loss, excessive noise can affect quality of life, especially during nighttime hours.

Shasta County does not have specific standards or thresholds for construction noise. The California Division of Safety and Health and OSHA have established thresholds for exposure to noise in order to prevent hearing damage. The maximum allowable daily noise exposure is 90 dBA for 8 hours, 95 dBA for 4 hours, 100 dBA for 2 hours, 105 dBA for 1 hour, 110 dBA for 30 minutes, and 115 dBA for 15 minutes (Caltrans, 2013).

Construction equipment does not operate continuously throughout the entire workday. In addition, reverse signal alarms are needed only intermittently, and each occurrence involves only seconds of elevated noise levels. Therefore, while construction noise may reach considerable levels for short instances, much of the time the construction noise levels at the nearby residences would be moderate and would not be at prolonged levels that could result in hearing loss. In order to minimize impacts from construction noise, **MM 4.13.1** limits construction activities to between the daytime hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday. **MM 4.13.2** requires that construction equipment be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds. **MM 4.13.3** mandates that stationary equipment, such as generators and compressors, shall be located at the furthest practical distance from nearby noise-sensitive land uses. Implementation of **MM 4.13.1, 4.13.2, and 4.13.3** ensures that impacts during construction are less than significant.

Operational Noise

Project components with the potential for operational noise impacts include new pumps, motors, and mechanical equipment associated with the new well and new elevated storage tank, and emergency generators at the McArthur Well No. 2 and Country Club Booster Pump Station sites.

Ambient noise levels in the vicinity of the improvements are typical of rural residential areas. Primary noise sources in rural environments are household pets, landscape equipment (e.g., lawnmowers, hedge trimmers, leaf blowers, etc.), natural noise (wind, birds, etc.), and vehicular traffic, including cars, trucks, and emergency vehicles. In addition, agricultural uses, primarily crop production, are prevalent in the study area. Noise sources associated with agricultural uses include tractors, forage harvesters, rice harvesters, loaders, haul trucks, irrigation systems, and other farm equipment. Noise levels from farming activities and equipment typically range from 75 dBA to 95 dBA.

As described under Regulatory Context above, the County's General Plan identifies daytime and nighttime exterior noise level standards for new projects affected by or including non-transportation sources. For rural areas where large lots exist, such as areas surrounding the new well site, the exterior noise level standards shall be applied 100 feet from the residence.

The nearest sensitive receptors to the new McArthur Well No. 2 site are single-family residences, ~850 feet to the west. The nearest sensitive receptors to the booster pump station are single-family residences, ~150 feet to the west and south. It is estimated that the CMU building for each would provide noise attenuation of at least 30 dBA, depending on final design. The pumps, motors, and mechanical equipment for the new well and booster pump station would be installed inside of the new buildings and would not be discernible at the nearest sensitive receptors.

As discussed in Section 3.0 (Project Components/Physical Improvements), the new McArthur Well No. 2 would utilize the existing emergency generator located outside of the existing McArthur Well No. 1; there would be no increase in noise levels associated with use of the existing emergency generator.

The decibel level for the 70-kW emergency generator proposed at the booster pump station site is estimated at ~60 dBA at 50 feet, depending on the model and manufacturer. It is estimated that the CMU building would provide noise attenuation of at least 30 dBA, depending on final design. The generator would be located ~180 feet from the nearest single-family residences to the south and ~200 feet from the nearest single-family residence to the northeast. During operation of the generator, noise levels at the nearest residences could reach ~20 dBA at the exterior of the residences and would not be audible at the interior of the residences. This is well below the County's noise level standards. Further, the generator would be operated only in the event of an emergency, such as a power outage and periodically for daytime testing.

A new fire pump would be installed at the new booster pump station. The decibel level of the proposed fire pump, which would be located outside of the booster pump station building in the covered enclosure, is estimated at ~65 dBA at 50 feet.

Disregarding the noise attenuation due to intervening topography, barriers, wind, and other factors, noise levels from the fire pump could reach ~55 dBA at the exterior of the nearest residence and ~35 dBA at the interior of the residences, provided that the windows were closed. However, because specifications for the fire pump equipment are not known at this time, there is a potential for the proposed project to exceed the County's noise level standards. Therefore, **MM 4.13.4** is included to ensure compliance with the established noise standards.

Operational noise associated with the elevated water tank would be minimal. There are no large motors or equipment other than a small mixer inside the tank to facilitate water circulation. The emergency backup generator proposed for the sewer lift station north of the proposed water tank would also be used to operate the equipment at the water tank site in the event of an emergency. Therefore, the new water tank would not significantly increase ambient noise levels in the area.

As documented above, implementation of **MM 4.13.1** through **MM 4.13.4** ensures that impacts associated with temporary construction noise and operational noise would be ***less than significant.***

Question B

Excessive vibration during construction occurs only when high vibration equipment (e.g., compactors, large dozers, etc.) are operated. The proposed project may require limited use of equipment with high vibration levels during construction. Potential effects of ground-borne vibration include perceptible movement of building floors, rattling windows, shaking of items on shelves or hangings on walls, and rumbling sounds. In extreme cases, vibration can cause damage to buildings. Both human and structural response to ground-borne vibration are influenced by various factors, including ground surface, distance between the source and the receptor, and duration.

The most common measure used to quantify vibration amplitude is the peak particle velocity (PPV). PPV is a measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. Although there are no federal, State, or local regulations for ground-borne vibration, Caltrans has developed criteria for evaluating vibration impacts, both for potential structural damage and for human annoyance. The Caltrans Transportation and Construction Vibration Guidance Manual (2020) was referenced in the analysis of construction-related vibration impacts.

Table 4.13-4 includes the potential for damage to various building types as a result of ground-borne vibration. Transient sources include activities that create a single isolated vibration event, such as blasting. Continuous, frequent, or intermittent sources include jack hammers, bulldozers, and vibratory rollers.

TABLE 4.13-4
Structural Damage Thresholds from Ground-Borne Vibration

Structure Type	Vibration Level (Inches per Second PPV)	
	Transient Sources	Continuous/Frequent/ Intermittent Sources
Older residential structures	0.5	0.3
Newer residential structures	1.0	0.5
Historic and some old buildings	0.5	0.25
Newer industrial/commercial buildings	2.0	0.5

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.

Table 4.13-5 indicates the potential for annoyance to humans as a result of ground-borne vibration.

TABLE 4.13-5
Human Response to Ground-Borne Vibration

Human Response	Vibration Level (Inches per Second PPV)	
	Transient Sources	Continuous/ Frequent/ Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.10
Disturbing	2.0	0.4

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.

Table 4.13-6 indicates vibration levels for various types of construction equipment that may be used for the proposed project.

TABLE 4.13-6
Examples of Construction Equipment Ground-Borne Vibration

Equipment Type	Inches per Second PPV at 25 feet
Bulldozer (small)	0.003
Bulldozer (large)	0.089
Jackhammer	0.035
Loaded trucks	0.076
Vibratory roller	0.210

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.

Vibration levels from construction equipment use at varying distances from the source can be calculated using the following formula:

$$PPV_{Equipment} = PPV_{Ref} (25/D)^n$$

In this equation, PPV_{Ref} = reference PPV at 25 feet, D = distance from equipment to the receiver in feet, and n = 1.1 (the value related to the attenuation rate through ground).

Based on this equation, in the worst-case scenario, a vibratory roller compacting asphalt at a distance of 15 feet from residences and commercial buildings would generate a PPV of 0.37 inches per second. As shown in **Table 4.13-5**, vibration levels would not be at a level that would cause structural damage. In addition, shown in **Table 4.13-6**, these vibration levels would be distinctly to strongly perceptible but would not rise to a level that would be considered disturbing.

The project does not have any components that would result in a permanent increase in groundborne vibration or groundborne noise. Therefore, impacts associated with vibration would be ***less than significant***.

Question C

According to the Federal Aviation Administration (FAA), the Fall River Mills Airport is the nearest airport to the project area (FAA, n.d.); the airport runway is as close as ~1,000 feet west of the PRV station site, portions of waterline improvements, and several water meter locations. Several water meters proposed to be replaced are located throughout the airport property. According to Shasta County GIS data, all the waterline replacements, several water meter replacements, and the PRV station improvements are located within the Fall River Mills Airport (Airport) Planning Boundary (Shasta County, n.d.).

The project does not include any components that would result in the long-term exposure of people to excessive noise associated with the Airport. Although construction workers would be completing improvements as close as ~1,000 feet east of the airport and may be exposed to noise from the airport, workers are subject to OSHA noise exposure standards and must wear hearing protection when exposed to excessive noise. Therefore, impacts would be ***less than significant***.

CUMULATIVE IMPACTS

As documented above, a temporary increase in daytime noise levels would occur during construction activities; however, **MM 4.13.1** through **MM 4.13.3** would minimize temporary noise impacts. **MM 4.13.4** ensures that operational noise levels comply with Shasta County noise standards. Other cumulative projects also must comply with the County's noise standards. With implementation of **MM 4.13.1** through **MM 4.13.4**, the proposed project's contribution to cumulative noise impacts would be less than significant.

MITIGATION

MM 4.13.1 Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday. Construction activities shall be prohibited on Sundays and federal/State recognized holidays. Exceptions to these limitations may be approved by the Fall River Valley CSD General Manager or his/her designee for activities that require interruption of utility services to allow work during low demand periods, or to alleviate traffic congestion and safety hazards.

MM 4.13.2 Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.

MM 4.13.3 Stationary construction equipment (generators, compressors, etc.) shall be located at the furthest practical distance from nearby noise-sensitive land uses.

MM 4.13.4 Building mechanical equipment and other noise-generating stationary sources shall be designed to ensure that operational noise levels at nearby sensitive receptors do not exceed applicable Shasta County noise standards.

Noise attenuation shall be implemented if determined necessary by the project engineer. Noise attenuation may include, but not be limited to, installing equipment in an enclosure that provides adequate noise attenuation, installing an adequate barrier between the noise source and sensitive receptor, and selecting low noise-generating equipment.

DOCUMENTATION

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4.14 POPULATION AND HOUSING

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

REGULATORY CONTEXT

There are no federal, State, or local regulations pertaining to population or housing that apply to the proposed project.

DISCUSSION OF IMPACTS

Question A

A project would induce unplanned population growth if it conflicted with a local land use plan (e.g., a General Plan) and induced growth in areas that aren't addressed in a General Plan or other applicable land use plan. As documented herein, development in the area is addressed in the Shasta County General Plan, the 2021 Municipal Service Review/Sphere of Influence Update (MSR/SOI) prepared for the FRVCSD by the Shasta Local Agency Formation Commission (LAFCO), and the District's 2014 Water Master Plan.

Because the proposed project does not involve construction of residences or businesses, the project would not directly induce population growth. The proposed project would remove impediments to development by providing water storage and an additional source of water supply; however, these improvements are needed to meet current State standards for water systems and ensure a safe and reliable water supply to existing customers rather than to accommodate future growth. The project would have only minimal influence over the development of additional properties in the area because there are many other factors that influence the density and timing of development (e.g., cost of installing water, sewer, electric, and gas infrastructure; cost of completing roadway improvements, regulatory controls, economic conditions, property owner decisions, and other market forces).

Any future development in the area would be in accordance with the Shasta County General Plan. Therefore, the project would not induce unplanned population growth, either directly or indirectly. There would be ***no impact***.

Question B

No structures for human occupancy would be demolished to accommodate the proposed improvements; therefore, there would be ***no impact***.

CUMULATIVE IMPACTS

As documented above, the proposed project would not induce unplanned population growth in the area. Therefore, the proposed project would not contribute to cumulative impacts associated with population and housing.

MITIGATION

None necessary.

DOCUMENTATION

California Department of Finance (DOF). 2025a. E1: Population and Housing Estimates for Cities, Counties, and the State – January 1, 2024 and 2025. https://dof.ca.gov/forecasting/demographics/estimates-e1/. Accessed September 2025.

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4.15 PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Fire protection?	☐	☐	☐	☒
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☐	☒

REGULATORY CONTEXT

There are no federal, State, or local regulations pertaining to public services that apply to the proposed project.

DISCUSSION OF IMPACTS

Questions A through E

The proposed project does not include construction of residences or businesses that would directly increase the number of residents in the area and result in a demand for new or physically altered government facilities.

In addition, as discussed in Section 4.14 under Question A, even with the addition of water storage and a new municipal water source, an increase in population over what was anticipated in the County's General Plan and other planning documents is not expected. Therefore, the proposed project would not result in the need for new or physically altered governmental facilities; there would be ***no impact***.

CUMULATIVE IMPACTS

As described above, the proposed project would not increase the demand for long-term public services; therefore, no cumulatively considerable impacts would occur.

MITIGATION

None necessary.

DOCUMENTATION

Shasta County. 2004. Shasta County General Plan. https://www.shastacounty.gov/planning/page/general-plan. Accessed September 2025.

4.16 RECREATION

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

REGULATORY CONTEXT

There are no federal, State, or local regulations pertaining to public services that apply to the proposed project.

DISCUSSION OF IMPACTS

Questions A and B

The proposed project does not include the construction of houses or businesses that would increase the number of residents in the area and result in impacts on recreational facilities. In addition, as discussed in Section 4.14 under Question A, the proposed project would not induce unplanned population growth in the area, either directly or indirectly. Therefore, the proposed project would not result in an increased use of existing recreational facilities or require the construction or expansion of recreational facilities. There would be ***no impact***.

CUMULATIVE IMPACTS

As stated above, the proposed project would not impact existing recreational facilities or require the construction or expansion of recreational facilities; therefore, no cumulatively considerable impacts would occur.

MITIGATION

None necessary.

DOCUMENTATION

Shasta County. 2004. Shasta County General Plan. https://www.shastacounty.gov/planning/page/general-plan. Accessed September 2025.

4.17 TRANSPORTATION

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) (criteria for analyzing transportation impacts – vehicle miles traveled)?	☐	☐	☒	☐
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?	☐	☐	☒	☐

REGULATORY CONTEXT

There are no federal or local regulations pertaining to transportation/traffic that apply to the proposed project.

STATE

CEQA Guidelines

SB 743 of 2013 (CEQA Guidelines §15064.3 *et seq.*) was enacted as a means to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHGs. Pursuant to SB 743, traffic congestion is no longer considered a significant impact on the environment under CEQA. The new metric bases the traffic impact analysis on vehicle miles traveled (VMT). VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of a project on transit and non-motorized travel. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household, or in any other measure.

DISCUSSION OF IMPACTS

Questions A, C, and D

The project does not include any components that would conflict with a program, plan, ordinance, or policy addressing the transportation system; however, construction activities could temporarily impede use of roadways as well as bicycle and pedestrian facilities.

The project does not involve a use or activity that could increase the potential for traffic hazards or result in inadequate emergency access in the long term. Work within public roads could increase traffic hazards and could result in access issues to properties adjacent to the roadway. However, as stated in Section 4.9 (Hazards and Hazardous Materials) under Question F, a traffic control plan that addresses the needs of all road users (motorists, bicyclists, and pedestrians) must be prepared in accordance with the MUTCD. The plan must identify protective measures to ensure the safety of road users, workers, and emergency responders. The plan would identify the location of the work, affected roads, and types and locations of temporary traffic control measures (i.e., signs, cones, flaggers, etc.) that would be implemented during the work (Caltrans, 2025).

Because no permanent impacts to the circulation system would occur, and safety measures would be employed to safeguard travel by the general public and emergency response vehicles during construction, impacts would be ***less than significant.***

Question B

The proposed project does not include the construction of housing or commercial/industrial development that would cause a permanent increase in traffic or VMT in the area. Rather, the project would result in a reduction in VMT. As stated in Section 4.8 (Greenhouse Gas Emissions), the installation of SCADA system components throughout the District's water system will allow monitoring remotely, resulting in a reduction in VMT by the District's water treatment operators. In addition, replacing old, leaking waterlines will reduce VMT associated with maintenance and repair of the pipes.

There would be an increase in VMT due to construction workers traveling to and from the project site; however, this is a temporary impact and would cease at completion of the project. Therefore, impacts related to VMT would be ***less than significant.***

CUMULATIVE IMPACTS

The proposed project would not result in a permanent increase in VMT and would not conflict with programs, plans, ordinances, or policies addressing the circulation system. Further, the project would not permanently increase hazards due to design features or incompatible uses. There would be a temporary increase in traffic associated with construction workers and equipment, and work within public road ROWs during construction. Temporary traffic control for all projects that require work in the public right-of-way is required and must adhere to the procedures, methods, and guidance given in the current edition of the MUTCD. In addition, construction traffic is a temporary impact that would cease at completion of the project; therefore, the project's transportation-related impacts would not be cumulatively considerable.

MITIGATION

None necessary.

DOCUMENTATION

California Department of Transportation (Caltrans). 2025. California Manual on Uniform Traffic Control Devices. https://dot.ca.gov/programs/safety-programs/camutcd. Accessed September 2025.

4.18 TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code (PRC) Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. A resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC §5020.1(k)?	☐	☒	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC §5024.1? In applying the criteria set forth in subdivision (c) of PRC §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

REGULATORY CONTEXT

There are no federal regulations pertaining to tribal cultural resources that apply to the proposed project.

STATE

California Environmental Quality Act (CEQA)

Assembly Bill 52 of 2014 (PRC §21084.2) establishes that *"a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."* In order to determine whether a project may have such an effect, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if:

1. The tribe requested to the lead agency, in writing, to be informed through formal notification of proposed projects in the geographical area; and
2. The tribe responds, in writing, within 30 days of receipt of the formal notification and requests the consultation.

The consultation must take place prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Pursuant to PRC §21084.3, lead agencies must, when feasible, avoid damaging effects to a tribal cultural resource and must consider measures to mitigate any identified impact.

PRC §21074 defines "tribal cultural resources" as either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either
   a. Included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR); or
   b. Included in a local register of historical resources as defined in PRC §5020.1(k).
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC §5024.1(c). In applying the criteria set forth in PRC §5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

In addition, a cultural landscape that meets the criteria described above is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

A historical resource described in PRC §21084.1, a unique archaeological resource as defined in PRC §21083.2(g), or a "nonunique archaeological resource" as defined in PRC §21083.2(h) may also be a tribal cultural resource if it meets the criteria described in item 1a. or 1b. above.

Consultation is considered concluded when either both parties agree to mitigation measures to avoid or mitigate a significant effect, or a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. Pursuant to PRC §21082.3, any agreed-upon mitigation measures shall be recommended for inclusion in the environmental document if determined to avoid or lessen the impact.

LOCAL

Shasta County

The Shasta County General Plan includes the following Objective and Policy that apply to the proposed project:

Chapter 6.10, Heritage Resources		
Objective:	HER-1	Protection of significant prehistoric and historic cultural resources.
Policy:	HER-a	Development projects in areas of known heritage value shall be designed to minimize degradation of these resources. Where conflicts are unavoidable, mitigation measures which reduce such impacts shall be implemented. Possible mitigation measures may include clustering, buffer or nondisturbance zones, and building siting requirements.

DISCUSSION OF IMPACTS

Questions A and B

See discussion in Section 1.7 (Tribal Cultural Resources Consultation) and Section 4.5 under Questions A and B.

On August 6, 2024, FRVCSD delivered formal notification initiating tribal cultural resources consultation in compliance with Public Resources Code (PRC) §21084.2 (Assembly Bill [AB 52], 2014) to Virginia "Ginger" Amoroso, Cultural Representative for the Ajumawi Band of the Pit River Tribe. On August 8, 2024, Ms. Amoroso responded and requested that the Ajumawi Band accompany ENPLAN archaeologists during the cultural resources field survey.

Ms. Amoroso accompanied ENPLAN archaeologists during the field survey and stated that certain locations in the study area have a high potential to contain tribal cultural resources, and a Native American monitor should be present during initial earth-disturbing activities in these areas. As required by **MM 4.5.2**, the Pit River Tribe must be notified a minimum of two weeks prior to any ground disturbing activities to offer the Tribe the opportunity to monitor initial ground-disturbing activities. As required by **MM 4.5.3**, in the event that cultural resources or human remains of Native American descent are identified during earth disturbance, the Pit River Tribe shall be requested to provide a Native American monitor to observe subsequent earth-disturbing construction activities on potentially sensitive lands. With implementation of MM 4.5.2 and 4.5.3, the requirements of PRC §21080.3.1 have been satisfied.

Implementation of **MM 4.5.2** and **MM 4.5.3** ensures that impacts to tribal cultural resources are ***less than significant.***

CUMULATIVE IMPACTS

Cumulative projects in the vicinity of the project area have the potential to impact tribal cultural resources. Tribal cultural resources are afforded special legal protections designed to reduce the cumulative effects of development. Potential cumulative projects and the proposed project would be subject to the protection of tribal cultural resources afforded by PRC §21084.3. Given the non-renewable nature of tribal cultural resources, any impact to tribal cultural sites, features, places, landscapes, or objects could be considered cumulatively considerable. As discussed above, no cultural resources of significance to a California Native American tribe were identified within the project area. In addition, **MM 4.5.3 and MM 4.5.4** provide for monitoring by the Pit River Tribe; therefore, the proposed project would have less-than-significant cumulative impacts on tribal cultural resources.

MITIGATION

Implementation of **MM 4.5.3 and MM 4.5.4.**

DOCUMENTATION

ENPLAN. 2025. Cultural Resources Inventory Report: Fall River Valley Community Services District Water System Improvements Project, Shasta County, California. Confidential document on file at NEIC/CHRIS.

Shasta County. 2004. Shasta County General Plan, Chapter 6.10 (Heritage Resources). https://www.shastacounty.gov/planning/page/general-plan. Accessed September 2025.

4.19 UTILITIES AND SERVICE SYSTEMS

Would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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?	☐	☐	☒	☐

REGULATORY CONTEXT

There are no federal or local regulations pertaining to utilities and service systems that apply to the proposed project.

STATE

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act (CIWMA) of 1989 is designed to increase landfill life and conserve other resources through increased source reduction and recycling. Goals of the CIWMA include diverting approximately 50 percent of solid waste from landfills and identifying programs to stimulate local recycling in manufacturing and the purchase of recycled products. The CIWMA requires cities and counties to prepare Solid Waste Management Plans and Source Reduction and Recycling Elements to implement CIWMA goals.

California Building Standards Code

The CALGreen Code, included as Part 11 of the CBSC, includes requirements for construction waste reduction, disposal, and recycling. The intent of this requirement is to reduce the amount of waste from new construction and demolition that would be sent to landfills, and to encourage reuse and recycling of construction waste products (e.g., carpet, wood, aggregate, shingles, wallboard, and other materials that have recyclable value). A minimum of 65 percent of nonhazardous construction and demolition waste must be recycled and/or salvaged for reuse. The CALGreen Code requires that a Construction Waste Management Plan be submitted with the building permit application and approved by the Building Official prior to issuance of a building permit.

DISCUSSION OF IMPACTS

Question A

As discussed under Section 4.14 under Question A, the proposed project would not induce unplanned population growth in the area, either directly or indirectly, in a manner that would require new or expanded utility infrastructure. Therefore, other than the improvements analyzed in this Initial Study (Section 3.2, Project Components/Physical Improvements), the proposed project would not result in the need for new or expanded utility infrastructure or the relocation of such infrastructure. Therefore, impacts would be ***less than significant***.

Question B

As stated in Section 4.10 (Hydrology and Water Quality), the District currently has two active public groundwater wells that have a combined supply of up to 1,200 gallons per minute (GPM) (1.61 million gallons per day [GPD]) . However, the District utilizes McArthur Well No. 1 as the primary source of water production and uses Fall River Mills Well No. 2 as a standby emergency well. Therefore, the District's typical, consistent supply is 400 GPM (576,000 GPD) (Forsgren, 2014). With installation of the proposed new McArthur Well No. 2, Fall River Mills Well No. 2 would continue to be used as a standby emergency well; the proposed new well would have a capacity of 480 GPM which would supplement McArthur Well No. 1.

As discussed in Section 4.14 under Question A, the proposed project would not induce unplanned population growth in the area, either directly or indirectly. The purpose of the project is to meet current State requirements for public water systems. Because the proposed project would not induce population growth either directly or indirectly in a manner that would require additional long-term water supplies, there would be ***no impact***.

Question C

The project would not result in a demand for wastewater collection or treatment services. Therefore, there would be ***no impact*** related to capacity in a wastewater treatment plant.

Questions D and E

The proposed project would not result in a long-term demand for additional solid waste services. Solid waste would be generated during construction, mainly from removal of pavement in public road ROWs to accommodate the pipeline improvements.

Construction debris would be disposed of at a solid waste facility that is licensed to accept construction and demolition waste, such as the Anderson Landfill in Anderson, California (CalRecyle, 2025). According to CalRecycle, the design capacity of the Anderson Landfill is 19,028,500 cubic yards and the landfill's estimated closure year was 2075. As of October 1, 2024, the remaining capacity was estimated to be 9,480,000 cubic yards (CalRecycle, 2024). The construction contractor would be responsible for disposing of all construction waste. The District would ensure through contractual obligations that the contractor complies with all federal, State, and local statutes related to solid waste disposal. Therefore, impacts would be ***less than significant.***

CUMULATIVE IMPACTS

Utility and service systems in the area would not experience a permanent increase in demand for services over existing conditions. Although solid waste would be generated during construction, no long-term increase in solid waste generation would occur. Therefore, the proposed project would have less than significant cumulative impacts to utility and service systems.

MITIGATION

None necessary.

DOCUMENTATION

CalRecycle. 2025. Facility Details: Anderson Landfill, Inc (SWIS 45-AA-0020). https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3457. Accessed September 2025.

_____. 2024. Redlined Joint Technical Document for 2025 Revision, Anderson Landfill, Inc. (SWIS 45-AA-0020). https://secure.calrecycle.ca.gov/SWISDocument/Document/Details/482524. Accessed September 2025.

4.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire, or the uncontrolled spread of 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?	☐	☐	☒	☐

REGULATORY CONTEXT

There are no federal regulations pertaining to wildfire that apply to the proposed project.

STATE

California Department of Forestry and Fire Protection (CAL FIRE)

The Bates Bill (AB 337), enacted in 1992, required CAL FIRE to work with local governments to identify high fire hazard severity zones throughout each county in the State. CAL FIRE adopted Fire Hazard Severity Zone (FHSZ) Maps for State Responsibility Areas (SRA) in November 2007. Pursuant to California Government Code §51175-51189, CAL FIRE also recommended FHSZs for Local Responsibility Areas (LRA). Over the years, CAL FIRE has updated the maps and provided new recommendations to local governments based on fire hazard modeling.

The fire hazard model considers wildland fuels (natural vegetation that burns during the wildfire); topography (fires burn faster as they burn up-slope); weather (fire burns faster and with more intensity when air temperature is high, relative humidity is low, and winds are strong); and ember production and movement (how far embers move and how receptive the landing site is to new fires). The model recognizes that some areas of California have more frequent and severe wildfires than other areas.

California Fire Code

Chapter 33 of the CFC (Fire Safety During Construction and Demolition) includes minimum safeguards that must be implemented during construction, alteration, and demolition activities to protect adjacent properties and structures from fire. Requirements are provided for cutting and welding activities, storage of flammable and combustible materials, blasting operations, and other construction-related activities. Vehicle access to the construction site for fire department personnel must be provided by either temporary or permanent roads capable of supporting vehicle loading under all weather conditions.

California Building Standards Code

California Building Code Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) includes standards for new construction in Wildland-Urban Interface (WUI) Fire Areas. A WUI includes areas in State Responsibility Areas (SRA) that are designated Very High, High, or Moderate fire hazard severity zones (FHSZs); and areas within a Local Responsibility Area (LRA) that are designated as Very High FHSZs. The purpose of Chapter 7A is to prevent a building from being ignited by flying embers that can travel as much as a mile away from a wildfire, and to contribute to a systematic reduction in fire-related losses through the use of performance and prescriptive requirements.

LOCAL

Shasta County

The Shasta County General Plan includes the following Objective and Policy that apply to the proposed project:

Chapter 5.4, Fire Safety and Sheriff Protection		
Objective:	FS-1	Protect development from wildland and non-wildland fires by requiring new development projects to incorporate effective site and building design measures commensurate with level of potential risk presented by such a hazard and by discouraging and/or preventing development from locating in high risk fire hazard areas.
Policy:	FS-a	All new land use projects shall conform to the County Fire Safe Standards.

DISCUSSION OF IMPACTS

According to FHSZ maps prepared by CAL FIRE, the majority of the waterline improvements and the elevated water tank site are located within a Very High FHSZ in a Local Responsibility Area (LRA); the new McArthur Well No. 2 site is identified as a Non-Wildland area in a LRA; and the existing Country Club Booster Pump Station/Fall River Mills Well No. 2 site is located within a Very High FHSZ in a State Responsibility Area (SRA) (CAL FIRE, n.d.; Shasta County, 2025).

Question A

See discussion in Section 4.9 (Hazards and Hazardous Materials) under Question F. The proposed project does not involve a use or activity that could interfere with long-term emergency response or emergency evacuation plans for the area. Although a temporary increase in traffic could occur during construction and could interfere with emergency response times, construction-related traffic would be minor due to the overall scale of the construction activities. Temporary traffic control during completion of activities that require work in the public road ROW is required and must adhere to the procedures, methods and guidance given in the current edition of the MUTCD (Caltrans, 2025). Implementation of traffic control measures during construction ensures impacts are ***less than significant.***

Questions B and C

The waterline and water meter improvements would occur in paved roads and graveled areas in relatively flat areas with low fire hazard risk. Improvements at the McArthur Well No. 2 site would be completed in previously disturbed, level areas with sparse vegetation.

The new waterline at the Fall River Mills Well No. 2 site would be installed on a slight slope adjacent to the water tanks. The elevated water tank site is level but includes vegetation that could be fire-prone. During construction, the use of heavy equipment and power tools may create sparks that could ignite surrounding vegetation. The control of a fire originating in the vicinity may be challenging due to fire-prone vegetation, dry weather, high wind, or any combination of these conditions.

As stated in Section 4.9 (Hazards and Hazardous Materials), contractors would be required to implement safeguards during construction to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment, and promote prompt response to fire emergencies. As stated in Section 4.9 under Question G, construction activities are subject to California Fire Code (CFC) regulations that identify minimum safeguards that must be implemented during construction, alteration, and demolition activities to protect life and property from fire, including CFC Chapter 33 (Fire Safety During Construction and Demolition) and Chapter 35 (Welding and Other Hot Work). These regulations are intended to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment, and promote prompt response to fire emergencies.

The proposed project would not involve construction of public roads or otherwise intrude into natural spaces in a manner that would increase wildfire hazards in the long term, and would not require construction of fuel breaks, installation of emergency water sources, or other fire prevention/ suppression infrastructure. The project includes installation of electrical service extensions to the existing PRV station, new well, and new elevated water storage tank; however, this would not exacerbate the risk of wildfires in the area. There are no features in the study area, such as slope, prevailing winds, or other factors that would exacerbate wildfire risks in a manner that would expose people living and working in the area to pollutant concentrations from a wildfire or uncontrolled spread of a wildfire in the long term.

In addition, CBC standards for roofing, siding, decking, windows, and vents apply in all Very-High FHSZs. At a minimum, roof coverings would be Class A, which is the highest rating and provides the highest resistance to fire. Exterior walls would be ignition resistant/non-combustible. The purpose of the CBC and CFC standards is to prevent a building from being ignited by flying embers and to contribute to a systematic reduction in fire-related losses through the use of performance and prescriptive requirements.

Compliance with existing regulations would avoid/minimize the risk of wildfires and the exposure of people to pollutant concentrations from a wildfire. In the long term, the project would increase water storage capacity and improve fire flows, which would improve the ability to fight wildfires in the area. Therefore, impacts would be ***less than significant.***

Question D

The severity of post-fire risks is based on several factors, including the intensity of the fire, the slope and stability of the burned area, physical properties of the soils, and the intensity of post-fire precipitation. The waterline improvements at the Fall River Mills Well No. 2 site would be subsurface and would not be exposed to significant post-fire risks. The Country Club Booster Pump Station improvements, water meters, and meter boxes would be replaced in the existing locations and would not be exposed to more significant post-fire risks than the existing infrastructure.

The new well, elevated storage tank, and PRV electrical improvements would be installed in relatively level areas with little potential for impacts associated with downslope or downstream flooding or landslides that could result from runoff, post-fire slope instability, or drainage changes.

The addition of impervious surfaces would alter the existing drainage pattern of the McArthur Well No. 2 and new elevated water storage tank sites, which would increase runoff from the sites above existing conditions. As stated in Section 3.0 (Project Description), a new 5-foot-wide overflow channel would be constructed from the new elevated water tank to the existing drainage channel west of the tank, where it would discharge into an existing well-developed drainage ditch along SR 299 (See **Figures 5 and 6**, Elevated Water Storage Tank). This will ensure that any overflow water from the tanks does not lead to increased flooding. Any such discharge would be infrequent, and any significant discharge, such as from drawdown of the tank for maintenance purposes, would be controlled to prevent adverse effects.

In addition, as stated in Section 4.10 (Hydrology and Water Quality) under Question C, the proposed project is subject to post-construction requirements included in the SWRCB Construction General

Permit to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect impacts from stormwater runoff upstream or downstream.

The project site is not located in or adjacent to a burn scar area, and improvements would be completed in level areas with a low potential for landslides. As stated in Section 4.10 (Hydrology and Water Quality), various sections of the waterline improvements within the public road ROWs of Long Street, Bridge Street, and SR 299 are located within a FEMA-designated 100-year flood hazard zone (Zone A – no base flood elevations determined) (see **Figure 4.10-1**) (FEMA, n.d.). However, the improvements would be subsurface and would not be exposed to risks associated with downslope or downstream flooding or landslides attributable to post-fire slope instability, runoff, or drainage changes.

Therefore, the potential for post-fire impacts would be ***less than significant.***

CUMULATIVE IMPACTS

Although work would occur in the public road ROWs and could interfere with emergency response times, all projects are required to implement temporary traffic control measures to ensure safe passage for emergency response vehicles. Access to properties in the area would not be impeded during construction.

As documented above, the proposed project would not contribute individually or cumulatively to increased risks of wildfire in the long term and would not expose people or structures to risks associated with downslope or downstream flooding or landslides that could result from increased runoff, post-fire slope instability, or drainage changes. Although cumulative wildfire risks could occur during construction, compliance with existing regulations adequately minimizes such risks. Therefore, the project's contribution to cumulative impacts would be less than significant.

MITIGATION

None necessary.

DOCUMENTATION

California Department of Forestry and Fire Protection (CAL FIRE). n.d. Fire Hazard Severity Zones. https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones. Accessed August 2025.

California Department of Transportation (Caltrans). 2025. California Manual on Uniform Traffic Control Devices. https://dot.ca.gov/programs/safety-programs/camutcd. Accessed September 2025.

Federal Emergency Management Agency (FEMA). n.d. National Flood Hazard Map (Panels 06093C0500G and 06089C0800G, effective March 17, 2011). https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed September 2025.

Shasta County. 2025. Fire Hazard Severity Zones. https://www.shastacounty.gov/fire/page/fire-hazard-severity-zones. Accessed August 2025.

_____. 2004. Shasta County General Plan, Chapter 5.4 (Fire Safety and Sheriff Protection). https://www.shastacounty.gov/planning/page/general-plan. Accessed September 2025.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

Issues and Supporting Evidence	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of rare or endangered plants or animals, 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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

DISCUSSION OF IMPACTS

Question A

As discussed in the applicable environmental resource sections in this Initial Study, the proposed project would result in temporarily increased air emissions, possible disturbance of nesting birds (if present), possible impacts to wetlands and other waters of the U.S. and/or State, the introduction and spread of noxious weeds during construction, the inadvertent entrapment of wildlife, impacts to cultural resources and tribal cultural resources (if present), impacts to paleontological resources (if present), temporarily increased noise and vibration levels, and a possible permanent increase in noise levels in excess of Shasta County noise standards. However, mitigation measures are included to ensure that impacts are ***less than significant***.

Question B

The potential cumulative impacts of the proposed project have been analyzed within the discussion of each environmental resource area above. Implementation of the mitigation measures identified in Section 1.10 ensures that the project's cumulative impacts are ***less than significant.***

Question C

As discussed in the applicable environmental resource sections in this Initial Study, the proposed project could result in adverse effects on human beings due to temporarily increased air emissions and temporarily increased noise and vibration levels. However, as identified in Section 4.3 (Air Quality) and Section 4.13 (Noise), mitigation measures are included to ensure that impacts are ***less than significant.***

SECTION 5.0 LIST OF PREPARERS

Catalyst

Donald Burk ..... Environmental Services Manager

Carla L. Thompson, AICP ..... Environmental Planning Manager

Hannah Raab ..... Environmental Planner

Jacob Ewald ..... Environmental Scientist

Evan Wiant ..... Archaeologist

PACE

Paul Reuter, P.E ..... Senior Engineer

Keith Krantz, P.E ..... Senior Engineer

Paige Cibart, P.E. ..... Staff Engineer

SECTION 6.0 ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
APE	Area of Potential Effects
APN	Assessor's Parcel Number
BMP	Best Management Practice
BUG	Backlight, Uplight, and Glare
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standard
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Code
Cal-IPC	California Invasive Plant Council
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Criteria Air Pollutant
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CBC	California Building Code
CBSC	California Building Standards Code
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEC	California Energy Code
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGC	California Government Code
CGS	California Geological Survey
CH_4	Methane
City	City of Mt. Shasta
CIWMA	California Integrated Waste Management Act
CIWMB	California Integrated Waste Management Board
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
County	Siskiyou County
CRHR	California Register of Historical Resources

CRI	Cultural Resources Inventory
CRT	Cathode Ray Tube
CT	Commercial Tourist
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CY	Cubic Yards
dB	Decibels
dBA	Decibels, A-Weighted
DBH	Diameter at Breast Height
DOC	Department of Conservation
DTSC	Department of Toxic Substances Control
DWSRF	Drinking Water State Revolving Fund
DWR	Department of Water Board
EFH	Essential Fish Habitat
EO	Executive Order
EIR	Environmental Impact Report
F°	Fahrenheit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Act
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FMMP	California Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plans
Gwh	Gigawatts Hours
GWP	Global Warming Potential
H_2S	Hydrogen Sulfide
HCP	Habitat Conservation Plan
HFC	Hydrofluorocarbons
I-5	Interstate 5
IBC	International Building Code
IM	Implementation Measure
lbs/day	Pounds per Day
L_{dn}	Day-Night Average Sound Level
L_{eq}	Equivalent Continuous Sound Pressure Level
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
MG	Million-Gallon
MGD	Millions Gallons Per Day
mg/m^3	Milligrams per Cubic Meter
MM	Mitigation Measure

MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MS4	Small Municipal Separate Storm Sewer Systems
MT	Metric Tons
MUTCD	California Manual on Uniform Traffic Control Devices
MWP	Master Water Plan
N_2	Nitrogen
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NEIC/CHRIS	Northeast Information Center of the California Historical Resources Information System
NF_3	Nitrogen Trifluoride
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
NOI	Notice of Intent
NPDES	National Pollutants Discharge Elimination System
NPPA	California Native Plant Protection Act
NRHP	National Register of Historic Places
NWP	Nationwide Permit
O_2	Oxygen
O_3	Ozone
OHWM	Ordinary High-Water Mark
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Act
Pb	Lead
PFC	Perfluorocarbon
$PM_{2.5}$	Particulate Matter, 2.5 microns in size
PM_{10}	Particulate Matter, 10 microns in size
PPB	Parts per Billion
PPM	Parts per Million
PPV	Peak Particle Velocity
PRC	Public Resources Code
Project	City of Mt. Shasta Spring Hill Water Supply and Storage Project
PVC	Polyvinyl Chloride

RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan
ROG	Reactive Organic Gases
ROW	Right-of-Way
RPS	Renewables Portfolio Standard
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SB	Senate Bill
SCAPCD	Siskiyou County Air Pollution Control District
SCOE	Siskiyou County Office of Education
SF_6	Sulfur Hexafluoride
SGMA	Sustainable Groundwater Management Act
SHMA	California Seismic Hazards Mapping Act
SHPO	State Historic Preservation Officer
SMARA	Surface Mining and Reclamation Act
SMARTS	Stormwater Multiple Application and Report Tracking System
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_X	Sulfur Oxides
SRA	State Responsibility Area
SSC	Species of Special Concern
SUSWMP	Standard Urban Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCP	Timberland Conversion Permit
THP	Timber Harvest Plan
THPO	Tribal Historic Preservation Officer
UCMP	U.C. Berkeley Museum of Paleontology
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMT	Vehicle Miles Traveled
WDR	Waste Discharge Requirement
$\mu g/m^3$	Micrograms per Cubic Meter