

Attachment B: Final Initial Study/ Mitigated Negative Declaration

FINAL INITIAL STUDY/ MITIGATED NEGATIVE
DECLARATION
GUADALUPE RIVER BRIDGE REPLACEMENT PROJECT



Peninsula Corridor Joint Powers Board

State Clearinghouse No. 2020110323

January 2021

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Part I Environmental Checklist Form

- 1. Project Title:** Guadalupe River Bridge Replacement Project
- 2. Lead Agency Name and Address:** Peninsula Corridor Joint Powers Board
- 3. Contact Person and Phone Number:** Hilda Lafebre, Manager, Capital Projects & Environmental Planning
(650) 622-7842
- 4. Project Location** City of San José, Santa Clara County, California
- 5. Project Sponsor's Name and Address:** Peninsula Corridor Joint Powers Board
1250 San Carlos Ave. San Carlos, CA 94070-1306
- 6. General Plan Land Use Designations:** City of San José: Transportation Right-of-Way, Mixed Use Commercial; Parklands and Habitat
- 7. Zoning:** City of San José: Light Industrial; Two-Family Residential (Up to Eight to Sixteen Dwelling Units per Acre); Single-Family Residential (Up to Eight Dwelling Units per Acre); Commercial Pedestrian

8. Description of Project:

The Peninsula Corridor Joint Powers Board (JPB), which operates the San Francisco Bay Area's Caltrain passenger rail service, proposes the Guadalupe River Bridge Replacement Project (the Project) in the City of San José, Santa Clara County, California.

Caltrain operates trains on two tracks, MT-1 and MT-2, over the Guadalupe River on two independent and immediately adjacent bridges, each carrying a single track. The downstream (Northerly) bridge (MT-1) consists of a wooden trestle bridge constructed in 1935; the upstream bridge (MT-2) consists of a concrete bridge constructed in 1990 as part of the Caltrans Highway 87 Project. In addition to Caltrain's passenger service, the railroad bridges are used by Union Pacific Railroad (UPRR) freight service, Amtrak passenger service, and the Altamont Commuter Express (ACE) and Capitol Corridor to reach the Tamien Yard.

The 1935 MT-1 bridge urgently needs to be replaced with a new structure to maintain safe and reliable operations for all users. The MT-1 bridge does not meet current railroad structural design standards (including seismic criteria) and, as a result, is vulnerable to collapse in the event of a significant earthquake. The timber structure of MT-1 has been further damaged by multiple fires, most recently a large fire in November 2017.

The MT-1 and MT-2 bridges are located along a sharp meander of the Guadalupe River. The river exhibits a high degree of floodplain fill, channel confinement, and bank failures. Geomorphic issues directly affect the safety and reliability of the railroad bridges because the extent of bank erosion is approaching the bridge abutments. Riverbank failures at MT-2 occurred in 2017 and at both MT-1 and MT-2 in previous years, requiring emergency bank stabilization measures. To address these safety issues and protect the rail bridge asset, Caltrain proposes to widen the channel; replace the MT-1 bridge with a new, longer bridge; and extend

the MT-2 bridge. The existing MT-2 bridge does not require replacement but will be lengthened on the southern side to help address geomorphic stability issues at the bridge abutments.

The U.S. Army Corps of Engineer (USACE) and Santa Clara Valley Water District (Valley Water) have proposed a separate and independent flood control project in the future, referred to as Reach 7 of the Upper Guadalupe River Flood Protection Project. Reach 6 of Upper Guadalupe River Flood Protection Project was completed in 2012 and ends just downstream of the railroad bridges. The Reach 7 flood control project includes construction of a bypass channel through the project area that would involve widening the river channel to accommodate a 100-year flood event. Because of a lack of available funding, the Reach 7 project has no definite schedule for completion at this time. However, JPB's design has incorporated several measures so as not to preclude potential future additional channel widening and bridge extensions for flood control purposes. JPB has coordinated with USACE and Valley Water during the development of the Project, including meetings and exchange of design information.

Project Location

Figure 1 shows the project location; the project study area is shown in **Figure 2**. The rail bridges are located immediately East of Highway 87, 0.5 miles South of I-280, and approximately 0.5 miles North of the Tamien Multi-modal station (comprising the Tamien Caltrain station to the East of Highway 87 and the Tamien Light Rail station to the West of the highway). The study area, also referred to as project area, includes all land areas that may be temporarily or permanently affected by the Project, including temporary construction access and staging areas. The project limits extend from 140 feet South of Willow Street to Delmas Avenue northwest along the existing JPB right-of-way (ROW). Highway 87 is located to the West; residential areas are located East of McClellan Avenue; and the Valley Water Reach 6 bypass channel is located downstream.

Project Elements

Figure 3 is an overview map that shows the major elements of the Project, including future channel elevations. More details of the bridge structures are shown in **Figure 4** (the preliminary general plan for the Project based on 35% design).

The Project will replace the existing 187-foot MT-1 bridge with a new 265-foot pre-cast concrete structure. The center span over the main channel will be 110-feet long, and the pier placement has been optimized through hydraulic analysis to avoid pier placement in the low-flow channel. The bridge piers will consist of two 48-inch-diameter cast-in-drilled-hole piles. The new MT-1 bridge will continue to accommodate a single track. Channel widening will occur under the South side of the MT-1 bridge to reduce scour/increase flow capacity. The southern abutment will be designed so that it can potentially function as a pier without modification in the future if the USACE/Valley Water Reach 7 bypass channel is constructed.

The existing MT-2 bridge will be extended by 90 feet at the southern end, resulting in a new total bridge length of 244.5 feet. To accommodate this extension, the existing MT-2 abutment 5 will be removed and replaced by a new pier, and the channel will be widened. The existing northern abutment 1 and piers 2, 3, and 4 will remain in place. Similar to the MT-1 bridge, the southernmost abutment will be designed to function as a pier if the USACE/Valley Water Reach 7 bypass channel is constructed.

Figure 1: Project Location



Figure 2: Project Study Area



Figure 3: Proposed Project Overview with Design Details

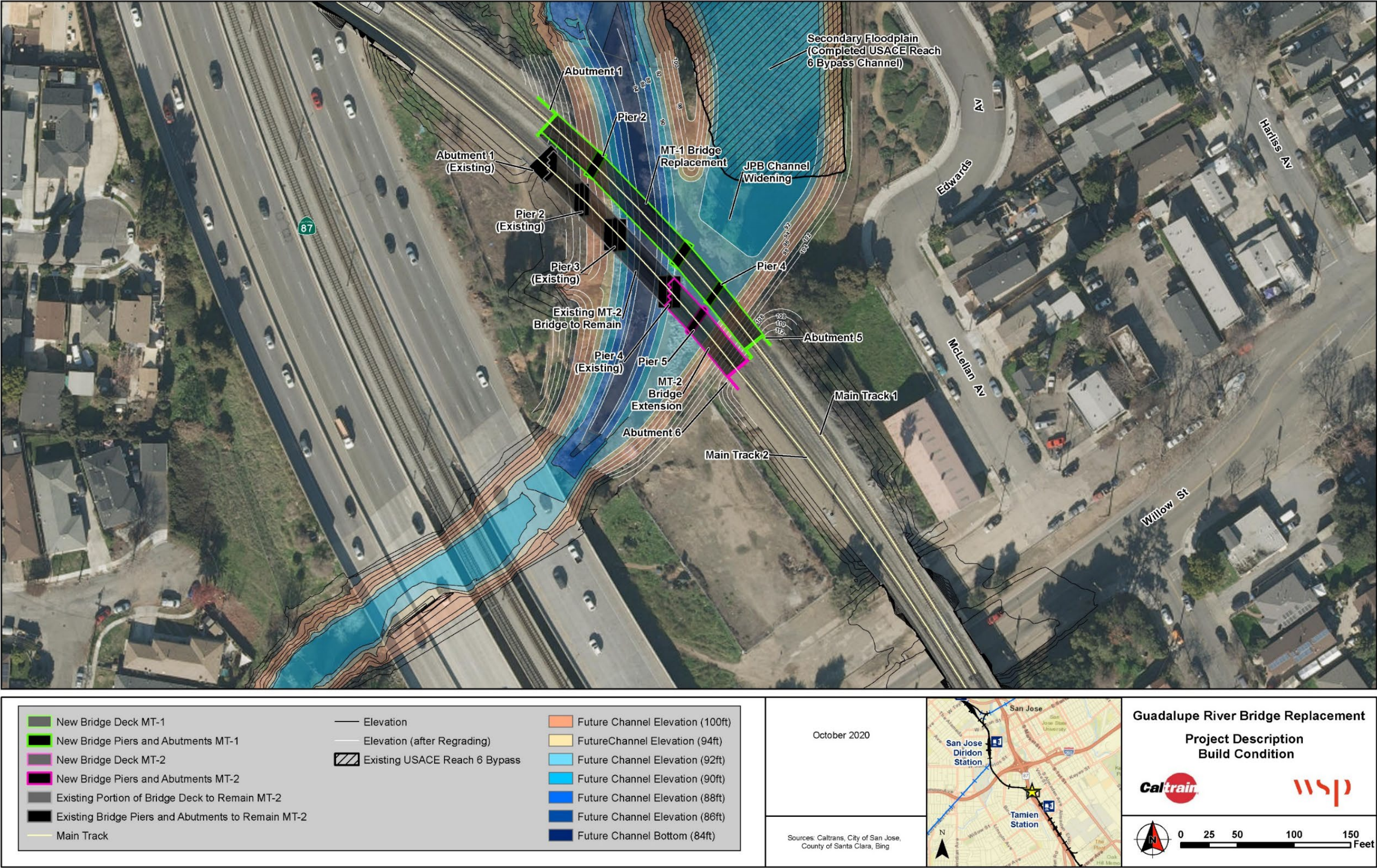


Figure 4a: Guadalupe River Bridge Replacement Preliminary Design - Sheet 1 of 2

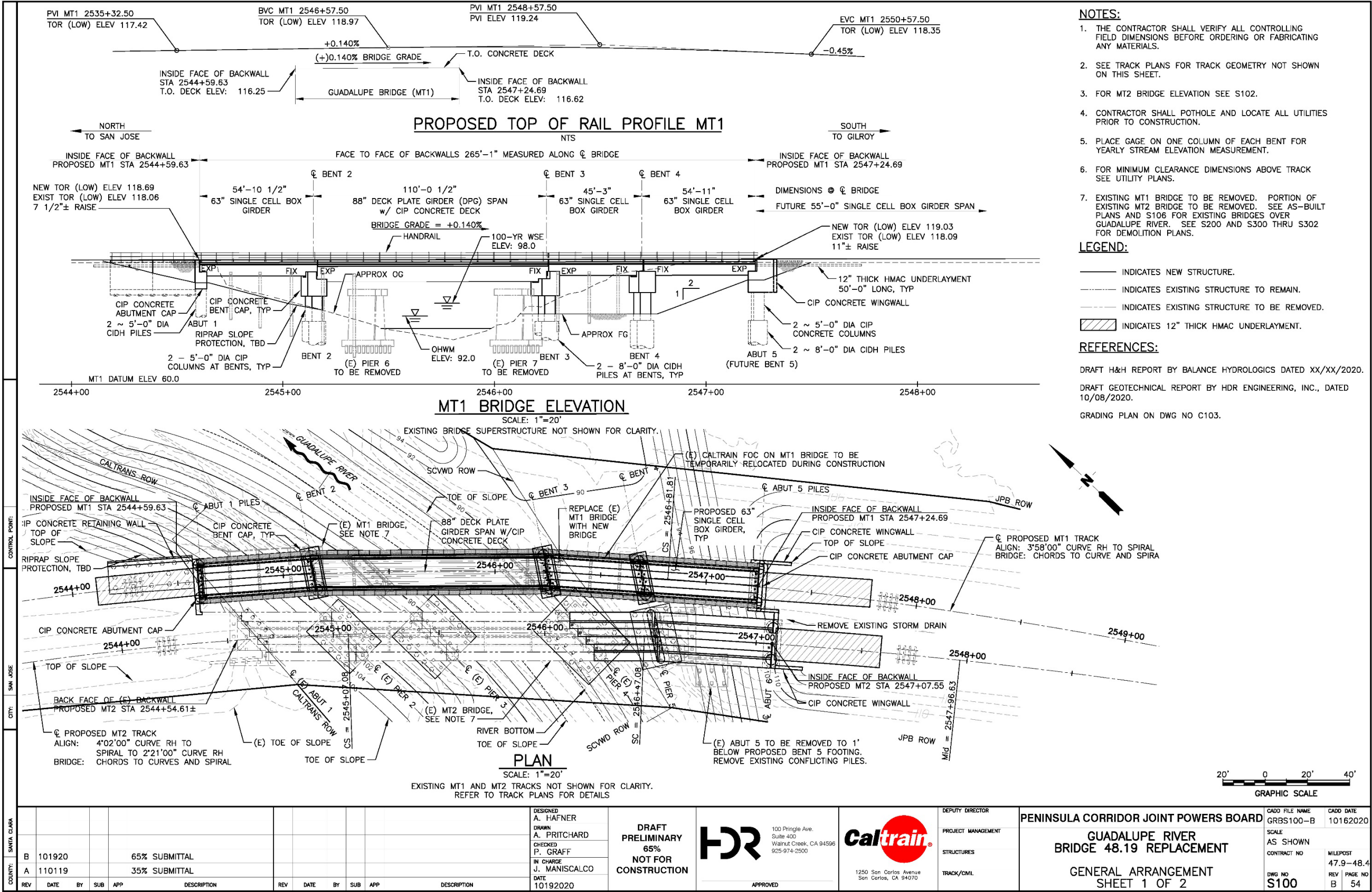
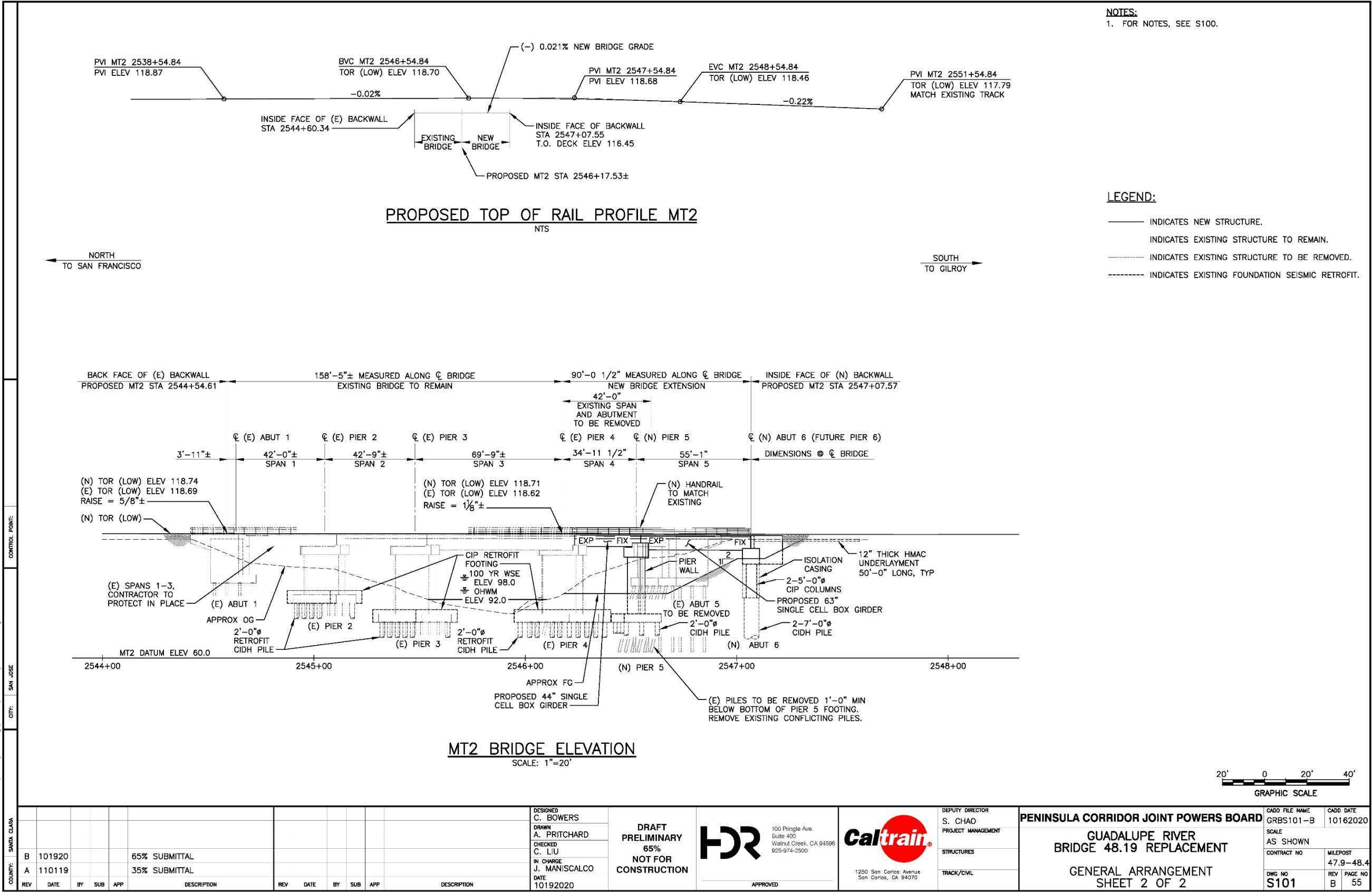


Figure 4b: Guadalupe River Bridge Replacement Preliminary Design - Sheet 2 of 2



The Guadalupe River channel will be widened approximately 75 feet to create a connection to the existing Valley Water Reach 6 bypass channel, which is downstream of the Project. The channel widening will reduce flow velocities during storm events and decrease the risk for further bank failure and scour problems.

The work will also include the temporary relocation of fiber optic cables located on the MT-1 bridge and the permanent relocation of an existing overhead catenary system pole that will be affected by the regrading and widening of the channel and MT-2 bridge extension. The overhead catenary system pole will be relocated to Pier 5 of the MT-2 bridge as part of the Project. The fiber optic cables will be temporarily relocated to the MT-2 bridge (either underground beneath the tracks or aerially over the tracks on poles) during the demolition and construction of the new MT-1 bridge. Upon completion of the new MT-1 bridge, the fiber optic cables will be relocated to their permanent location on the eastern side of the MT-1 track.

The Project will be constructed primarily within existing transportation and utility ROW owned by JPB and Valley Water. Temporary easements from the California Department of Transportation (Caltrans), the City of San José, and Valley Water will be necessary to construct the Project. These temporary easements are necessary for construction access, construction laydown and staging, and mitigation; the easements will affect an estimated 152,300 square feet (sf) of land on portions of 20 parcels in the project area. Construction easement details are provided in Appendix A in graphic and tabular format.

Post-Construction Stormwater Treatment

The Project will include two bioretention/bioinfiltration post-construction stormwater treatment areas to address runoff from the replacement of the MT-1 bridge and the extension of MT-2 bridge. In total, the Project is estimated to result in a 2,950-sf increase in impervious surface area. One stormwater treatment area will be located North of the MT-1 bridge, on the East side of the tracks. The second stormwater treatment area will be located South of MT-2 bridge on the West side of the tracks. The post-construction stormwater treatment areas (including sizing and plant species) will be designed in accordance with requirements set forth in the *Santa Clara Valley Urban Runoff Pollution Prevention Program (2016) C.3 Stormwater Handbook*.

Construction Staging

Construction of the Project will occur over approximately 2 years. Key construction activities comprise the MT-1 bridge replacement; the MT-2 bridge extension, riverbank stabilization and improvements; floodplain widening; and fiber optic cable removal and relocation. In the first year of construction, between June 15 and October 15 (the in-channel work window for protection of special-status fish species), the river will be dewatered, the existing MT-1 bridge will be demolished, and the new MT-1 bridge will be constructed. Train service will operate on the MT-2 bridge while the MT-1 bridge is out of service. The dewatering infrastructure will be removed, and water flow will be restored over the winter. In the second year of construction, train service will operate on the new MT-1 bridge, and the MT-2 bridge will be extended during the June 15 to October 15 in-channel work window. At the conclusion of construction, the riverbanks will be stabilized and revegetated.

Construction sequencing details are provided in **Figures 5 and 6**; the temporary limits of disturbance and construction access points are shown in **Figure 7**. The construction sequencing plan for the first phase of MT-1 construction (Phase 1A) is illustrated in **Figure 5a**, followed by the plan for the second phase of MT-1 construction (Phase 1B) in **Figure 5b**.

Construction sequencing plan details for the MT-2 bridge extension construction phases (Phases 2A and 2B) are illustrated in **Figures 6a and 6b**, respectively.

As presented in **Figure 8**, dewatering is anticipated to occur within an approximately 400-foot section of river. Two 48-inch diameter pipes will be placed along the channel margin, and a temporary cofferdam will be built around them. Diversion pipes will be integrated into the coffer dam during construction while a series of pumps will be installed upstream of the coffer dam to divert water around the work area until both the upstream and downstream coffer dams are installed. Once the coffer dams and diversion pipes are in place, the pumps will be turned off and water will be diverted through the pipes. Following the completion of in-channel work, streamflow will be restored to the dewatered section of channel.

The dewatering system has been designed based on an analysis of peak flows during the June to October in-channel work window. Flow exceedance curves were developed based on the estimated maximum daily flows during June 1 through October 15 using 27 years of flow data covering 1993 through 2019.¹ While summer base flows in the project area are generally less than 10 cubic feet per second (cfs), short duration peak flow events often exceed 40 cfs (approximately 50% of the years analyzed) during storm events. To be conservative, this Project was designed to accommodate nearly all peak flow events that have occurred between June 1 and October 15 from 1993 through 2019 by sizing the diversion pipes to accommodate flows up to 520 cfs. Flow exceedance curves show peak flow events greater than 520 cfs have only occurred twice during the 27-year assessment period, a frequency that is less than 10%. Based on this analysis, there is a low likelihood that flows near or above the diversion capacity will occur during in-channel work when flows are being diverted.

¹ Balance Hydrologics, Inc. Ranked daily maximum streamflow (June through October): Guadalupe River at railroad bridges. September 2020.

Figure 5a: Construction Sequencing Plan – MT-1 Phase 1A

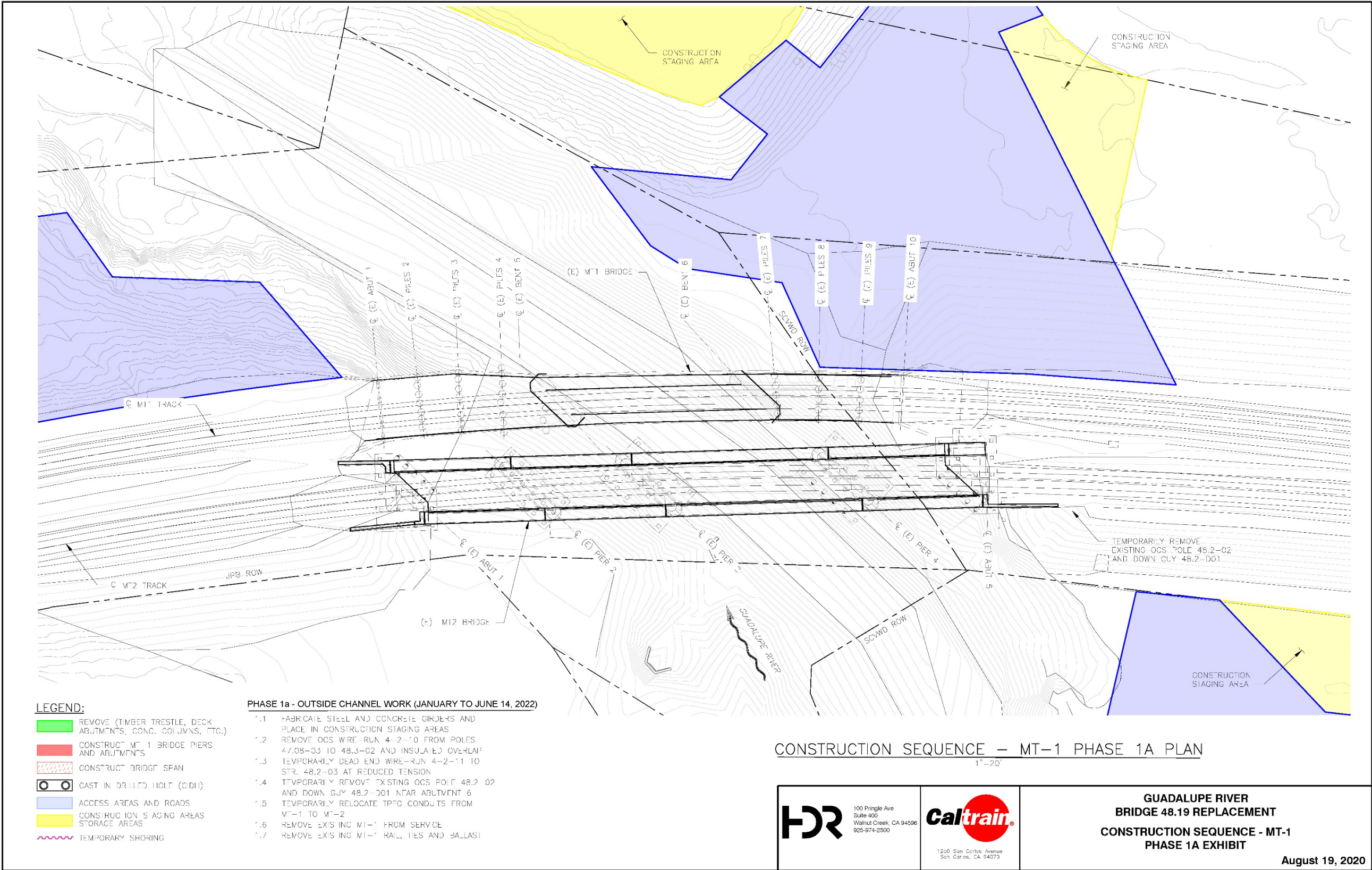


Figure 5b: Construction Sequencing Plan – MT-1 Phase 1B

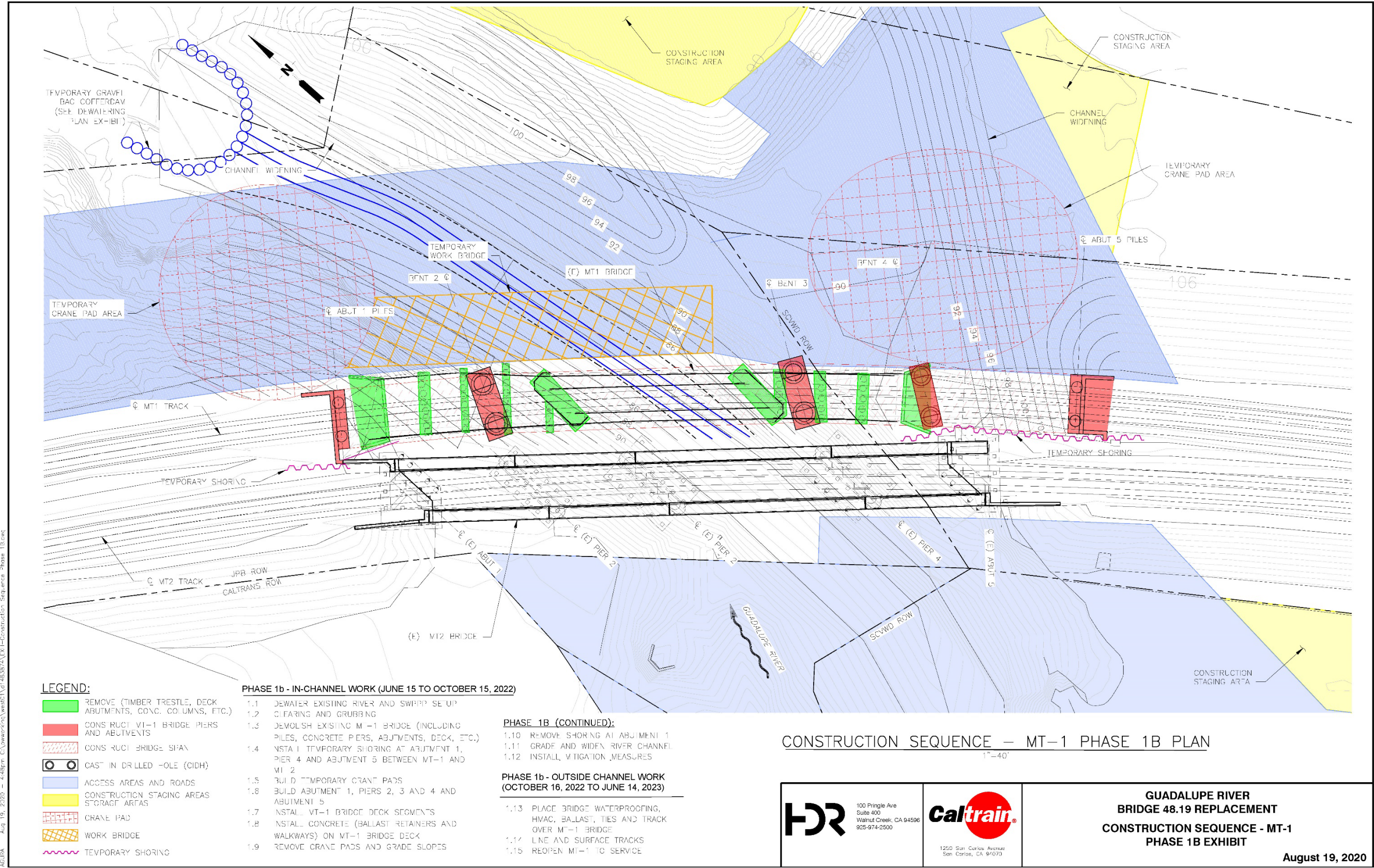


Figure 6a: Construction Sequencing Plan – MT-2 Phase 2A

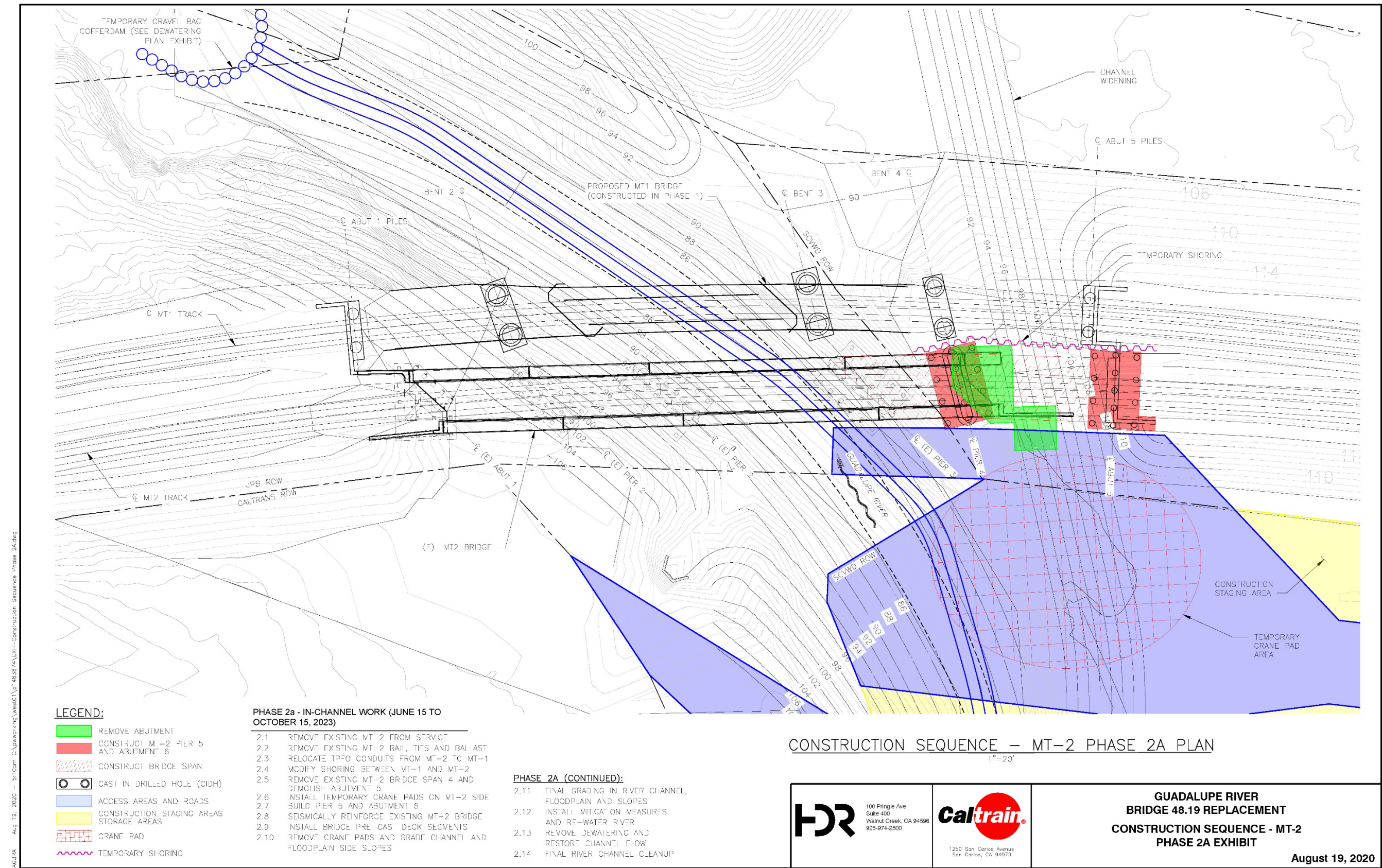


Figure 6b: Construction Sequencing Plan – MT-2 Phase 2B

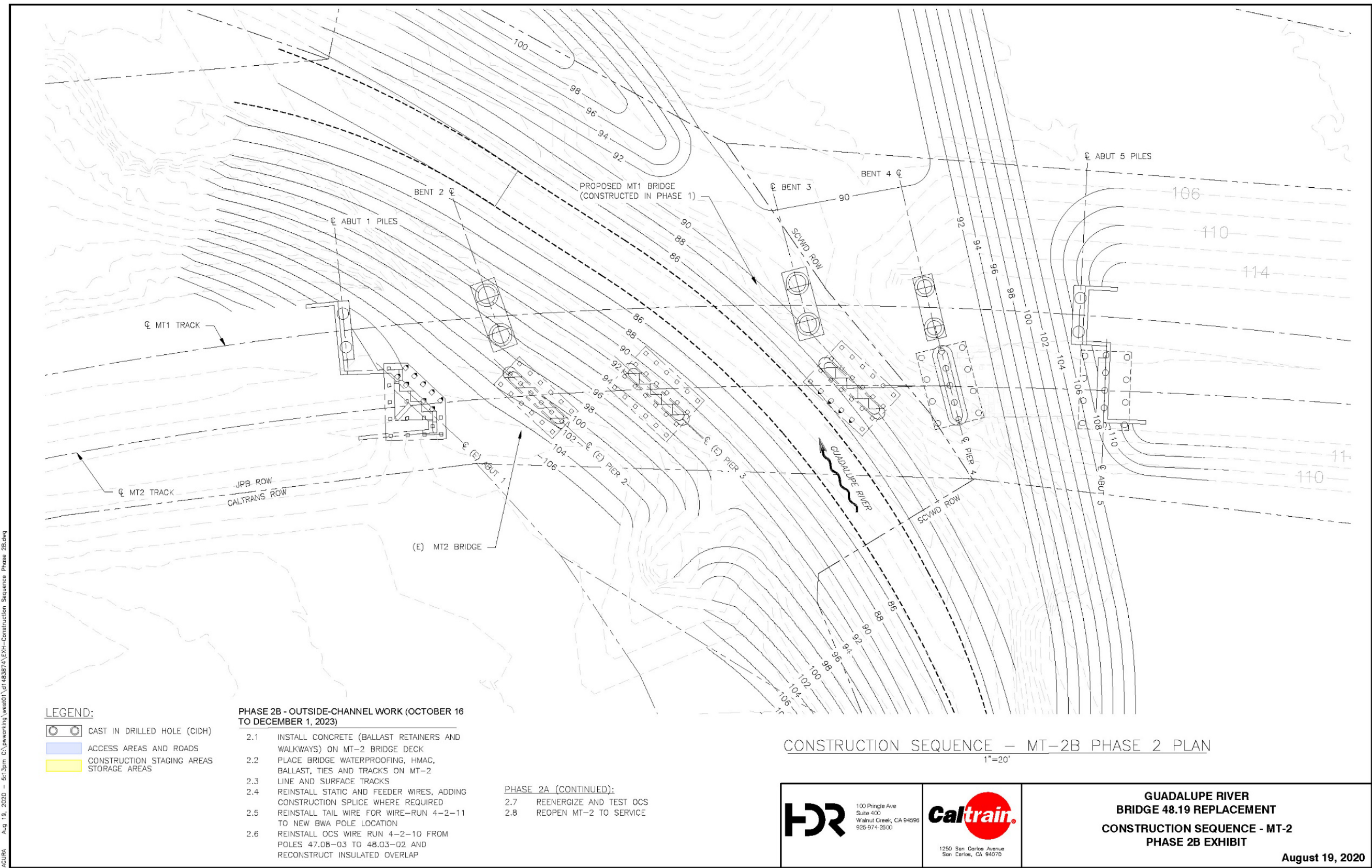


Figure 7: Temporary Limits of Disturbance

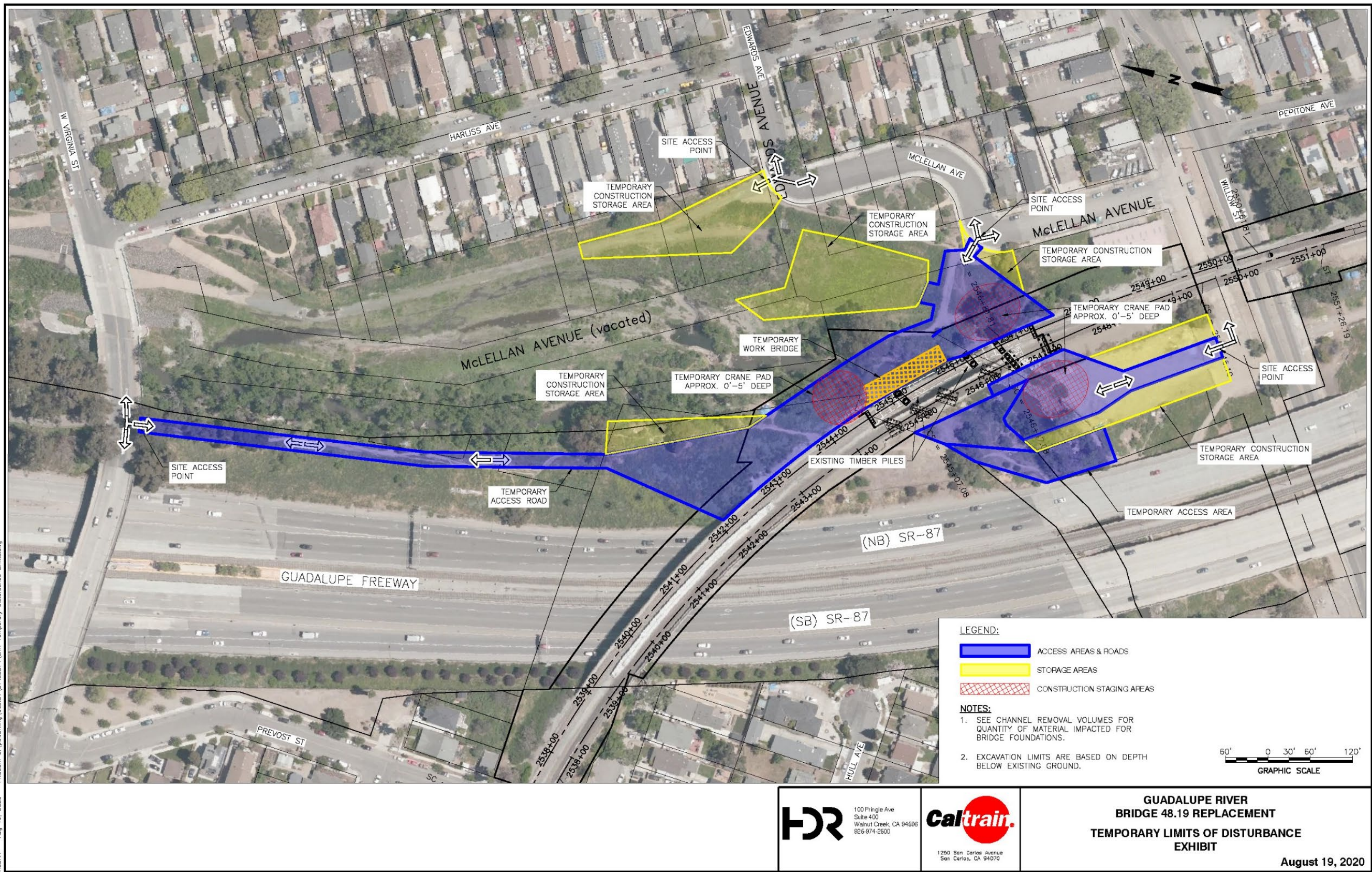
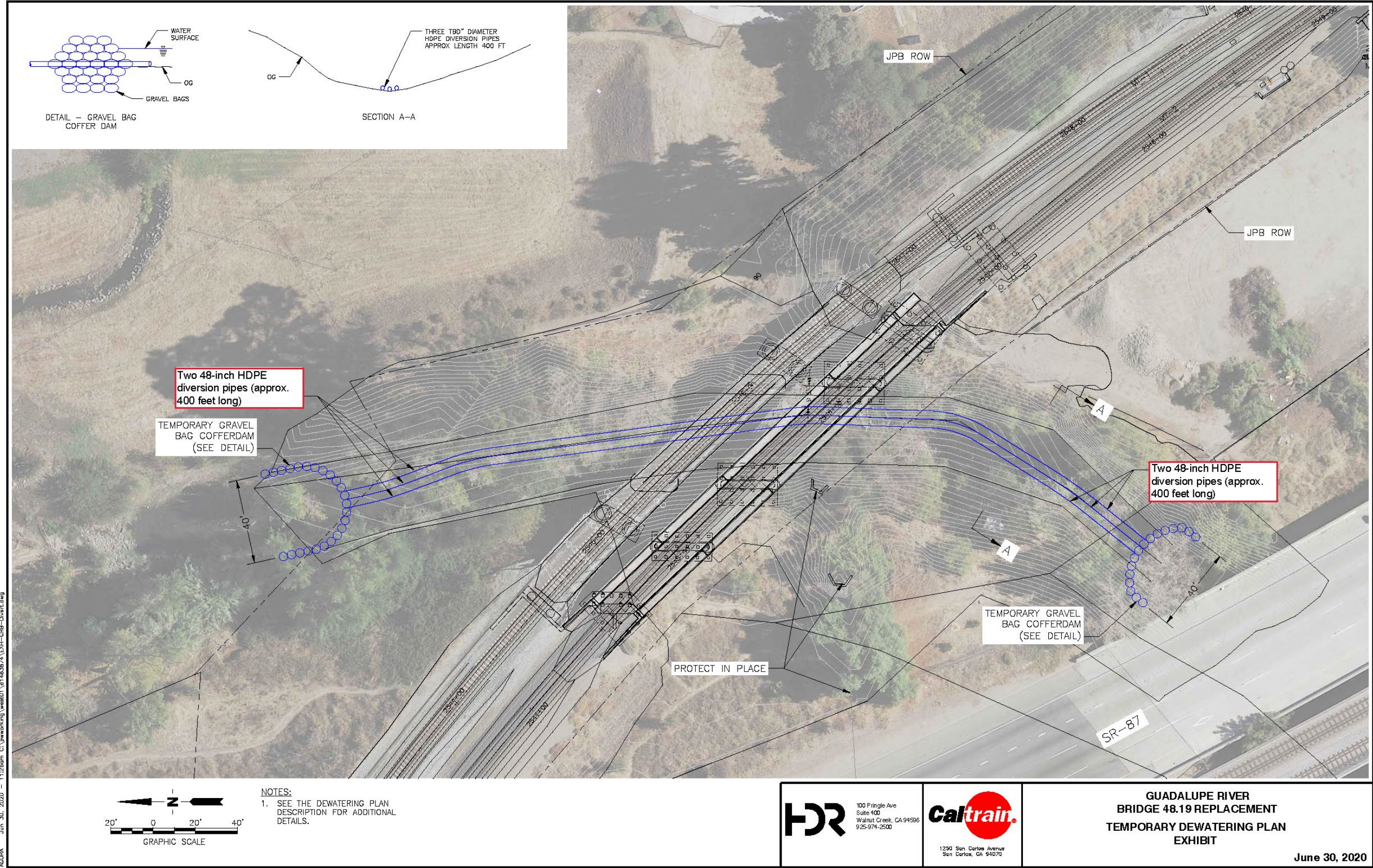


Figure 8: Proposed Dewatering Plan



Other Approvals Required

The following approvals and permits are anticipated to be required from other agencies for completion of the Project:

- Federal Transit Administration (FTA)—funding partner and federal lead agency for compliance with the National Environmental Policy Act
- USACE—Section 404 Nationwide Permit
- San Francisco Bay Regional Water Quality Control Board (RWQCB)—Section 401(c) Water Quality Certification and National Pollutant Discharge Elimination System (NPDES) Construction General Permit
- California Department of Fish and Wildlife (CDFW)—Lake and Streambed Alteration Permit
- National Marine Fisheries Service (NMFS)—Federal Endangered Species Act Section 7 consultation with FTA
- Santa Clara Valley Water District—Encroachment Permit (for temporary construction access)
- Caltrans—Encroachment Permit (for temporary construction access)

Consultation Pursuant to Public Resources Code Section 21080.3.1

JBP has not received any requests from California Native American tribes that are traditionally and culturally affiliated with the project area for consultation pursuant to Public Resources Code section 21080.3.1.

Purpose and Need

The purpose of the Project is to address the structural deficiencies of the MT-1 bridge and the geomorphic instability of the Guadalupe River channel in the vicinity of the MT-1 and MT-2 bridges to provide for long-term public safety and service reliability.

Without the Project, the structural condition of the MT-1 bridge presents an increasing safety hazard to all users. Replacing the MT-1 bridge is needed to meet the standards of safety and reliability required for current and future train loads to ensure that the bridge will continue to safely carry passengers (Caltrain and Amtrak) and freight (UPRR) well into the future (the bridges are also used for deadhead movements of ACE and Capitol Corridor trains). In addition, without extending the MT-1 and MT-2 bridges, the geomorphic condition of this reach of the Guadalupe River will continue to contribute to bank failure and scour, threatening the integrity of the transportation asset and requiring continual emergency repair interventions. Extending both bridges will reduce river flow velocities and minimize bank erosion. The structural and geomorphic needs for the Project are discussed below in further detail.

Need for the MT-1 Replacement

The existing 1935 Guadalupe River MT-1 rail bridge consists of a 70-foot steel girder main span (center-to-center of piers) with timber trestle bent approaches; it has a total structure length of approximately 187 feet. In 2018, JPB inspected the MT-1 bridge and found it to be in poor overall condition. Although the main steel spans were in good condition, the southerly timber

approach spans were damaged significantly by fires (in 1985 and 2017) and experienced moderate section loss. Moderate spalling of the concrete at the existing piers was reported.

The 2018 inspection found the MT-1 bridge to rate below the current and projected service loads as well as the JPB design criteria for live load capacity (Cooper E80) for new bridges. The bridge was also analyzed for seismic capacity and found to be vulnerable during significant magnitude earthquakes. In addition, second-hand steel girders were used to construct the bridge, contributing to the risk for the structural failure of the bridge. Bridge structure life is generally accepted to be 75 years—the MT-1 bridge has surpassed its useful service life.

As noted in the 2018 inspection report for the Guadalupe River MT-1 rail bridge, spans 1 through 6, spans 9 through 12, and piers 9 through 13 have been damaged by the fire (see **Photo 1**). Section loss as a result of fire damage ranges from 0.5 to 0.75 inches, with additional loss to stringers, piers, interior girders, and abutments (see **Photo 2**). Many of the pier piles have vertical splitting and cap splitting (see **Photo 3**), and 6 of the 13 abutments received failed ratings for bridge deck guard and handrails. In addition, failure of channel protection was documented at the northeast embankment (see **Photo 4**). Major cross base section loss was noted at pier 4, and a major split at pile 5; ballast retainer failure has been noted at the southeast corner of abutment 13.



Photo 1: Abutment 1 – Typical fire damage and leaking ballast.



Photo 2: Typical stringer span fire damage.



Photo 3: Typical split columns (photo of pony bent at Pier 6).



Photo 4: Failing channel protection on northeast embankment.

In November 2017, the MT-1 bridge experienced a significant fire event (see **Photo 5**). Emergency repairs were made to the structure and it was determined to be serviceable. However, the vulnerability of the structure to seismic events has substantially increased, and thus the urgency of the bridge replacement for public safety has further increased.

The existing MT-1 bridge has exceeded the 75-year life for which it was designed. Because of its age, failure of bridge elements to meet current and projected service loads, and vulnerability in the event of a significant earthquake, the bridge needs to be replaced with a new structure.

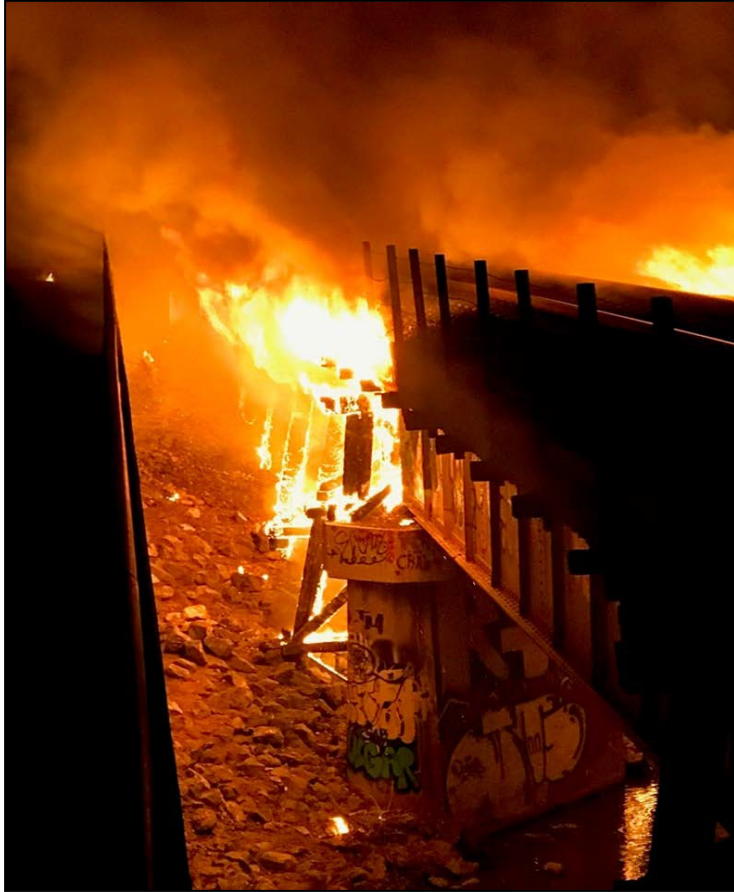


Photo 5: November 2017 MT-1 Fire.

Need for the MT-1 and MT-2 Extension

The Guadalupe River bridges are located in an area subject to high erosion and bank failure. JPB has conducted emergency bank repair projects in the vicinity of the bridges since 2008. Riverbank failures close to the abutments of the two bridges occurred in December 2014 and during the 2017 winter. Following 2014–2015 heavy rain events, the stability of the MT-1 bridge abutment was threatened by bank erosion (see **Photo 6**). JPB completed an emergency interim repair in March 2015. This temporary repair measure entailed the placement of 30 cubic yards (cy) of gravel bags to protect the upper slope and restore the steep slope to 1:1. In 2016, another bank toe protection project was required to stabilize a scour at the toe of the bank where interim slope protection was installed in 2015. The 2016 bank toe protection employed bioengineering methods (placement of logs, river rock, and willow plantings) and was completed in late 2016. However, these interim measures have deteriorated with subsequent rain events, which have removed nearly all the gravel bags and some of the toe of slope protection measures (see **Photo 7**).



Photo 6: 2014 Bank failure at MT-1 downstream left bank required emergency repair.



Photo 7: 2018 Condition of MT-1 bridge and left bank. Note fire damage to timbers and deterioration of temporary stabilization measures.

In early 2017, heavy rain events resulted in high water flows that scoured and eroded the South bank just upstream of the MT-2 bridge, necessitating an emergency repair (see **Photo 8**). About 416 cy of riprap was placed along the eroded slope of the South bank in March 2017.



Photo 8: 2017 Bank failure at MT-2 that required emergency repairs.

In 2018, JPB completed a geomorphic assessment of the existing conditions of the Guadalupe River channel near the MT-1 and MT-2 bridges. Hydraulic modelling was completed to provide a quantitative assessment of existing conditions, including modeled hydraulic shear stress. The findings of geomorphic assessment support the need for extending both MT-1 and MT-2 bridges to reduce river flow velocities and address ongoing scour issues. Key findings of the study include the following:

- The geomorphology of the Guadalupe River channel has been altered over time, and the modern conditions seem to have created a more erosive river environment for riverbank and bed material.
- Widening and lowering of floodplain areas (as was done in Reach 6, just downstream) seems to create a less erosive and more depositional set of flow conditions.
- The highest shear stress locations are in the main channel under Highway 87 and near the MT-2 pier on the outside of the bend. The channel under the MT-1 bridge is

- also a high shear stress location.
- Based on predicted shear stress for a 10-year storm, the 2017 riprap repair may be near the limit of stability for those shear stresses and velocities. This means the repair is vulnerable to failure in a greater than 10-year storm event.

Extension of the MT-1 and MT-2 bridges is necessary to address erosion and scour issues that continue to undermine bridge abutments and contribute to the risk of bridge structure failure. A longer structure for MT-1 is planned as part of the bridge replacement. The MT-2 structure does not require replacement for structural or safety issues. However, an extension of the MT-2 structure is required to accommodate mitigation of the channel geomorphic issues. Because MT-2 is upstream of MT-1, lengthening the MT-1 span alone will not address the scour issues at MT-2. Based on the geomorphic assessment and hydraulic modeling, lengthening the span of both bridges is necessary.

Hydraulic Study/Alternatives Analysis

In 2019, a hydraulic study was undertaken evaluate the effectiveness of various bridge design concepts.² Comprehensive hydraulic analyses were completed for a variety of flow velocities and conditions (e.g., USACE 2-, 5-year, 10- and 25-year storms; Federal Emergency Management Agency Flood Insurance Study 50-, 100- and 500-year storms). The design considerations for evaluation of alternatives in the hydraulic study included the following criteria:

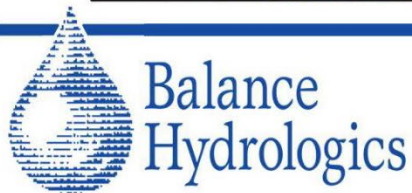
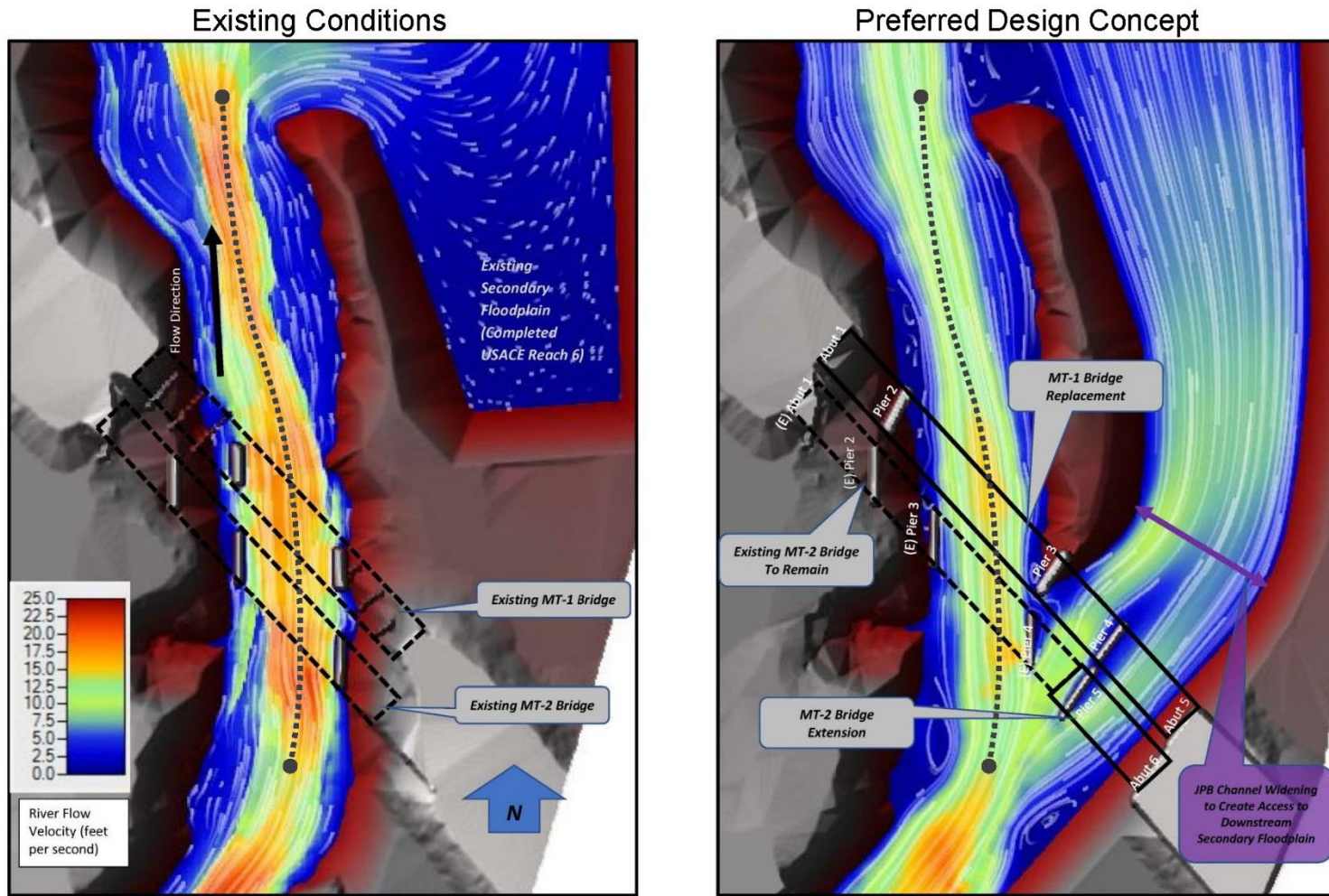
- Avoid placing a new MT-1 pier in the low-flow channel as requested in coordination with resource agencies.
- Meet current American Railway Engineering and Maintenance-of-Way Association (AREMA) and JPB design standards.
- Avoid new pile placement that requires removing or drilling through existing piles.
- Improve channel stability and reduce erosion risk as measured by event flow velocities.

The hydraulic study also determined the minimum extent of channel widening that needs to occur as part of the Project to address the geomorphic instability. The objective of determining the appropriate extent of channel widening was to ensure that the Project will remain a long-term, viable expenditure regardless of whether the USACE channel widening occurs in the future. Based on geomorphic concepts and hydraulic modeling results, a 75-foot wide floodplain is considered the minimum width needed to reduce velocities and resulting hydraulic forces on the riverbanks, thus reducing chances of bank failures. To achieve the 75-foot floodplain, the existing MT-1 bridge should be replaced with a reconstructed four-span bridge with a total bridge length of approximately 265 feet. The existing MT-2 bridge should be extended by 90 feet resulting in a new total bridge length of 244.5 feet. Widening the channel will protect bridge embankments and structures from erosion impacts in the long term.

The left side of **Figure 9** illustrates the hydraulic modeling under existing conditions for the 10-year flow event. The existing 10-year event flow velocities are unacceptably high (greater than 20 feet per second near the existing bridges) and result in bank failure/scour issues. The right side of **Figure 9** shows the hydraulic model results for the Project and the resulting reduction in flow velocities due to the improved pier placement and wider channel that will connect to the floodplain downstream of the bridges.

² Balance Hydrologics, Inc. Project Memo, Recommendation for Interim-Width Floodplain at Guadalupe River Railroad Bridge Crossing, August 7, 2019.

Figure 9: Hydraulic Model Run Results (10-Year Flow): Existing Conditions and Preferred Design Concept



Hydraulic modeling results, 10-year flow. Existing conditions (left) indicate higher velocities on the channel bed and banks than in the preferred design concept (right), where flows can dissipate energy onto the floodplain..

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project (i.e., the project would result in at least one potentially significant impact to the resource). Please see the checklist on the following pages for additional information.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Hilda Lafebre, Manager, Capital Projects &
Environmental Planning

Date

Printed Name

Date

Part II Evaluation of Environmental Impacts

This Final Initial Study (IS) uses the environmental checklist form presented in Appendix G of the CEQA Guidelines. The following terminology is used to evaluate the level of significance of impacts that would result from the Project:

- A finding of *no impact* is made when the analysis concludes that the Project would not affect the particular environmental issue.
- An impact is considered *less than significant* if the analysis concludes that there would be no substantial adverse change in the environment and that no mitigation is needed.
- An impact is considered *less than significant with mitigation incorporated* if the analysis concludes that there would be no substantial adverse change in the environment with the inclusion of the mitigation measure(s) described.
- An impact is considered *significant* or *potentially significant* if the analysis concludes that there could be a substantial adverse effect on the environment.
- *Mitigation* refers to specific measures or activities adopted to avoid an impact, reduce its severity, or compensate for it.

I. AESTHETICS:

Except as provided in Public Resources Code Section 21099, would the project:

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

The project area is surrounded by transportation, residential, mixed-use commercial, and open space land uses. The Guadalupe River rail bridges are located approximately 100 feet East of State Highway 87, and 450 feet North of Willow Street in the Willow Glen district of San José. Neither State Highway 87 nor Willow Street are designated Scenic Highways. **Photos 9 and 10** show views of the project area; **Photos 11 and 12** show typical views of the rail bridges and project area available from adjacent, publicly accessible areas.

The project area does not include any designated scenic vistas or scenic resources. An important characteristic of the visual environment in the project area is the Guadalupe River and associated riparian vegetation. The riparian area of the river is used extensively by homeless populations, and the visual quality of the area is impacted by trash and debris.

Residential neighborhoods generally do not have direct views of the existing MT-1 and MT-2 bridges because of intervening topography, vegetation, and existing development. Views of the existing bridges are available to limited portions of the residential area situated on the eastern side of McClellan Avenue.



Photo 9: View of the project area and Guadalupe River bridges facing West.



Photo 10: View of Guadalupe River and project area facing South from under the eastern end of the MT-2 bridge.



Photo 11: View of the Guadalupe River bridges from the Valley Water mitigation area along the western side of Mclellan Avenue, facing West/Southwest. In general, the project area and river are not visible from surrounding residential areas (as demonstrated by the photo).



Photo 12: North/northwest view toward the project area and Guadalupe River bridges from the proposed construction staging area on the North side of Willow Street.

a. Have a substantial adverse effect on a scenic vista?

The Project will not occur in the vicinity of any scenic vistas. Therefore, there will be **no impact**.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no designated scenic resources in the project area. As discussed in the Cultural Resources section, the Project does not affect historic buildings. Therefore, there will be **no impact**.

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

The Project entails the replacement/extension of existing railroad bridges along an existing rail corridor in an urbanized area. City zoning designations are not applicable to the Project. The new MT-1 bridge and extended MT-2 bridge will be consistent with the character and appearance of the existing bridges. The Project also includes widening the river channel to connect with the existing Valley Water bypass channel downstream. The appearance of the widened channel will be similar to and consistent with the existing character of the river channel and bypass channel. The Project will incorporate riparian habitat plantings as part of a Habitat Mitigation and Monitoring Plan that will enhance the visual quality of the project area over the long term (see Mitigation Measure BIO-07). Therefore, in the long term, the Project will have **no impact**.

Temporary impacts to visual character and quality will occur during construction of the Project from construction activity, views of construction equipment, and removal of riparian vegetation (approximately 0.7 acres of riparian tree cover). Once construction is complete, construction equipment will be removed, the site will be stabilized, and replacement vegetation will be installed. Riparian habitat will not permanently decrease as a result of the Project. The Project will remove existing degrading elements, including invasive plant species, trash, debris, and graffiti. Overall, visual character and quality will not be “substantially degraded” because of the temporary nature of construction in any one area and the highly urbanized character of the project setting.

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

The Project will not create a permanent new source of substantial light or glare. Thus, in the long term, the operation of the Project will have **no impact**.

During nighttime construction, there will be temporary illumination of the work zone. Temporary lighting will be directed at the work area and not at surrounding residences. Given the numerous other existing light sources in an urbanized area, the distance from the bridges to the nearest residence (approximately 225 feet), and the temporary nature of the work site lighting, the Project will not create substantial light impacting nighttime views.

II. AGRICULTURE AND FOREST RESOURCES:

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

Would the project:

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

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?

The project site and adjacent land are not currently used for agriculture; consequently, the Project does not entail converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance into non-agricultural uses. According to the California Department of Conservation Important Farmland Map Viewer, the land in the vicinity of the Project falls into the following category: Urban and Built-up Land.³ Therefore, there will be **no impact**.

³ <https://maps.conservation.ca.gov/dlrp/ciff/>

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Project will not conflict with any existing zoning for agricultural use or a Williamson Act contract. Therefore, there will be **no impact**.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

The Project will not conflict with existing zoning for, or cause rezoning of, any forest land or timberland. Therefore, there will be **no impact**.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

The Project will not remove or convert any forest land. Therefore, there will be **no impact**.

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The Project does not involve changes that will result in converting farmland to non-agricultural uses. Therefore, there will be **no impact**.

III. AIR QUALITY:

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

Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Project is in Santa Clara County, California. Santa Clara County is classified by the U.S. Environmental Protection Agency (EPA) as a nonattainment area for the federal 8-hour ozone standard and the federal 24-hour average fine particulates (PM_{2.5}) standard.⁴ Santa Clara County is classified as a nonattainment area for the California air quality standards for ozone, PM_{2.5}, and coarse particulates (PM₁₀).⁵ The urbanized portions of Santa Clara County were formerly a federal carbon monoxide maintenance area (20-year maintenance plan has been completed). The project area is in attainment for all other pollutants regulated by federal and state ambient air quality standards.

The Project will not result in long-term changes in emissions of air pollutants. The Project will result in temporary emissions from equipment exhaust and fugitive dust during the 2-year construction period. The following construction air quality best management practices (BMPs) will be incorporated into the Project to avoid and minimize construction-related impacts:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day or as needed to maintain a minimum soil moisture of 12%. Moisture content can be verified by lab samples or moisture probe.
2. All haul trucks transporting soil, sand, or other loose material off-site will be covered.
3. All excavation, grading, and/or demolition activities will be suspended when average wind speeds exceed 20 miles per hour (mph).
4. All trucks and equipment, including their tires, will be washed prior to leaving the site.
5. Site entrances will be stabilized with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.

⁴ https://www3.epa.gov/airquality/greenbook/anayo_ca.html

⁵ <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>

6. All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
7. All vehicle speeds on unpaved temporary access roads will be limited to 15 mph.
8. Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 2 minutes. Clear signage will be provided for construction workers at all access points.
9. Heavy construction equipment and haul trucks over 50 horsepower must meet at least EPA Tier 3 emission standards or be from model year 2010 or newer. Prior to construction, the contractor will submit to JPB a list of all proposed equipment and vehicles (i.e., for off-road equipment, include the California Air Resources Board-issued Equipment Identification Number) and documentation supporting the EPA tier rating for verification of compliance. If an unanticipated need for the use of equipment or a vehicle arises after construction has commenced, the contractor will provide the required documentation of compliance within 14 days after an identified emergency or when the need arises and prior to the use of the equipment or vehicle.
10. All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified mechanic and determined to be running in proper condition prior to operation.
11. A publicly visible sign will be posted with the telephone number and person to contact at JPB regarding dust complaints. This person will respond and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.

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

San José's 2040 General Plan was reviewed to identify potentially relevant air quality policies. Most of the General Plan policies are oriented to residential/commercial development projects as opposed to public transportation projects. The Project is consistent with the General Plan recommendation to use the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (Policy MS-10.1) and incorporate BAAQMD construction air quality BMPs (Policy MS-13.1).

By maintaining critical public transportation facilities, the Project is consistent with policies encouraging public transportation as a method of reducing emissions (Policy MS-10.3). With respect to Toxic Air Contaminants (Policy MS-11.1), it should be noted that the Project does not change the frequency of train service or change the distance between sources and receptors. In addition, diesel locomotives will be phased out over the long term as part of the electrification of the rail corridor under the Caltrain Modernization Program.⁶

BAAQMD's Bay Area 2017 Clean Air Plan was reviewed for potentially applicable policies.⁷ The Project is consistent with policies such as Transportation Control Measure 4: "Fund local and regional rail service projects, including operations and maintenance." Other policies of the Clean Air Plan are not applicable, including policies pertaining to automobile and truck sources (which

⁶ <https://calmod.org/>

⁷ https://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-_proposed-final-cap-vol-1-pdf.pdf?la=en

the Project will have no effect on) and policies pertaining to wood burning, stationary and area sources, or land use.

In conclusion, the Project is consistent with the applicable local and regional air quality policies, therefore there will be **no impact**.

- a. **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?**

Long-Term Operation Impact

The Project will not change existing diesel locomotive emissions in the project area. The Project does not require a change in the existing track alignment. Diesel locomotives will be phased out as the corridor is electrified, resulting in improved air quality along the corridor. The Project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation; thus, there will be **no impact**.

Temporary Construction Impact

Significance thresholds for temporary construction air quality impacts were based on the 2017 BAAQMD CEQA thresholds.⁸ Specifically, the significance thresholds are daily average construction emissions exceeding any of the following: 54 pounds (lbs)/day Reactive Organic Gases (ROG), 54 lbs/day nitrogen oxides (NOx), 82 lbs/day PM10 (exhaust only), or 54 lbs/day PM2.5 (exhaust only).

The period of highest construction equipment activity and emissions will occur during the construction of the new MT-1 bridge (including pile drilling, concrete pumping, excavation for widening the channel, and haul truck activity). Therefore, this construction phase (occurring during summer 2022) was the focus of the construction air quality analysis. Emissions during other portions of construction with less intense construction equipment activity will be lower than the peak phase. The approximate magnitude of construction emissions was estimated using EPA's Motor Vehicle Emission Simulator (MOVES) MOVES 2014b. Appendix B provides the details of the equipment assumptions and emission rates.

Average daily emissions of ROG, PM10, and PM2.5 will be well under the applicable significance thresholds. However, without incorporation of construction commitments, the BAAQMD NOx threshold of 54 lbs/day could be exceeded during the peak construction phase. With incorporation of BAAQMD basic and advanced construction air quality BMPs, the NOx threshold will not be exceeded (see **Table 1**). Specific to limiting NOx emissions, the air quality construction commitments include a requirement for the use of newer equipment with lower emissions (at least Tier 3 or alternatively 2010 or newer model year equipment over 50 horsepower). Therefore, temporary construction air quality impacts will be **less than significant**.

⁸ https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Table 1. Temporary Construction Emissions with Construction Commitments

	NOx	Particulate Matter (Exhaust)	Total ROG
Peak Construction Mitigated Emissions Per Day (lbs)	50.8	5.1	4.3
BAAQMD CEQA Threshold (lbs/day)	54	54	54

b. Expose sensitive receptors to substantial pollutant concentrations?

Long-Term Operation Impact

As noted above, the Project will not change diesel locomotive operations or the distance to receptors. Therefore, there will be **no impact**.

Temporary Construction Impact

The nearest residential receptors are approximately 225 feet East of MT-1 (along Mclellan Avenue). However, given the extensive construction air quality BMPs incorporated into the Project, substantial concentrations of criteria pollutants will not occur near these receptors. In addition, it should be noted that most of the construction will occur during the daytime hours on weekdays, further limiting the duration of exposure. Therefore, the impact will be **less than significant**.

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

Long-Term Operation Impact

The Project will not increase the total number of diesel trains operating on the Caltrain/UPRR tracks. Therefore, diesel-related odor emissions will not increase, and there will be **no impact**.

Temporary Construction Impact

During construction, the operation of heavy equipment will generate diesel odors on-site and in adjacent areas. Diesel odors will be limited in both temporal and geographic extent by the number of pieces of construction equipment operating at any one time and dispersed by prevailing meteorological conditions. Construction air quality commitments incorporated in the Project will also serve to minimize diesel exhaust emissions. Therefore, this will be a **less than significant** impact.

IV. BIOLOGICAL RESOURCES:

Would the project:

Potentially
Significant
ImpactLess Than
Significant
with
Mitigation
IncorporatedLess Than
Significant
ImpactNo
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 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 federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

☐☒☐☐

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?

☐☒☐☐

Existing Conditions

The project area is in the Guadalupe River corridor and is surrounded by residential and commercial development. The project area is within the South Bay Subregion of the San Francisco Bay Area California Region, which is part of the larger California Floristic Province.⁹ The Guadalupe River lies within the Santa Clara Valley basin that ultimately drains into the San Francisco Bay. The headwaters originate in the eastern Santa Cruz Mountains, initially forming the Guadalupe Creek before its confluence with Alamos Creek in the City of San José, where it becomes the Guadalupe River.

⁹ Baldwin, B.G., D.H. Goldman, D. J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley.

The Guadalupe River has roughly 20 miles of main channel and a watershed area of 170 square miles.¹⁰ Flows in the Guadalupe River increase rapidly in response to winter storms and are typically followed by steep declines in flow. Overall, the river is characterized by high winter flows and low summer baseflows, with stream dry back occurring during most drought years.¹¹

The Guadalupe River has a highly confined and nearly uniform channel within the project area. This section of the river is characterized by a series of long, slow, flatwater habitat separated by short riffle sections. As noted in the Purpose and Need section, the project area has a history of scour and bank failure problems that the Project will help alleviate through channel widening and connection to the Reach 6 bypass channel downstream.

In addition to geomorphic instability issues, homeless encampments throughout the undeveloped portion of the Guadalupe River corridor affect habitats. Specific impacts include trash, channel alterations (e.g., rock weir placement/stream crossings), disturbance/removal of riparian vegetation, and erosion issues on the riverbanks.

Vegetation

The following vegetation/land use communities were mapped in the study area: (1) developed, (2) Wild Oats and Annual Brome Grassland, (3) Fremont Cottonwood Forest, (4) perennial freshwater marsh, (5) seasonal wetland, (6) ornamental woodland (7) aquatic habitat, and (8) Coast Live Oak Woodland (**Figure 10**). The Preliminary Delineation of Wetlands and Other Waters Report (Appendix C) provides a detailed list of the plant species observed during the field review.

Developed Land: Developed land within the top of bank includes areas that are covered in riprap or hardpacked soil that does not support vegetation. These areas were mapped under the bridge, adjacent to the abutments, and along the banks adjacent to the bridges. Outside the banks, developed land includes areas that are paved, graded, hardpack dirt, and gravel access routes. These areas were generally devoid of substantial vegetation cover but contained small patches of non-native vegetation.

Wild Oats and Annual Brome Grassland: This annual grassland habitat is dominated by non-native grasses, including wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), Mediterranean barley (*Hordeum murinum*), and smilo grass. Other species observed included non-native plant species that are characteristic of disturbed areas, including black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), Canada horseweed (*Erigeron canadensis*), field bindweed, Italian thistle (*Carduus pycnocephalus*), prickly lettuce (*Lactuca serriola*), and Russian thistle (*Salsola tragus*). Annual grassland was mapped within the top of bank of the Guadalupe River and the flood control basin as well as areas outside the banks of the river and basin.

¹⁰ Leidy, R.A., G.S. Becker, and B.N. Harvey. 2005. Historical Distribution and Current Status of Steelhead/Rainbow Trout (*Oncorhynchus mykiss*) in Streams of the San Francisco Estuary, California. Center for Ecosystem Management and Restoration, Oakland, California.

¹¹ Santa Clara Valley Water District and Stillwater Sciences. 2018. Water Year 2017 Final Mitigation Monitoring Report for the Lower, Downtown, and Upper Guadalupe River Projects, San José, California. Prepared by the Santa Clara Valley Water District and Stillwater Sciences. San José, California.

Figure 10: Vegetation Communities Map



Fremont Cottonwood Forest (*Populus fremontii* – *Salix laevigata*, *S. lasiolepis* Alliance):

The dominant trees in the riparian community included Fremont cottonwood and red willow (*Salix laevigata*) with lesser numbers of boxelder (*Acer negundo*). Within the study area, the canopy is intermediate to continuous. Dominant shrubs observed consisted of arroyo willow. Species observed in the open to dense understory above the Ordinary High Water Mark (OHWM) included sweet fennel (*Foeniculum vulgare*), curly dock (*Rumex crispus*), broadleaf cattail, smilo grass, white horehound (*Marrubium vulgare*), Himalayan blackberry (*Rubus armeniacus*), English ivy (*Hedera helix*), tall flatsedge, poison hemlock (*Conium maculatum*), and giant reed (*Arundo donax*).

Perennial Freshwater Marsh: Perennial marshes are generally inundated or have high groundwater levels year-round or for extended periods, but surface water may be lacking during the summer and fall. The perennial marsh was mostly confined to a network of depressions within the flood control basin. The source of hydrology is surface flow from culvert C1 and likely from a high groundwater table. Dominant species observed included broadleaf cattail, arroyo willow, water primrose, and rough cocklebur (*Xanthium strumarium*).

Seasonal Wetland: Seasonal wetlands are generally inundated by shallow water or have high groundwater levels for variable periods from winter to spring, but they may be completely dry for most of the summer and fall. Dominant vegetation can include strongly hydrophytic vegetation when the wetland is inundated or saturated and non-hydrophytic, upland species after the wetland dries out. The seasonal wetlands extend from the edge of the perennial marsh up to the toe of the flood control basin banks. The main source of hydrology is likely from a high groundwater table. Dominant species observed included bristly ox-tongue, bird's foot trefoil (*Lotus corniculatus*), California mugwort (*Artemisia douglasiana*), and tall flatsedge (*Cyperus eragrostis*).

Ornamental Woodland: Ornamental woodland includes lands that have been planted with landscaping and are maintained on an ongoing basis. Such landscaping may include native and non-native plantings. Within the study area, ornamental woodland was found along both sides of the tracks in the eastern reach of the study area and includes the City of San José's Fuller Avenue Park in the western portion of the study area. Trees and shrubs observed included black locust (*Robinia pseudoacacia*), Chinese pistache (*Pistacia chinensis*), Australian pine (*Casuarina equisetifolia*), Canary Island pine (*Pinus canariensis*), and cotoneaster (*Cotoneaster franchetii*). Ornamental woodland was found along the top of bank of the flood control basin and McClellan Avenue in a small landscaped area owned by Valley Water. Trees and shrubs observed included blue elderberry (*Sambucus nigra* ssp. *caerulea*), valley oak (*Quercus lobata*), and California coffeeberry (*Frangula californica*).

Aquatic Habitat: The Lower Guadalupe River supports a diverse fish community, including native fish species such as steelhead (*Oncorhynchus mykiss*), Chinook salmon (*Oncorhynchus tshawytscha*), California roach (*Lavinia symmetricus*), hitch (*Lavinia exilicauda*), Sacramento sucker (*Catostomus occidentalis*), Pacific lamprey (*Lampetra tridentate*), and sculpin (*Cottus* spp.) along with several non-native fish species such as carp (*Cyprinus carpio*), mosquitofish (*Gambusia affinis*), bullhead (*Italurus* spp.), bass (*Micropterus* spp.), and sunfish (*Lepomis* spp.). Aquatic habitat in the project area is characterized by a series of long slow flatwater habitat separated by short riffle sections. Low summer baseflows limit suitable rearing habitat for juvenile steelhead, while warm water temperatures in the project area are generally above stressful levels for steelhead during June through October. Average monthly water

temperatures typically exceed 20 degrees Celsius (°C) during the summer with maximum temperatures ranging from 26°C to 28°C from June through September.¹²

Coast Live Oak Woodland: Woodland habitat dominated by coast live oak (*Quercus agrifolia*) occurs in two areas within the study area. A small amount of the oak woodland canopy overhangs the top of bank in the northwest corner of the study area. Plants observed in the understory were the same as those observed in the Wild Oats and Annual Brome Grassland.

Wetlands/Waters Delineation

The wetland delineation for the study area was originally completed in December 2018 and was subsequently reviewed and updated in August 2020 (see Appendix C).

A summary of jurisdictional waters and habitats in the study area is provided in **Table 2** and **Figure 11**. The identification of jurisdictional areas differentiates between the requirements of three permitting agencies: USACE, RWQCB, and CDFW.

USACE is the permitting agency under Section 404 of the federal Clean Water Act. USACE jurisdiction includes the Guadalupe River itself (below the OHWM) and perennial freshwater marsh and seasonal wetlands within the Valley Water Reach 6 flood bypass channel. In total, 4.39 acres of USACE jurisdictional waters/wetlands are present in the study area (**Figure 11a**).

RWQCB is the permitting agency for the Clean Water Act Section 401(c) Water Quality Certification and California's Porter-Cologne Water Quality Control Act. RWQCB jurisdiction includes the wetlands/waters within USACE jurisdiction, plus additional habitats up to the "top of bank" line shown in **Figure 11b**. In total, 6.05 acres of RWQCB jurisdictional areas are present in the study area.

CDFW is the permitting agency for California's Lake and Streambed Alteration Program. CDFW's jurisdictional area includes the bed, bank, and channel, and overlaps both USACE and RWQCB jurisdictions; it also extends to adjacent riparian vegetation extending beyond the top of bank. In total, 6.67 acres of CDFW jurisdictional areas are present in the study area (**Figure 11c**).

Detailed technical information regarding the methodology and results of the wetland delineation (including soil samples and photos) is provided in Appendix C.

¹² Santa Clara Valley Water District and Stillwater Sciences. 2018. Water Year 2017 Final Mitigation Monitoring Report for the Lower, Downtown, and Upper Guadalupe River Projects, San José, California. Prepared by the Santa Clara Valley Water District and Stillwater Sciences. San José, California.

Figure 11a: Preliminary Identification of Jurisdictional Waters and Habitats and Project Impacts – USACE

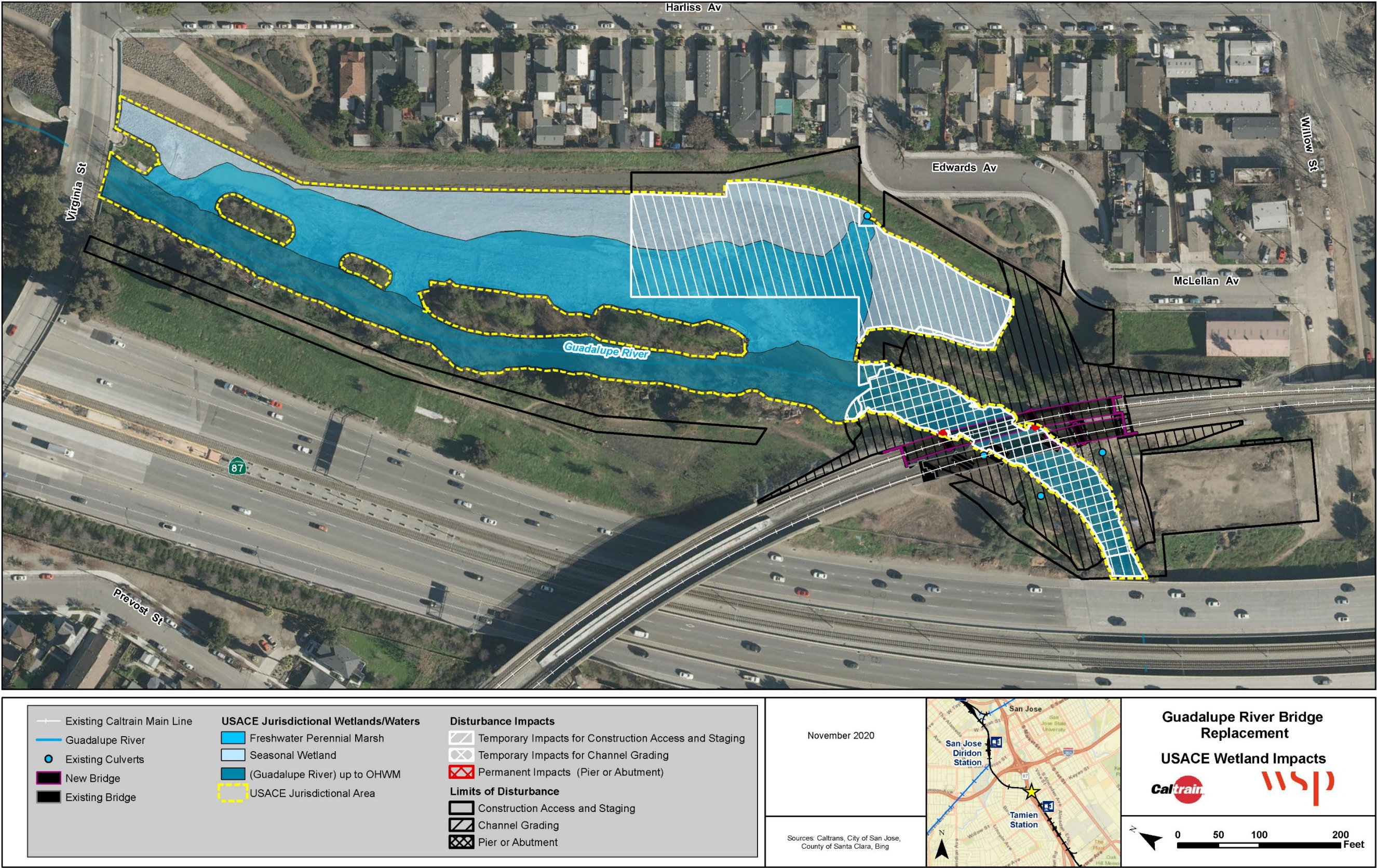


Figure 11b: Preliminary Identificaton of Jurisdictional Waters and Habitats and Project Impacts – RWQCB



Figure 11c: Preliminay Identificaton of Jurisdictional Waters and Habitats and Project Impacts – CDFW



Table 2. Summary of Jurisdictional Waters and Habitats within the Study Area

Potentially Jurisdictional Waters and Habitats	Acres ^a
USACE Jurisdictional Total	4.39
Section 404 Other Waters	
Aquatic habitat	0.73
Fremont Cottonwood Forest (up to OHWM of the Guadalupe River)	0.72
Section 404 Wetlands	
Perennial Freshwater Marsh	1.61
Seasonal Wetland	1.33
RWQCB Jurisdictional Total	6.05
Aquatic Habitat	0.73
Fremont Cottonwood Forest (up to OHWM of the Guadalupe River)	0.72
Fremont Cottonwood Forest (up to the top of bank along the Guadalupe River)	0.79
Perennial Freshwater Marsh	1.61
Seasonal Wetland	1.33
Wild Oats and Annual Brome Grassland (up to top of bank of the Guadalupe River and the flood control basin)	0.67
Developed (up to the top of bank of the Guadalupe River and the flood control basin)	0.20
CDFW Jurisdictional Total	6.67
Aquatic Habitat	0.73
Fremont Cottonwood Forest	2.13
Perennial Freshwater Marsh	1.61
Seasonal Wetland	1.33
Wild Oats and Annual Brome Grassland (up to top of bank of the Guadalupe River and the flood control basin)	0.67
Developed (up to the top of bank of the Guadalupe River and the flood control basin)	0.20

^a Values are approximate due to rounding.

Federally Listed Threatened and Endangered Species

A biologist conducted a site visit and database review in late 2018. A species assessment was completed in May 2020, and biologist made a follow up site visit in August 2020. No threatened or endangered species were observed during the field review.

A search of NMFS, U.S. Fish and Wildlife Service (USFWS) and CDFW species lists/databases was conducted (database search results are provided in Appendix D). The database results show no critical habitat is designated in or near the project area.

One federally listed species within the jurisdiction of NMFS was identified as having potential for occurrence in the study area: the Central California Coast steelhead Distinct Population Segment (. Steelhead have been observed throughout the mainstem Guadalupe River and several of its tributaries. Steelhead primarily use the study area during migration periods that typically peak from December through April (for adults) and during January through May (for juveniles). Outside these migration periods, habitat conditions are generally unfavorable for steelhead (because of excessive temperatures), and anticipated numbers within the study area are very low as demonstrated by Valley Water sampling data discussed further below.

Overall juvenile steelhead abundance in the study area is low, especially during periods of drought.¹³ Annual monitoring efforts conducted in the Guadalupe River near the Project included three sites, each 100-feet long, located within an approximately 0.5-mile section of river between highway 280 and Park Avenue. As shown in **Table 3**, steelhead were only observed during 3 of the 15 years when sampling was conducted, and the number of juvenile steelhead captured during these efforts ranged from 0 to 10 fish while most years had 0 juvenile steelhead captured (including the most recent 4 years).

Table 3. Juvenile Steelhead Monitoring, 2004-2019

Sample Year	Total Juvenile Steelhead Captured
2004–2010 ^a	0
2011	8
2012	10
2013	1
2014	0
2015	-- ^b
2016	0
2017	0
2018	0 ^c
2019	0 ^c

Source: Santa Clara Valley Water District and Stillwater Sciences 2014, 2015, 2016, 2017, 2018, 2019, 2020 and Valley Water 2020

^a 2004-2010 sampling was conducted at three locations with 0 steelhead captured.

^b No sampling occurred in 2015.

^c Two sites were sampled in 2018 and 2019.

The study area includes habitats that have been designated as Essential Fish Habitat (EFH) for Pacific salmon. The Central Valley fall-/late fall-run Chinook salmon evolutionarily significant unit (ESU) is the only Pacific salmon species that occurs in the study area. Fall-run Chinook salmon have been observed throughout the mainstem Guadalupe River and Los Gatos Creek. Santa Clara Valley Water District conducts spawning and carcass surveys from October to April and

¹³ Santa Clara Valley Water District and Stillwater Sciences. 2014. Water Year 2013 Final Mitigation Monitoring Report for the Lower, Downtown, and Upper Guadalupe River Projects, San José, California. Prepared by the Santa Clara Valley Water District and Stillwater Sciences. San José, California.

has found that most of the fall-run Chinook spawning occurs within the downtown San José area, including the project area.

The USFWS species list identified eight threatened, endangered, or candidate species potentially present in the study area:

One plant:

- Robust spineflower (*Chorizanthe robusta* var. *robusta*; federal threatened)

Two Invertebrate Species:

- Bay checkerspot butterfly (*Euphydryas editha bayensis*; federal threatened)
- San Bruno elfin butterfly (*Callophrys mossii bayensis*; federal endangered)

Two amphibian species:

- California red-legged frog (*Rana draytonii*; federal threatened)
- California tiger salamander (*Ambystoma californiense*; federal threatened)

One Fish Species:

- Delta smelt (*Hypomesus transpacificus*; federal threatened)

Two Bird Species:

- California Ridgway's (Clapper) Rail (*Rallus longirostris obsoletus* also *Rallus obsoletus*; federal endangered)
- California least tern (*Sterna antillarum browni*; federal endangered)

As detailed in Appendix D, the study area was reviewed for suitable habitat for the USFWS listed species and was evaluated against the known occurrences of listed species. The study area does not provide suitable habitat for any of the eight species identified by USFWS, and none of the species are likely to occur in the study area.

Other Special-Status Species

In addition to federally listed threatened and endangered species, a comprehensive assessment was performed for other wildlife and plant species identified in a search of the California Natural Diversity Database (CNDDDB). Tables summarizing an assessment of the potential for special-status species to occur in the project area are provided in Appendix D. No special-status plant species are expected in the project area based on available habitat conditions and known occurrences of each plant species. The following special-status wildlife species could occur in the project area:

- Western pond turtle (*Emys marmorata*). CDFW Species of Special Concern. Western pond turtle has low potential to occur in the study area because the study area is not within the mapped primary habitat for the species, is more than 3 miles from the nearest documented occurrence, and is isolated by urban development.

- American peregrine falcon (*Falco peregrine anatus*). CDFW Fully Protected Species. American peregrine falcon has low potential to occur in the study area. This species may occasionally roost or forage within the study area; however, there is no suitable high-elevation habitat available for nesting.
- Burrowing owl (*Athene cunicularia*). CDFW Species of Special Concern. The study area is generally either inundated with water or contains heavily saturated soils that are not suitable for small mammal burrow construction that is required for this species. A small amount of ruderal and park habitat dry enough for the species occurs in the southeast portion of the study area, adjacent to the curve of Mclellan Avenue. Because of the small area and urban location there is a low potential for burrowing owl to occur in the study area.
- Cooper's hawk (*Accipiter cooperii*). CDFW Watch List Species. The study area provides suitable forage, roost, and nesting habitat for this species, which seems adapted to urban environments, although the homeless encampments in this reach of the river may discourage nesting. The nearest documented occurrence of this species is more than 2.5 miles southwest of the study area. The overall potential for Cooper's hawk to occur in the study area is moderate.
- Northern harrier (*Circus cyaneus*). CDFW Species of Special Concern. There is low potential for the northern harrier to occur in the study area. This species may occasionally forage within the study area but is unlikely to nest because of the lack of large tracts of open grassland/marsh habitat and the presence of heavy adjacent urbanization. The nearest documented occurrence of this species is more than 13 miles northwest of the study area.
- Osprey (*Pandion haliaetus*). CDFW Watch List Species. There is low potential for osprey to occur in the study area. This species may occasionally forage and/or roost within the study area. However, the intense urbanization surrounding the study area likely precludes heavy use by this species. The nearest documented occurrence of this species is 12 miles southwest of the study area.
- Tricolored blackbird (*Agelaius tricolor*). Threatened Species under California Endangered Species Act, CDFW Species of Special Concern. The Tricolored blackbird has low potential to occur in the study area because it lacks the large wetland habitat required by this species for nesting. Adults may occasionally forage within the study area. The nearest documented occurrence of this species is over 4.5 miles East of the study area.
- White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. The white-tailed kite has moderate potential to occur in the study area. This species may forage and nest within the study area, although surrounding urbanization may preclude much use. The nearest documented occurrence of this species is at the San José Airport North of the study area.

- 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?**

Federally Listed Threatened and Endangered Species

As discussed under Existing Conditions, above, no threatened or endangered species under the jurisdiction of USFWS are likely to occur in the study area. Therefore, the impact analysis for federally listed threatened and endangered species is focused on Central California Coast steelhead (*Oncorhynchus mykiss*) and the EFH used by Chinook salmon. Both species are under the jurisdiction of NMFS. As the federal lead agency, FTA is undertaking an informal consultation process with NMFS under Section 7 of the Endangered Species Act.

Potential impacts on steelhead and EFH will primarily result from construction activities; therefore, they will be short term and temporary in nature. By reducing scour and bank failure risks, the long-term impact of the Project on fish habitat quality will be beneficial. Potential construction impacts on steelhead and steelhead habitat resulting from the Project include the following, each of which is discussed in greater detail below:

- 1) Fish Stranding and Entrainment
- 2) Fish Migration
- 3) Fish Relocation Activities
- 5) Toxic or Hazardous Spills
- 6) Increased Sediment and Turbidity, and
- 7) Aquatic Habitat Modification

Fish Stranding and Entrainment

The Project includes dewatering approximately 400 feet of the Guadalupe River. Channel dewatering could strand steelhead residing in isolated pools and depressions within the work area. Although it is unlikely that steelhead will be present during dewatering because of the timing of the work and the poor quality of habitat conditions, any steelhead remaining within the dewatered section are likely to experience harmful habitat conditions, including elevated water temperatures, low dissolved oxygen levels, and increased risk of predation. Furthermore, any steelhead remaining within the dewatered section that survive the harmful habitat conditions are expected to be buried or crushed during planned channel grading activities. Several mitigation measures are included in the Project to directly address and minimize risks on steelhead associated with channel dewatering.

Mitigation measures that minimize the potential for fish stranding and entrainment include limiting in-water work to occur when steelhead are least likely to be present within the study area (Mitigation Measure BIO-01), having a qualified fisheries biologist on-site during dewatering activities to walk the site and look for stranded fish (Mitigation Measures BIO-03 and 05), screening pump intakes following NMFS screening criteria to prevent fish entrainment or impingement (Mitigation Measure BIO-05), and conducting a fish relocation effort prior to dewatering the channel (Mitigation Measure BIO-04).

Fish Migration

Installation of cofferdams and directing flow through diversion pipes could impede fish migration in the Guadalupe River. To minimize this impact, the timing of channel dewatering will occur outside the adult steelhead upstream migration period and the peak juvenile steelhead downstream migration season. Specifically, dewatering will be limited to the June 15 to October 15 in-channel work window (Mitigation Measure BIO-01). In the unlikely event that any juvenile steelhead are migrating downstream outside the peak migration season, the diversion pipes will not be screened to allow downstream fish passage (Mitigation Measure BIO-05).

Channel grading and channel widening activities as part of the Project are expected to improve long-term fish migration conditions. Channel grading will help define the low-flow channel, which is expected to increase juvenile fish passage; channel widening will allow high flows to dissipate over a wider area, thereby reducing water velocities within the project area compared to current conditions. Reduced channel velocities are anticipated to increase fish upstream migration conditions; widening the channel to create new floodplain habitat that connects to existing floodplain directly downstream is expected to provide juvenile steelhead and salmon refugia habitat from high-water velocities during peak flow events.

Fish Relocation Activities

Fish capture and relocation activities could harass, injure, or even kill fish. Since fish relocation activities will be conducted by a qualified fisheries biologist following NMFS guidelines, potential direct effects, including harassment or mortality, of steelhead during capture will be minimized to the greatest extent possible. Based on the low densities of steelhead observed in the Guadalupe River (only one observed in the past 5 years), poor habitat conditions, excessive temperatures, and the timing of the fish relocation activities occurring outside the migration season, it is unlikely that steelhead will be captured during fish relocation activities. Fish relocation activities will follow NMFS (2000) electrofishing guidelines¹⁴ (Mitigation Measure BIO-04) and are therefore expected to minimize any potential impacts on steelhead. Based on the low abundance of steelhead observed in the study area (ranging from 0–3 fish/100 feet), the potential for impacts on Central California Coast steelhead is very low.

Toxic or Hazardous Spills

Releases of diesel fuel, lubricants, hydraulic fluid, and other potential contaminants from construction equipment could result in acute adverse impacts on fish directly via physiological impairment, the interruption of essential behaviors, or direct mortality. Hazardous spills may also impact invertebrates and fish habitat. The Project will adhere to strict mitigation measures regarding oil and fuel spills and will ensure that all personnel are aware of spill prevention and response procedures.

To address risks to listed species related to chemical and other hazardous spills, construction related BMPs will be implemented during the Project as part of the Stormwater Pollution Prevention Plan (SWPPP) (Mitigation Measure BIO-06), including appropriate construction BMPs to avoid and minimize potential effects from hazards and hazardous materials and measures to prevent, control, and minimize impacts from a spill of a hazardous, toxic or petroleum substance during construction of the Project. Following implementation of the

¹⁴ National Marine Fisheries Service. 2000. Guidelines for electrofishing waters containing salmonids listed under the Endangered Species Act. NMFS Northwest Region, June 2000.

mitigation measures above, any potential leaks or spills of oil or other fluids from construction machinery will likely be small in volume and short in duration and, therefore, will contaminate only a small area. Proper execution of these plans and consistent implementation of construction BMPs will ensure that any spills are immediately and effectively remediated.

Increased Sediment and Turbidity

Turbidity and the concentration of total suspended solids (TSS) could temporarily increase during pumping associated with the channel dewatering activities. Similarly, re-watering the channel could increase turbidity and TSS when flows are restored to the dewatered section of river. Turbidity and increased TSS may directly affect special-status fish species by causing adverse physiological effects. Potential turbidity and TSS increases will be minimized by implementing construction-related BMPs identified in Mitigation Measures BIO-06 and BIO-08. Furthermore, effects on listed species will be limited because the activities will occur outside the migration season for adult and juvenile steelhead (Mitigation Measure BIO-01) when steelhead are not expected to occur within the study area due to poor habitat conditions.

Channel grading also could increase turbidity and TSS and could impair water quality conditions. Potential impacts from channel grading are expected to be addressed by dewatering the work area before working in the active river channel, developing a SWPPP (Mitigation Measure BIO-06) prior to construction, and implementing construction-related BMPs (Mitigation Measure BIO-08).

Aquatic Habitat Modifications

Site preparation will require vegetation clearing around access routes and bridges. As a result, site preparation activities are expected to result in the removal of vegetation that provide Shaded Riverine Aquatic (SRA) cover. SRA cover provides shelter, resting, rearing, and feeding areas to multiple fish species. The temporary loss of SRA cover can negatively affect anadromous fish by removing protective cover for juveniles. Loss of SRA will be temporary and will affect a small amount of available SRA habitat compared to the total amount of SRA along the Guadalupe River. Any steelhead seeking cover in SRA habitat could find suitable SRA habitat nearby. Overall, the project design is expected to increase habitat for juvenile steelhead and improve fish passage conditions. Furthermore, channel widening under the Project will help ensure long-term stability of SRA habitat because it will help prevent bank erosion that could result in long-term SRA habitat losses. The riverbanks will be revegetated and, in the long-term, the SRA habitat will be enhanced through implementation of a Habitat Mitigation and Monitoring Plan (HMMP) (Mitigation Measure BIO-07).

Conclusion

The Project will not have a substantial adverse effect on steelhead and Chinook salmon with the incorporation of protection measures. While there will be temporary impacts (on water quality/turbidity), appropriate protection and mitigation measures are included in the Project to avoid and minimize each type of temporary impact. In-water work will be limited to occur outside salmonid migration periods. This work window also coincides with periods of low precipitation when water temperatures are typically too warm in the Lower Guadalupe River to provide rearing habitat for juvenile steelhead or juvenile Chinook salmon. Sampling data show only one steelhead in the Guadalupe River in the past 5 years. As a result, juvenile salmonids are not likely to be present during in-water work. Similarly, direct and indirect effects on the Pacific salmon EFH will be short-term, localized, and minimized through the implementation of appropriate avoidance and minimization measures.

In the long term, the impacts of the Project will be beneficial. Specifically, the Project will benefit steelhead and Chinook salmon by widening the channel, increasing floodplain habitat, increasing high velocity refuge habitat for juvenile salmonids, enhancing fish passage conditions, and reducing bank scour.

Other Special-Status Species

The western pond turtle has low potential to occur in the project area. To avoid and minimize any potential impact on this species, Mitigation BIO-11 includes a western pond turtle pre-construction survey and construction biological monitoring. If western pond turtle is in the study area, CDFW will be contacted to determine appropriate measures to prevent significant impacts, including relocation to nearby areas outside the project construction site.

The following special-status bird species have low potential to occur in the project area during foraging but are not likely to nest in the project area: American peregrine falcon, northern harrier, osprey, and tricolored blackbird. Three special-status species could potentially nest in the project area: burrowing owl (low potential), white-tailed kite (low potential), and Cooper's hawk (moderate potential). To avoid and minimize the potential for construction vegetation removal to impact nesting birds, pre-construction nesting bird surveys will be undertaken by a biologist if construction begins in the nesting season, and appropriate measures will be taken if nesting birds are found during construction (Mitigation Measure BIO-09). In addition, a construction worker environmental awareness program (Mitigation Measure BIO-12) and biological monitoring will be implemented (Mitigation Measure BIO-03). With incorporation of these mitigation measures, potential effects on special-status species will be **less than significant**.

As discussed above, the overall effects of the Project on species of concern will be **less than significant with mitigation**.

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

Riparian habitat protected by the CDFW under Section 1600 of the California Fish and Game Code occurs within the study area. **Figure 11c** and **Table 4** summarize the permanent and temporary impacts of the Project on CDFW jurisdictional habitats. Permanent impacts associated with the bridge piers and abutments total 0.002 acres. Temporary impacts associated with grading to widen the river channel total approximately 1 acre. Temporary impacts associated with construction access roads and staging areas total 1.6 acres. Compared to existing conditions, in the long term, the Project will result in a net increase in the acreage of aquatic habitat in the study area as a result of widening the channel. Impacts on riparian habitat will continue to be minimized to the extent practicable as part of the final design and permitting process, in coordination with CDFW, RWQCB, and USACE.

In addition to Section 1600 of the California Fish and Game Code, riparian area protection is incorporated in numerous local and regional plans, including San Jose's Envision 2040 General Plan. **Table 5** summarizes the total vegetative cover impacts of the Project, including those areas outside the CDFW definition of adjacent riparian areas.

The temporary impact areas will be restored and replanted with native riparian vegetation at the completion of the Project as dictated by the HMMP (Mitigation Measure BIO-07). Mitigation Measures BIO-06, 07, and 08, described in the Mitigation Measures section below, will be

incorporated in the Project to avoid and minimize impacts on riparian habitat and other sensitive natural communities. Therefore, this impact is **less than significant with mitigation**.

Table 4: Permanent and Temporary Impacts on CDFW Riparian Habitat

	Permanent Impacts (acres)	Temporary Impacts for Channel Grading (acres)	Temporary Impacts for Construction Access and Staging (acres)	Total Temporary Impacts (acres)
Aquatic Habitat (Guadalupe River)	0.001	0.297	0.020	0.317
Freshwater Perennial Marsh	0	0	0.441	0.441
Seasonal Wetland	0	0.015	0.766	0.781
Fremont Cottonwood Forest	0	0.351	0.174	0.525
Wild Oats and Annual Brome Grassland	0.001	0.293	0.166	0.458
Total	0.002	0.956	1.566	2.522

Note: temporary impacts will be restored with native vegetation at the conclusion of construction.

Table 5: Permanent and Temporary Vegetative Cover Impacts

	Permanent Impacts (acres)	Temporary Impacts for Channel Grading (acres)	Temporary Impacts for Construction Access and Staging (acres)	Total Temporary Impacts (acres)
Aquatic Habitat (Guadalupe River)	0.001	0.297	0.020	0.317
Freshwater Perennial Marsh	0	0	0.441	0.441
Seasonal Wetland	0	0.015	0.767	0.782
Fremont Cottonwood Forest	0	0.351	0.174	0.525
Wild Oats and Annual Brome Grassland	0.002	0.650	0.771	1.421
Coast Live Oak Woodland	0.0001	0.132	0.066	0.198
Ornamental Woodland	0	0	0.007	0.007
Total	0.003	1.445	2.246	3.691

Note: temporary impacts will be restored with native vegetation at the conclusion of construction.

- c. **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Figure 11a and Table 6 summarize the permanent and temporary impacts of the Project on federally protected wetlands under Section 404 of the Clean Water Act. Permanent impacts on Section 404 wetlands/waters will total 0.001 acres and consist primarily of the new bridge piers. Temporary impacts on Section 404 wetlands/waters for channel grading and construction access staging will total 1.7 acres. Most of the temporary impacts will be on wetlands that have developed within the Reach 6 flood bypass channel.

Figure 11b and Table 7 summarize the permanent and temporary impacts on habitat within the jurisdiction of the RWQCB (top of bank). Permanent impacts within RWQCB jurisdiction will total 0.002 acres, and temporary impacts will total 2.4 acres.

For both USACE and RWQCB jurisdictional areas, the Project will result in a net increase in jurisdictional area in the long term from the widening of the river channel. The Project will also remove approximately 11,700 cubic yards of soil from the channel, plus the existing MT-1 timber piles, concrete piers, and the southern abutment of the MT-2 bridge. The new MT-1 bridge will be in the same location and have a similar width (17 feet) as the existing bridge. The MT-1 bridge will include a 2-foot-wide walkway on each side for maintenance access; however, this walkway will consist of steel grating that will not fully obstruct light in the same manner as a solid structure. Therefore, there is no potential for increased shading to an extent that would have an adverse impact on wetland vegetation. Similarly, the area underneath the MT-2 extension consists of soil that will be removed; therefore, the extension of the MT-2 bridge will not result in shading impacts on existing wetland vegetation.

JPB undertook all practicable measures to minimize wetland impacts in designing this Project; however, impacts are unavoidable because of the location and nature of the Project (bridge replacement, bridge extension and channel widening). The temporary impact areas will be restored and replanted with native riparian vegetation at the completion of the Project as dictated by the HMMP (Mitigation Measure BIO-07).

Work within wetlands is subject to regulatory oversight by USACE and RWQCB and will require permits from both agencies consistent with Sections 404 and 401 of the Clean Water Act. BMPs to minimize impacts on wetlands will be required from USACE and RWQCB as part of permit conditions.

To address the potential for impacts of stormwater runoff during construction in/adjacent to Section 404 waters and wetlands, a SWPPP will be prepared by a qualified SWPPP practitioner (Mitigation Measure BIO-06). The SWPPP will identify BMPs to be implemented during project construction activities, in compliance with the NPDES General Permit requirements. The Project will incorporate bioretention/bioinfiltration areas as post-construction stormwater quality treatment.

Overall, Project impacts on Section 404 waters and wetlands will be **less than significant with mitigation**.

Table 6. Impacts on USACE Jurisdictional Wetlands/Waters

	Permanent Impacts (acres)	Temporary Impacts for Channel Grading (acres)	Temporary Impacts for Construction Access and Staging (acres)	Total Temporary Impacts (acres)
Guadalupe River up to OHWM	0.001	0.423	0.041	0.464
Perennial Freshwater Marsh	0	0	0.441	0.441
Seasonal Wetland	0	0.015	0.767	0.782
Total	0.001	0.438	1.249	1.687

Table 7. Impacts on RWQCB Jurisdictional Wetlands/Waters/Habitat

	Permanent Impacts (acres)	Temporary Impacts for Channel Grading (acres)	Temporary Impacts for Construction Access and Staging (acres)	Total Temporary Impacts (acres)
Aquatic Habitat (Guadalupe River)	0.001	0.297	0.020	0.317
Perennial Freshwater Marsh	0	0	0.441	0.441
Seasonal Wetland	0	0.015	0.766	0.781
Fremont Cottonwood Forest	0	0.314	0.075	0.389
Wild Oats and Annual Brome Grassland	0.001	0.292	0.166	0.458
Total	0.002	0.918	1.467	2.385

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?

Refer to item a., above, for a discussion of potential impacts on fish migration. Incorporation of mitigation measures, such as on-site monitoring by a qualified biologist during all in-water construction activities (including dewatering and re-watering) and the use of fish exclusion netting or screens directly upstream and downstream of the channel segment to be dewatered, will minimize the potential for impacts. Mitigation measures that address or minimize the potential for fish stranding and entrainment include: limiting in-water work window to occur when steelhead are least likely to be present within the project area (Mitigation Measure BIO-01); having a qualified fisheries biologist on-site during in-water activities, including dewatering and re-watering (Mitigation Measure BIO-03); conducting a fish relocation effort prior to dewatering the channel (Mitigation Measure BIO-04); and implementing measures to minimize fish

stranding and entrainments, including inspecting dewatered areas for any stranded fish and relocating them to nearby suitable habitat (Mitigation Measure BIO-05). Therefore, the effects of the Project on fish movement will be **less than significant with mitigation**.

The removal of riparian vegetation during construction has the potential to affect nesting and migratory bird species protected by state and federal laws. To avoid and minimize this potential impact, the Project will include pre-construction nesting bird surveys, worker environmental education, and procedures to address nesting birds during construction (Mitigation Measures BIO-09 and BIO-12). Similarly, Mitigation Measure BIO-10 will protect roosting bats. Therefore, impacts on migratory birds and bats will be **less than significant with mitigation**.

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

There are no trees on San José's heritage tree list in the study area.¹⁵

A City of San Jose ordinance tree is defined as a tree of 38 inches or more in circumference at 4.5 feet above ground (for trees with a single trunk) or a total circumference of 38 inches or greater at 4.5 feet above ground (for trees with multiple trunks).¹⁶ Several trees meeting the definition of ordinance trees were identified within the study area, many of which consist of non-native species such as southern blue gum (*Eucalyptus globulus*). Ordinance trees within the channel grading areas will need to be removed. This includes four Fremont cottonwoods (*Populus fremontii*) located on the eastern riverbank, North of the MT-1 bridge. One Fremont cottonwood tree is dead (40 inches in diameter), and three are alive but in declining health (50 inches, 38 inches and 38 inches in diameter, respectively). Ordinance trees within the construction access/staging areas will be protected in-place during construction to the extent practicable.

As part of the Project, replacement trees and other riparian vegetation restoration measures will be incorporated in the HMMP (Mitigation Measure BIO-07). Native trees will be replaced at a 3:1 ratio, and non-native trees will be replaced with native trees at a 1:1 ratio. Therefore, the impact on ordinance trees will be **less than significant with mitigation**.

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

The Project is within the Santa Clara Valley Habitat Plan HCP/NCCP area. The HCP provides an alternative means of compliance with federal Endangered Species Act requirements. However, as noted in the Existing Conditions section above, no USFWS-listed species are likely to occur in the project area, and the Project will have no effect on USFWS species under Section 7 (see Appendix D). NMFS is not a party to the HCP. Similarly, there are no threatened, endangered, or candidate species under the California Endangered Species Act likely to be impacted by the Project. Therefore, coverage under the HCP is not necessary for this Project.

¹⁵ <https://www.sanjoseca.gov/your-government/departments/transportation/roads/landscaping/trees/heritage-trees>

¹⁶ <https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/tree-removal-permits#:~:text=Ordinance%2DSize%20Trees,inches%20or%20more%20in%20circumference>

Although the Project is not seeking formal coverage under the HCP, the consistency of the Project with HCP policies was evaluated for purposes of CEQA compliance. Appendix D provides a technical assessment of the potential for each species covered in the HCP to occur in the study area. Most of the HCP species have no potential to occur in the study area. Two HCP species have low potential to occur in the study area: the western pond turtle and western burrowing owl. As discussed above under item a., mitigation measures such as pre-construction surveys, worker environmental awareness training, and biological monitoring will be incorporated in the Project to protect these species. Therefore, the Project will not have an adverse impact on the conservation of HCP species.

The purpose of the HCP is to protect and enhance ecological diversity and function. The Project is consistent with this purpose because it will result in long-term riparian habitat quality improvements, reduce erosion/bank failure risks, and improve water quality. The Project will have temporary impacts on riparian habitat; however, appropriate mitigation measures will be incorporated to address these impacts. Appendix E provides a table summarizing the consistency of the Project with the aquatic resource avoidance and minimization measures provided in Table 6-2 of the HCP. The applicable HCP recommended mitigation measures have been incorporated into the Project. Therefore, this impact will be **less than significant with mitigation**.

Biological Resources Mitigation Measures

To avoid and minimize potential adverse effects on biological resources, the Project includes the following mitigation measures:

- **Mitigation Measure BIO-01:** In-channel Work Window. All in-channel work will be limited to June 15 through October 15, a timeframe set by CDFW, USFWS, and NMFS as a time when special-status fish are least likely to be present.
- **Mitigation Measure BIO-02:** Minimize Noise and Vibration. The potential for noise and vibration disturbance of fish species will be minimized by using drilled piles for the new bridge piers, rather than impact pile driving.
- **Mitigation Measure BIO-03:** Biological Monitor. A qualified biologist with appropriate knowledge and experience in the biology, life history, and identification characteristics of fish that are likely to be encountered during project activities will be present during all in-water construction activities. In-water construction activities are considered work within the active river channel and include all project-related activities such as river diversion, dam installation and removal, channel dewatering, and fish relocation activities. This monitor will also be given the authority to halt any work they deem may be a cause for concern that may endanger fish or wildlife species or resources.

In addition, biologists with knowledge of the western pond turtle, nesting birds, and control of invasive species will be present during vegetation removal, dewatering, excavation, bank stabilization, and revegetation activities to monitor compliance with environmental requirements.

- **Mitigation Measure BIO-04:** Fish Relocation. Prior to dewatering, fish relocation efforts will be implemented to reduce the likelihood of fish becoming stranded as water levels recede. Fish exclusion netting or screens will be installed directly upstream and downstream of the channel segment to be dewatered to prevent fish from re-entering the work area after relocation. The bottom edge of the net or screen will be completely secured to the channel bed. Mesh will be no greater than 1/8-inch diameter. While in

place, the fish exclusion netting or screens will be regularly checked and cleaned of debris to permit free flow of water. Fish exclusion netting or screens will be installed prior to fish relocation activities and will be removed once streamflow is diverted through the temporary diversion pipes.

Fish relocation and dewatering activities will only occur between June 15 and October 15. Various methods may be used to capture fish (e.g., dip net, beach seine); however, backpack electrofishing is expected to be the most effective, based on habitat complexity and in channel structure (e.g., woody debris, cobble, riprap) within the project area. Backpack electrofishing will follow NMFS (2000) guidelines for electrofishing for anadromous salmonids. All captured fish will be identified, enumerated, and relocated to the nearest appropriate site downstream of the work area. Fish may be temporarily held in 5-gallon buckets with cool, shaded, aerated water. Air and water temperatures will be measured periodically during fish relocation.

Any steelhead captured during the fish relocation effort will be held separately from other fish species. A thermometer will be placed in holding containers to ensure temperatures remain suitable. If steelhead appear stressed or if water temperatures become too warm, steelhead will be immediately released downstream of the work area.

- **Mitigation Measure BIO-05:** Minimize Fish Stranding and Entrainment. To minimize risks to any special-status fish species that may be present in the project site, a qualified fisheries biologist approved by CDFW, NMFS, and USFWS will be on-site during the dewatering process. Prior to dewatering, the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic invertebrates will be determined. Cofferdams will be constructed using sand or gravel bags sealed with sheet plastic. Cofferdams will be located at the upstream and downstream end of the section of stream getting dewatered. When bypassing streamflow around the work area, streamflow below the construction site will be maintained similar to the unimpeded flow at all times.

Pumping will likely be required to temporarily divert flows around the work site during cofferdam construction prior to diverting flows through pipes. Pumps will be placed in flat areas, away from the stream channel, and secured by tying off to a tree or staked in place to prevent movement by vibration. Pump intakes will be screened following NMFS screening criteria to prevent fish entrainment or impingement. Pump intakes will be periodically checked for impingement of fish or amphibians, which if found, will be relocated to a safe location downstream of the dewatered channel segment. Water pumped from the upstream end of the work site will be routed through long sections of hosing around the work site and returned to the river downstream of the downstream coffer dam. The downstream end of the pump hoses will either be submerged in a deep-water section or positioned over a water-dissipating device to reduce scour and limit turbidity increases. A qualified fisheries biologist will be on-site during channel dewatering activities to inspect the dewatered area for any stranded fish and relocate them to nearby suitable habitat. Once the cofferdams are installed and the diversion pipes are in place, all streamflow will be diverted around the worksite through gravity fed diversion pipes. Diversion pipes will not be screened to allow downstream fish migration through the work area.

To minimize risks to any special-status fish species that may be present in the project site during re-watering, a qualified biologist approved by CDFW, NMFS, and USFWS will be on-site during the re-watering process. The downstream cofferdam will be removed first. Clean river run gravel may be left in the stream channel, provided it does not

impede streamflow or fish passage. After the downstream cofferdam is removed, the diversion pipes will be removed in sections beginning at the downstream end and working toward the upstream end. The upstream cofferdam will be removed last.

To the extent feasible, all temporary diversion structures and the supportive material will be removed within 48 hours after in-channel work for each work window is completed.

- **Mitigation Measure BIO-06:** Develop a Stormwater Pollution Prevention Plan (SWPPP). A SWPPP will be developed and implemented for the Project that includes BMPs for erosion and sediment controls such as protecting existing storm drain inlets and stabilizing disturbed areas. Specific BMPs that may be implemented to reduce the sediment load of stormwater runoff from the adjacent upland materials management areas include installing control devices (e.g., earth berms, asphalt curbs, silt fences/curtains, or other barriers) around the materials handling areas and protecting existing catch basins with silt fences, asphalt curbs, or gravel bags. Under the SWPPP, contractors will store fuel and chemicals in such a manner to prevent accidental spills from affecting stormwater (e.g., kept within secondary containment). The SWPPP will include a spill control plan, which will address spills of hazardous materials in the materials handling areas. A full complement of oil spill clean-up equipment will be on-site and available for immediate deployment should there be an accidental discharge of fuel, lubricant, or hydraulic oils. Specific elements of the SWPPP will include the following commitments:
 - Fueling and servicing of mobile equipment will be restricted to at least 100 feet from the top of bank.
 - Consideration will be given to maintaining a vegetated buffer strip between staging/excavation areas and receiving waters.
 - Slopes with exposed soil will be stabilized (e.g., with erosion control blankets), and channels will be protected (e.g., using silt fences or straw wattles).
 - Stockpiling or placement of erodible materials in waterways or along areas of natural stormwater flow where materials could be washed into waterways will be prohibited.
 - Stockpiled soil will be stabilized with geotextile or plastic covers.
 - Site ingress/egress locations will be stabilized.
 - All trash from the site will be removed daily to avoid attracting potential predators. Personnel will clean the work site before leaving each day by removing all litter and construction-related materials.
 - Fiber rolls used for erosion control will be certified as free of noxious weed seed. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion control measures will be placed between the outer edge of the buffer and the project site.
 - Vehicles operated within and adjacent to streams will be checked and maintained daily to prevent leaks of materials that, if introduced to the water, could be deleterious to aquatic life.
 - Washing of vehicles will be permitted only at approved areas.

- **Mitigation Measure BIO-07:** Develop a Habitat Mitigation and Monitoring Plan (HMMP). Compensatory mitigation for unavoidable impacts on wetland/riparian areas will be provided through development of an HMMP. The HMMP will include a conceptual riparian mitigation planting plan, including species composition, success criteria, and a monitoring schedule. As part of the riparian planting plans, native trees affected by the Project will be replaced at a 3:1 ratio, and non-native trees will be replaced with native trees at a 1:1 ratio. The HMMP will also include conceptual designs for in-channel improvements (e.g., in-channel structures to improve fish habitat quality) and a post-construction fish passage monitoring schedule. The HMMP will include evaluation of bioengineered bank treatments that incorporate live vegetation. Maintenance of natural stream characteristics, such as riffle-pool sequences, riparian canopy, sinuosity, floodplain, and a natural channel bed, will be important considerations in the mitigation design. Topsoil and gravel material incorporated in the restoration of the channel will be reused from material removed during construction to the extent practicable. The HMMP will be incorporated in JPB's permit applications to USACE, CDFW, and RWQCB.
- **Mitigation Measure BIO-08:** Implement Construction-related BMPs. To minimize impacts on water quality, the Project will include measures to avoid and minimize potential adverse effects on listed species. The following are specific measures relevant for the protection of steelhead:
 - Construction will occur only during dry periods.
 - Prior to storm events, all construction activities will cease, and appropriate erosion control measures will be implemented.
 - Soil, silt, or other organic materials will not be placed, stockpiled, or stored where such materials could pass into surface water or surface water drainage courses during unexpected rain events.
 - All areas disturbed by project activities will be protected from washout or erosion prior to the onset of the rainy season.
 - All temporarily affected areas will be restored to pre-construction contours and conditions upon completion of construction activities.
 - Prior to initiation of any waterside work, erosion control measures will be used throughout all phases of operation where silt and/or earthen fill threaten to enter waters of the U.S and/or state.
 - To prevent inadvertent entrapment of animals during excavation, all excavated, steep-walled holes or trenches more than 2-feet deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks.
- **Mitigation Measure BIO-09:** Nesting Birds. If practicable, construction will be scheduled to commence outside the avian nesting season (e.g., prior to February 1 or after September 15).

If construction must occur within the avian nesting season (from February 1 to September 15), all suitable habitats located within the project's area of disturbance, including staging and storage areas plus a 250-foot buffer around these areas, will be thoroughly surveyed, as feasible, for the presence of active nests by a qualified biologist no more than 5 days before commencement of any site disturbance activities and equipment mobilization. If project activities are delayed by more than 5 days, an additional nesting bird survey will be performed. Active nesting is present if a bird is

building a nest, sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys will be documented.

If pre-construction nesting bird surveys result in the location of active nests, no site disturbance and mobilization of heavy equipment (including but not limited to equipment staging, fence installation, clearing, grubbing, vegetation removal, fence installation, demolition, and grading), will take place within 250 feet of non-raptor nests and 1,000 feet of raptor nests, or as determined by a qualified biologist in consultation with CDFW, until the chicks have fledged.

The biologist will prepare a written record of survey results and implementation of any avoidance/minimization measures to be kept on file at the Caltrain office. The biologist will monitor any active nests to determine when young have matured sufficiently to have fledged.

- **Mitigation Measure BIO-10: Roosting Bats.** A qualified biologist will conduct a preconstruction survey within 14 days prior to construction activities. If an occupied maternity or colony roost is detected, the biologist will contact CDFW to determine the appropriate buffer relative to the:
 - proximity and noise level of project activities;
 - distance and amount of vegetation or screening between the roost and construction activities; and
 - species-specific needs, if known, such as sensitivity to disturbance.

The buffer will remain in place until construction is completed. If the roost is in vegetation or in a structure that is planned to be removed, the qualified biologist will work with CDFW to devise a plan to exclude the bats and develop and implement any needed mitigation measures.

The biologist will prepare a written record of survey results and implementation of any avoidance/minimization measures to be kept on file at the Caltrain office. The biologist will recommend additional measures if a bat roost is found.

- **Mitigation Measure BIO-11: Western Pond Turtle.** A qualified biologist will conduct pre-construction surveys for western pond turtle in the study area prior to the initiation of construction activities. If western pond turtle is found in the study area during pre-construction surveys, CDFW will be notified within 72 hours to determine the appropriate measures to prevent impacts on the species.

A qualified biologist will be present during vegetation clearing and during any dewatering activities. If any western pond turtles are observed in the construction area, including any dewatered areas, they will be captured and relocated to an appropriate location up or downstream of the construction area in coordination with CDFW. The qualified biologist will have the authority to stop construction until the western pond turtle can be safely relocated.

- **Mitigation Measure BIO-12: Worker Environmental Awareness Training.** Before any construction activities begin, an approved biologist will conduct a training session for all construction personnel to discuss special-status species that may occur in the project site (western pond turtle and various nesting birds). The biologist will inform all construction personnel about the life history of the relevant species, the regulatory protections afforded each species, and protective actions to be implemented if special-status species are observed during construction.

- **Mitigation Measure BIO-13:** Environmentally Sensitive Areas. Clearing within the project site will be confined to the minimal area necessary to facilitate construction activities. To ensure that construction equipment and personnel do not affect sensitive aquatic or terrestrial habitat identified within or adjacent to the project boundary, bright-colored barrier fencing will be erected to clearly delineate the habitat to be avoided (environmentally sensitive areas). Fencing will also be used to mark ordinance trees to be protected in-place within temporary construction access/staging areas.
- **Mitigation Measure BIO-14:** Control of Invasive Species. Invasive species within the limits of construction work will be removed under the supervision of a biologist to ensure removal and disposal methods minimize further propagation. Seed mixtures applied for erosion control will not contain invasive non-native species.

V. CULTURAL RESOURCES:

Would the project:

Potentially
Significant
ImpactLess Than
Significant
with
Mitigation
IncorporatedLess Than
Significant
ImpactNo
Impact

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

☐☐☐☒

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

☐☐☐☒

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

☐☐☐☒

Built Environment Historic Resources

JPB conducted a cultural resources records search at the California Historical Resource Information System's Northwest Information Center on October 18, 2018.¹⁷ The search revealed no California Register of Historic Places (CRHP) or National Register of Historic Places (NRHP)-listed or eligible resources within the project area. The 1935 MT-1 bridge was previously determined ineligible for NRHP during the environmental review of the Caltrain electrification project.¹⁸

The Guadalupe/Washington Conservation Area Historic District, which is recognized as historically significant by the city of San José through Local Ordinance, is located East of the project area (about 50 feet at the closest point).¹⁹ The Historic District consists of late 19th and early 20th century National, Queen Anne, Neoclassical, Craftsman, and Minimal Traditional residences. There is no potential for the Project to have an indirect visual impact on the Historic District because of the distance of the Historic District from the Project, the presence of intervening vegetation, and the fact that the closest equipment would be at a substantially lower elevation than the residences (at the bottom of a staging area in the bypass channel).

Archaeological Resources

The cultural resources records search identified one previously recorded historic-era archaeological site in the project area near the MT-1 bridge, site SJ-H1 (P-41-002234). Site SJ-H1 consists of a redeposited historic refuse scatter. In 2009, surveyors observed ceramic vessels (bowls, plates, and mugs) of porcelain and white earthenware, as well as glass bottle fragments (brown, cobalt, green, clear, and aqua). Sawn bone fragments and metal were also observed. One dateable bottle (1936) was observed. While a formal determination of eligibility has not been made for the site, the original surveyors recommended that it was ineligible to the NRHP/CRHP because of its poor integrity and lack of potential to yield significant historic information. Therefore, Site SJ-H1 is not considered a historic resource for purposes of CEQA.

¹⁷ Louis Berger U.S., *Cultural Resources Records Search Results for Guadalupe River Bridge Replacement Project*, May 31, 2019.

¹⁸ Letter from California Office of Historic Preservation to Federal Transit Administration, Re: Caltrain Electrification Program, San Francisco, San Mateo and Santa Clara Counties, December 9, 2002.

¹⁹ <https://www.sanjoseca.gov/home/showdocument?id=23985>

It should be noted that the project area downstream of the MT-1 bridge has been heavily disturbed by the construction of the Valley Water Reach 6 flood control project. No potentially significant cultural resources were uncovered during construction of the Reach 6 improvements.²⁰

The Project is situated on the floodplain of the Guadalupe River, which is sensitive for buried prehistoric (i.e., Native American) archaeological sites. Because construction work will include deep excavation, an archaeological investigation was conducted (see Appendix F). Background research conducted as part of the archaeological investigation included a paleoenvironmental reconstruction, discussion of deeply buried archaeological sites in the Santa Clara Valley, and a buried site sensitivity assessment of the project area.²¹ Prehistoric archaeological site identification efforts included drilling six cores within or adjacent to the proposed area of deep excavation. Cores were drilled to depths of 7.0 to 17.7 meters (23 to 58 feet) to reach a landform too old to harbor archaeology. Select samples from the cores (e.g., buried soils) were wet screened and/or flotation processed to test for the presence of prehistoric archaeological materials with negative results. Based on these findings, the area tested does not contain a prehistoric archaeological site, and no further prehistoric archaeological identification efforts are required.

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

As described above, no historic resources meet the criteria of §15064.5 in the project area. Therefore, there will be **no impact**.

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

As discussed above, based on the results of the cultural resources records research and geoarchaeological investigation, there are no known historic or prehistoric buried archaeological resources in the project area. Most of the ground disturbance associated with construction of the Project will be near the surface in modern fill/disturbed settings that have limited likelihood of disturbing previously undocumented archaeological sites. Deeper impacts (up to 90 feet) will be limited to the placement of new bridge piles. If an unanticipated archaeological resource is discovered during construction, construction will be halted in the area of the find until an archaeologist assesses the resource. Therefore, there will be **no impact**.

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

No known human burials or remains are within the area of proposed disturbance, and no evidence suggesting human remains may be present was identified in the geoarchaeological corings or the construction of the adjacent Valley Water Reach 6 flood control project in 2012. In the unlikely event that human remains are uncovered, JPB will stop work in the area where burial finds are discovered, and conduct the notifications and coordination required by law with the County Coroner and California Native American Heritage Commission. Therefore, there will be **no impact**.

²⁰ <https://www.valleywater.org/sites/default/files/E8%20-%20Upper%20Guadalupe%20River%20-%20Reach%206%20Gravel%20Augmentation%20Project%2C%20Final%20Initial%20Study%20Mitigate%20Negative%20Declaration.pdf>

²¹ Far Western Anthropological Research Group, Inc. *Subsurface Geoarchaeological Testing for the Caltrain Guadalupe River Bridge Replacement Project*, May 2020.

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

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

Construction of the Project will require a temporary and short-term increase in energy consumption relative to existing conditions. Construction energy consumption will include worker and truck trips and operation of construction equipment. Construction commitments incorporated into the Project for purposes of minimizing temporary construction air quality impacts will also serve to reduce energy consumption (e.g., restricting idling time to 2 minutes and requiring the use of newer construction equipment). The Project will have no effect on long-term energy consumption associated with the Caltrain/UPRR corridor. The construction and operation of the Project will not result in the inefficient or unnecessary energy consumption. Therefore, there will be **no impact**.

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

Construction and operation of the Project will not obstruct or conflict with local or state energy plans. Therefore, there will be **no impact**.

VII. GEOLOGY AND SOILS:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.**

According to the California Department of Conservation, California Geological Survey, the Project is not within an earthquake fault zone.²² The project site is not located in a designated Alquist-Priolo Earthquake Fault Zone, and the nearest known active faults are the San José, approximately 1.5 miles to the West, and the Silver Creek fault, located approximately 2 miles to the East. Future rupture in the project area is not anticipated. Seismic design considerations will be incorporated in the final design of the Project. Therefore, there will be **no impact**.

²² <https://maps.conservation.ca.gov/cgs/EQZApp/>.

ii. Strong seismic ground shaking?

The nearest known active fault line is located 1.5 miles from the project site. Seismic design considerations will be incorporated in the final design of the Project. Therefore, there will be **no impact**.

iii. Seismic-related ground failure, including liquefaction?

According to the Seismic Hazard Zones Map, the project area lies within an area where historic occurrence of liquefaction or local geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacements.²³ Also, according to the California Department of Conservation, California Geological Survey, the project area, as well as large parts of the central area of the Santa Clara Valley, are in a liquefaction zone.

The potential for seismic-related ground failure is present at the project site, but the bridge replacements will not increase the potential for exposing people or structures to seismic-related ground failure, including liquefaction. Additionally, with inclusion of the appropriate seismic design parameters, there will be **no impact**.

iv. Landslides?

The project area is flat and well removed from any steep slopes that could reasonably affect the Project. The project area is outside the seismic landslide hazard zones maps published by the California Geologic Survey. Therefore, there will be **no impact** associated with landslides.

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

Temporary soil disturbance will occur during project construction; however, the Project will not result in substantial soil erosion or loss of topsoil. All disturbed areas will be treated with approved BMPs as construction is completed or prior to the onset of fall storms. In addition, construction projects resulting in the disturbance of 1.0 acre or more are required to obtain a NPDES permit issued by RWQCB. The Project's construction contractor will be required to prepare a SWPPP that identifies BMPs to limit soil erosion during project construction (see Mitigation Measure BIO-06). Adherence during construction to provisions of the NPDES permit and applicable BMPs contained in the SWPPP will ensure there is **no impact**.

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?

The Project will not be located on any unstable soil or geologic units subject to landslide, lateral spreading, subsidence, or collapse. Therefore, **no impact** will occur.

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

The terrain of the project area is generally flat and underlain by alluvium derived from metamorphic and sedimentary rock and/or alluvium derived from metavolcanics. These types of

²³ San José West Quadrangle, California Division of Mines and Geology, 2002.

soils do not have a significant potential for shrink/swell movement. Therefore, there will be **no impact**.

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

There are no septic tanks or wastewater disposal systems associated with the Project. Therefore, **no impact** will occur.

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

There are no known paleontological resources, sites, or unique geologic features within the area of proposed disturbance. If previously unidentified paleontological materials are unearthed during construction, work will be halted in that area until a qualified archaeologist can assess the significance of the find. Therefore, there will be **no impact**.

VIII. GREENHOUSE GAS EMISSIONS:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Long-Term Operation Impact

The Project will not result in any change in train operations or related energy consumption. Therefore, there will be **no impact** on greenhouse gas emissions.

Temporary Construction

The Project will result in temporary greenhouse gas emissions during the construction period. Temporary greenhouse gas emissions are not considered significant, the BAAQMD CEQA threshold for land use projects applies to long-term emissions only. Air quality construction BMPs such as idling restrictions and the use of newer equipment will serve to minimize temporary construction emissions of greenhouse gases.

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

San José has adopted several greenhouse gas emission policies, including the 2030 Greenhouse Gas Reduction Strategy.²⁴ These policies generally do not pertain to temporary construction emissions, which is the only type of greenhouse gas emissions that the Project will cause. The Project will be consistent with the elements of the 2017 Clean Air Plan related to construction emissions (see the Section III, Air Quality). Therefore, there will be **no impact**.

²⁴ <https://www.sanjoseca.gov/Home/ShowDocument?id=63605>

IX. HAZARDS AND HAZARDOUS MATERIALS:

Would the project:

	Potentially Significant Impact	Less Than Significant with 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Project does not involve the routine transport, use, or disposal of hazardous materials. Hazardous materials may be transported through the project area by UPRR freight rail operations, but the Project will not increase hazards related to freight rail. Public safety in the rail corridor will be improved by the presence of bridges meeting current engineering standards. Therefore, there will be **no impact**.

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?

Long-Term Operation Impact

The Project will not create conditions that would create a significant hazard as a result of accidents. Therefore, there will be **no impact** in the long term.

Temporary Construction Impact

The project site's historic and present use of rail service creates the potential for elevated quantities of petroleum hydrocarbons (TPHs), metals, and other chemicals commonly found

along rail corridors. These types of materials are routinely addressed in JPB construction projects through standard BMPs in accordance with federal and state regulations. Soil will be stockpiled and sampled for TPH prior to reuse in the project area. Any soils that would require disposal off-site will require chemical profiling prior to disposal.

The contractor performing demolition activities on the bridge structure will be required to comply with the California/Occupational Safety and Health Administration Lead in Construction Standards for protection of workers; properly control and contain paint dust and debris resulting from the demolition operation; and properly contain and dispose of the resulting paint chips, dust, and debris.

The contractor will be required to handle, store, and dispose of creosote-treated wood according to California Department of Toxic Substances Control's Alternative Management Standards for treated wood waste. The standards are an alternative to the full hazardous waste regulations and allow for treated wood waste to be disposed of at approved solid waste landfills (as opposed to special hazardous materials disposal facilities). Wood waste will not be stored near the Guadalupe River. Pile removal will be conducted in dry conditions to eliminate the risk of suspension of creosote-containing sediments.

Vehicles and equipment operating in and near the river channel will contain petroleum-based fuels, lubricants, and fluids that create the potential for release of petroleum products into the environment. Vehicles operated at or near the river channel will be checked daily for leaks, and vehicles and equipment will be parked on paved or previously disturbed areas to minimize the risk of pollutants entering the river. The spill prevention plan component of SWPPP will be implemented during project construction to minimize the potential for release of hazardous materials to the environment and ensure that any spills are promptly cleaned up. These measures require that vehicle fueling and maintenance occur outside the river channel, workers are properly trained in hazardous materials handling and management, and that spill prevention kits be located in proximity to the work areas. This impact will be **less than significant**.

Sediment in the Guadalupe River may contain high levels of mercury as a result of past mining activities in the upper watershed.²⁵ These sediments could be disturbed during grading of the river channel. To prevent hazards to workers, JPB will require the proper use of personal safety equipment during sediment movement. JPB will also implement construction commitments requiring the construction contractor to test excavated sediment or soil for the presence of mercury and to remediate excavated sediment or soil containing exceeding mercury levels. With application of these commitments, exposure of workers to mercury-contaminated sediments will be a **less than significant** impact.

Overall, with the incorporation of BMPs and compliance with state/federal regulations, the temporary impact is **less than significant**.

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

The following three schools are located within one-quarter mile of the project site: Bee Kids Childcare Wonderschool is located approximately 650 feet northeast of the project site on Harliss Avenue; Sacred Heart School is approximately 1,000 feet East of the project site at 310

²⁵ Santa Clara Valley Water District. *Final Environmental Impact Report/Statement for the Upper Guadalupe River Flood Control Project*. November 1999.

Edwards Avenue; and Rocketship Mateo Sheedy Elementary School is approximately 800 feet northeast of the project site at 788 Locust Street. Other than temporary handling of potential construction-related hazardous materials during construction, there will be no change in hazardous materials management as a result of the Project. The Project will not involve hazardous emissions or handling acutely hazardous materials. During construction, potentially contaminated materials will be handled in compliance with state and federal requirements to reduce their spread into the environment. Therefore, there will be **no impact**.

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

The project site is not included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5.

A database review was conducted for the Project.²⁶ In addition, a review of historical documents, including topographic maps, Sanborn Maps, and aerial photos, was conducted to identify potential soil/water contamination issues.^{27 28 29} No National Priorities List (NPL or superfund) sites and no delisted NPL sites are located within 1 mile of the project site. Four small-quantity Resource Conservation and Recovery Act generators are located between 660 feet and -.25 miles of the project site.

The closest site of concern is an automobile repair shop located approximately 20 feet East of the rail corridor and 180 feet South of the MT-1 bridge southern abutment (Bennetts Automotive Service, 385 Willow Street). The building currently housing the repair facility was constructed at this location between 1950 and 1956 and is identified in the database as a historic auto repair shop. This facility (Bennetts Automotive Service) appears on many of the regulatory databases, including Leaking Underground Storage Tank (LUST) and Historic LUST, hazardous waste storage, and historic Cortese site, among others. The case regarding a leaking oil storage tank was closed in 1993; however, it is possible that soil or groundwater hydrocarbon contamination remains in the vicinity of the site. The Bennetts Automotive Service property will not be directly affected by construction of the Project. All excavated soils will be sampled for hydrocarbons prior to reuse or disposal, and appropriate measures will be taken in compliance with federal and state law if contamination is encountered during construction.

Conclusion

The use of standard BMPs and compliance with applicable federal and state laws and regulations will reduce the potential for temporary impacts of handling contaminated soils during construction to **less than significant**.

²⁶ EDR, The EDR Radius Map™ Report with GeoCheck®, Guadalupe River Bridge 389 Willow Street, San Jose, CA 95110, April 29, 2020.

²⁷ EDR, EDR Historical Topo Map Report with QuadMatch™, Guadalupe River Bridge, April 29, 2020.

²⁸ EDR, Certified Sanborn® Map Report, Guadalupe River Bridge, April 30, 2020.

²⁹ EDR, The EDR Aerial Photo Decade Package, Guadalupe River Bridge, April 29, 2020.

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

The Project is located within 2 miles of the Mineta San José International Airport, but outside the Turning Safety Zone and all other safety zones described for the airport.³⁰ These airport safety zone land use restrictions are not applicable to the Project. Therefore, there will be **no impact**.

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

Long-Term Operation Impact

The Project does not propose changes that could impede implementation of or otherwise interfere with the Santa Clara County emergency response plan or emergency evacuation plan. Therefore, there will be **no impact**.

Temporary Construction Impact

During construction, emergency access to and in the vicinity of the project site could temporarily be affected by construction-related traffic. Traffic disruptions may be required temporarily during the delivery of materials to the construction site. This will be accomplished with construction flagman to guide traffic around the delivery zone. No temporary lane closures or detours or other major disruptions to traffic flow are expected to be required. Therefore, the impact will be **less than significant**.

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

There are no designated Wildland Fire Hazards Area in or adjacent to the project area.³¹ Therefore, there will be **no impact** associated with wildland fires.

³⁰ https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf

³¹ <https://egis.fire.ca.gov/FHSZ/>

X. HYDROLOGY AND WATER QUALITY:

Would the project:

Potentially
Significant
ImpactLess Than
Significant
with
Mitigation
IncorporatedLess Than
Significant
ImpactNo
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 in a manner which would:

i) result in a 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?

☐☐☐☒

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**Long-Term Operation Impact**

The Project will include post-construction stormwater treatment (bioretention/bioinfiltration areas) to reduce runoff volumes and provide water quality treatment. In addition, the Project will reduce river flow velocity during flood events, thereby reducing bank erosion and associated impacts on water quality. Therefore, the Project will have **no impact**.

Temporary Construction Impact

In accordance with NPDES General Permit requirements, an SWPPP will be prepared and implemented (Mitigation Measure BIO-06). The SWPPP will identify BMPs to address source reduction and provide measures and controls necessary to mitigate potential pollutant sources. Implementation of the SWPPP during construction will reduce temporary potential water quality impacts to **less than significant**.

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

The Project will not use groundwater supplies or interfere with groundwater recharge. Therefore, there will be **no impact**.

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 in a manner which will:

i) result in a substantial erosion or siltation on- or off-site;

The Project includes excavation of the right (East) bank of the Guadalupe River, as well as channel widening and grading, which will modify the existing drainage pattern. As indicated in the Guadalupe River Bridge Replacement – Post-Construction Stormwater Treatment Memorandum,³² the replacement of the MT-1 bridge and extension of the MT-2 bridge will result in approximately 7,700 sf of impervious surface area, an increase of 2,950 sf over the existing impervious surface area. The additional impervious surface area could increase concentrated runoff over newly graded slopes if not addressed appropriately with stormwater treatment measures. In addition, the Project will modify stormwater control measures provided by the existing railroad berms (i.e., track ballast gravel forming the berm and vegetation along the railroad ROW). To reduce stormwater runoff, post-construction stormwater treatment for the Project will be provided via bioretention/ bioinfiltration areas that have been designed in compliance with the Santa Clara Valley Urban Runoff Pollution Prevention Program C.3 *Stormwater Handbook*. Implementation of the SWPPP and construction and stormwater BMPs during construction and the incorporation of post-construction stormwater treatment that meets stormwater runoff regulatory guidelines will reduce the potential for the Project to result in substantial erosion or siltation on- or off-site. Therefore, potential impacts will be **less than significant**.

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

The purpose of the Project is to address structural integrity issues associated with the MT-1 bridge as well as existing bank scour and instability issues. The design of the new/expanded bridges and floodplain widening and grading is based on detailed hydraulic modelling and analysis, and will accommodate the 100-year flow value from the FEMA Flood Insurance Study for Santa Clara County, California, as well as the more conservative 100-year flow value from a recalculated hydrology report for the Guadalupe River watershed published by USACE in 2009. In addition to accommodating both FEMA and USACE 100-year event volumes, the hydraulic analysis demonstrates that relative to existing conditions, the Project will reduce channel velocities, lower water surface elevations, and increase freeboard.³³ Flooding related risks will be reduced as a result of the Project, therefore there will be **no impact**.

³² HDR, Guadalupe River Bridge Replacement – Post-Stormwater Treatment Memorandum, July 24, 2020.

³³ Balance Hydrologics, Inc., Project Memo: Summary of 100-year Hydraulic Modeling for the Railroad Crossing as part of the Guadalupe River Bridge Replacement Project, February 6, 2020.

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

As discussed above, because the Project will provide appropriate stormwater treatment, there will be **no impact**.

iv) impede or redirect flood flows?

The Project will widen the river channel, which will help accommodate flood flows through connection to the completed Reach 6 flood control channel downstream of the railroad bridges. Therefore, there will be **no impact**.

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

The project site is in a flood hazard area but outside a regulatory floodway. The Project is designed to withstand inundation and will result in the release of pollutants.

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

The Project does not conflict with, nor will it hinder implementation of, a sustainable groundwater management plan or water quality control plan. Therefore, there will be **no impact**.

XI. LAND USE AND PLANNING:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The Project lies within the City of San José's incorporated area. Most of the project area is surrounded by residential, open space, mixed-use commercial, and mixed-use community land uses.

Figure 12 depicts San José's 2040 General Plan³⁴ land use designations for the project area. The Project is consistent with the General Plan and does not conflict with any of the Plan's stated goals and actions. The Project supports several Plan goals, including Environmental Resource (ER)-2 and ER-9, and Environmental Consideration (EC)-4 and EC-9, which are summarized below.

- *Goal ER-2 – Riparian Corridors:* Preserve, protect, and restore the City's riparian resources in an environmentally responsible manner to protect them for habitat value and recreational purposes.
- *Goal ER-9 – Water Resources:* Protect water resources because they are vital to the ecological and economic health of the region and its residents.
- *Goal EC-4 – Geologic and Soil Hazards:* Minimize the risk of injury, loss of life, and property damage from soil and slope instability including landslides, differential settlement, and accelerated erosion.
- *Goal EC-5 – Flooding Hazards:* Protect the community from flooding and inundation and preserve the natural attributes of local floodplains and floodways.

Recognizing the importance of parks, open space, and recreational facilities, the Plan identifies PR-1-11, "to develop an integrated parks system that connects new and existing large parks together through a network of interconnected trails and/or bike lanes/routes." An existing publicly accessible Valley Water mitigation area is located within the project area on the western side of McClellan Avenue, and bike paths and trails border the project area, including the Guadalupe River Trail.

The Guadalupe River Trail begins just outside the project limits to the North, beginning at Virginia Street and continuing in a northeasterly direction along the Guadalupe River until reaching Alviso. The City of San José has plans to extend the trail further South along the river,

³⁴ <https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/citywide-planning/envision-san-jos-2040-general-plan>

crossing the study area.³⁵ The proposed trail extension generally follows existing and planned maintenance roads associated with the USACE Reach 7 flood protection project and would extend South from Virginia Street parallel to Highway 87 through the project area. The trail would then cross the river on a new pedestrian bridge that would connect to McClellan Avenue. McClellan Avenue would be converted to a one-way street from the Valley Water mitigation area to the abandoned section of Willow Street to accommodate the road-separated trail. The trail would then travel West on abandoned Willow Street³⁶ where it would connect to a proposed bridge over Willow Street (Willow Calle Pedestrian Bridge) to connect to the existing SR 87 Bikeway that begins on the southern side of Willow Street.³⁷

Although the proposed Guadalupe River Trail would extend through limited portions of the project area, it would not cross the location where the rail bridges are proposed to be rebuilt/extended. The only crossing of the tracks is grade separated (at Willow Street). The Guadalupe River Trail extension project is not currently funded; therefore, it is unlikely that the portion of the trail located within the study area would be constructed prior to completion of the (Caltrain) Project. Coordination with the City of San José will occur throughout the Project development process to confirm the anticipated timing of the Guadalupe River Trail project.

a. Physically divide an established community?

The Project is located along an existing active railroad corridor and will not introduce new buildings or infrastructure that would physically divide the community. Implementation of the Project will not result in any residential or business displacements or changes in access or use of nearby properties that could divide the community. Therefore, there will be **no impact**.

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

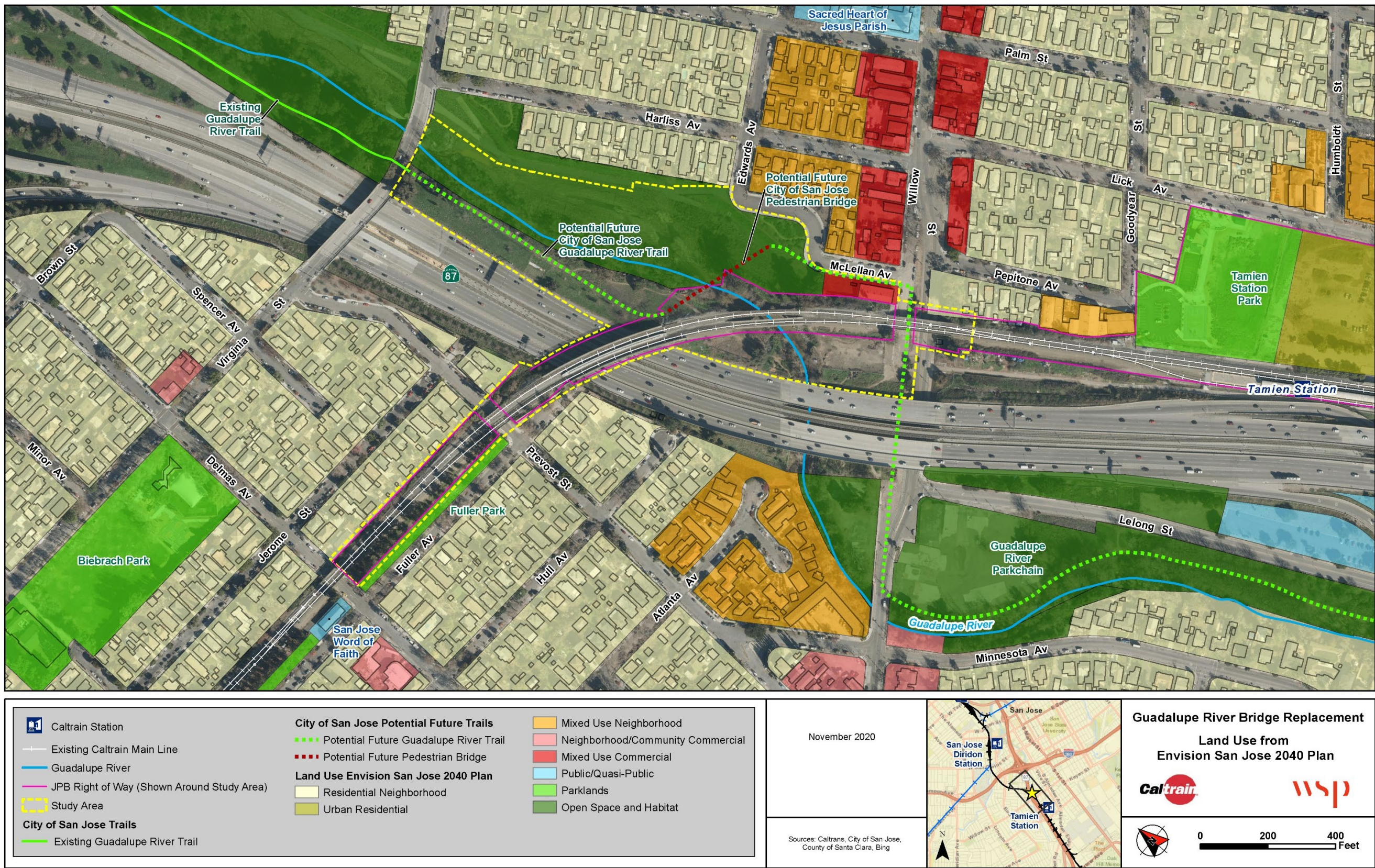
The Project will maintain all existing land uses, and will not conflict with local zoning, land use plans, or regulations adopted to avoid or mitigate an environmental effect. Furthermore, as discussed above, the Project will not conflict with the City's proposed extension of the Guadalupe River Trail. Therefore, the Project is consistent with land use plans, and there will be **no impact**.

³⁵ San José Parks, Recreation and Neighborhood Services. 2017. Draft Guadalupe River Trail Master Plan CEQA Mitigated Negative Declaration.

³⁶ The abandoned section of Willow Street refers to the abandoned ROW that begins West/Southwest of McClellan Avenue's intersection with Willow Street, extends underneath the Caltrain underpass, and terminates East of the Highway 87 overpass.

³⁷ San José Parks, Recreation and Neighborhood Services. 2017. Guadalupe River Trail Downtown to South San José Virginia Street to Chynoweth Avenue Master Plan.

Figure 12: General Plan Land Use Map



XII. MINERAL RESOURCES:		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?

and

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?

There are no known mineral resources in the vicinity of the project area. Therefore, there will be **no impact**.

XIII. NOISE: Would the project result in:	Potentially Significant Impact	Less Than Significant with 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 applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The following noise descriptors are adopted for the computation and assessment of transit noise in this document:

- **The Hourly Equivalent Sound Level (Leq (h))**, which describes a receiver's cumulative noise exposure from all events over a 1-hour period. For assessment, Leq is computed for the loudest transit facility hour during the hours of noise-sensitive activity.
- **The Day-Night Sound Level (Ldn)** describes a receiver's cumulative noise exposure from all events over a full 24 hours, with events between 10:00 pm and 7:00 am increased by 10 decibels (dBs) to account for greater nighttime sensitivity to noise. Ldn is computed to assess transit noise for residential land uses.

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

Long-Term Operation Impacts

The Project will not directly or indirectly increase freight or passenger train traffic, nor will it change track alignment. As such, train noise exposure will remain the same as existing conditions and will improve in the long term with electrification of the corridor. Thus, in the long term, there will be **no impact**.

Temporary Construction Impacts

Criteria

No standardized criteria have been developed for assessing construction noise impacts. Therefore, criteria must be developed on a project-specific basis unless local ordinances can be found to apply. According to the CEQA Guidelines Appendix G, a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project can result in significant adverse impacts.

For this Project, the FTA general assessment construction noise impact criteria were used to assess the potential for a “substantial” temporary increase in noise levels at sensitive receptors during project construction. The general assessment criteria are based on a worst-case 1-hour Leq noise level expressed in A-weighted decibels, or dBA Leq(h), corresponding to the hour with the loudest equipment operating. For residential areas, the criteria are 90 dBA Leq(h) during the day and 80 dBA Leq(h) at night. FTA also provides separate criteria for a more refined and detailed analysis based on 8-hour Leq and 30-day average Ldn noise levels. However, given the uncertainties in predicting the exact position and operations of construction equipment within the site over an 8-hour day, the 1-hour Leq general assessment criteria were determined to be appropriate for this Project and the most compatible with the use of reasonable worst-case assumptions regarding the distance between the equipment and receptors and the number of pieces of equipment assumed to be operating simultaneously.

Existing Conditions

This section explains how noise-sensitive land uses were identified and discusses existing noise conditions in the project area.

Inventory of Noise-Sensitive Land Uses: Noise sensitive land uses (residential areas, schools, parks, churches) adjacent to the project limits were identified through review of aerial photography.

The noise-sensitive area that was identified nearest to the Project includes the single-family residences along Mclellan Avenue, East of the rail bridges. This area includes three first-row residences within approximately 350-feet of the center of the construction site. The nearest residence to project construction, Receptor R-1 at 974 Mclellan Avenue, was selected to represent the worst-case conditions for this residential area in the noise assessment.

Noise Monitoring: To establish existing conditions in the project area, noise monitoring data collected within the project area for the California High Speed Rail (CAHSR) San José to Merced Project Section Draft Environmental Impact Report/ Environmental Impact Statement was reviewed.³⁸ The noise study for the CAHSR project completed noise monitoring adjacent to 974 Mclellan Avenue (site N83 in the CAHSR study) for a 48-hour period in May 2016.

The measurements showed that the average Ldn noise level was 66 dBA, and the loudest-hour Leq noise level was 63 dBA. Daytime hourly Leq noise levels ranged from 59 to 63 dBA; nighttime hourly Leq noise levels ranged from 52 to 63 dBA. These noise monitoring data are considered representative of the current existing noise environment because the existing rail operations, which were noted to be the dominant noise source in this area, have not changed significantly since the noise monitoring period.

Construction Impact Methodology

Construction noise was assessed using FTA guidance for a general construction noise. Input variables included the type of equipment, equipment usage factors, the number of pieces of equipment used concurrently, distances to nearby noise-sensitive receptors, and equipment noise emission levels from either the FTA or Federal Highway Administration Roadway

³⁸ https://hsr.ca.gov/docs/programs/san_jose_merced/Draft_EIRS_JM_V2-20_APP_3.4-A_Noise_Vibration_Technical_Report.pdf

Construction Noise Model databases. Consistent with FTA guidance, the equipment usage factor was assumed to be 1 (continuous operation) and the ground factor was assumed to be 0 (no ground absorption.) No additional acoustical shielding was accounted for. These assumptions result in a conservative prediction of potential construction noise levels.

Typically, the noisiest construction activities on a project of this type include demolition, excavation and grading, pile driving, extensive concrete pours, and the installation of heavy rail infrastructure using one or more cranes. Other activities, such as mobilizing for construction, relocating fences and overhead utilities, and demobilization require only a few pieces of equipment and are expected to be far less noisy.

The anticipated construction schedule and equipment usage for the Project was reviewed, and two worst-case noise scenarios were selected for analysis. Both anticipated worst-case scenarios will occur in June 2022 during Phase 1B of the MT-1 bridge construction.

The first scenario involves demolition of the existing MT-1 bridge including pile, piers, abutments, and deck. The loudest equipment expected to be operating for this scenario is a vibratory hammer (for pile removal), an excavator with a shear, and a track-mounted crane. This equipment could be operating during both daytime and nighttime periods.

The second scenario involves pile driving and concrete work for installation of drilled shafts for the new MT-1 bridge abutments and piers. The loudest equipment expected to be operating for this scenario is a vibratory hammer (for pile installation), a track-mounted crane, and a truck crane. This equipment could also be operating during both daytime and nighttime periods.

Noise levels were predicted for receptor R-1 at 974 Mclellan Avenue, which is the nearest residential receptor to the construction site. To estimate the distance from the equipment to the receptor, it was assumed that all equipment except for the track-mounted crane will be located at the center of the MT-1 bridge. The track-mounted crane location is shown in the temporary limits of disturbance drawing (**Figure 7**).

Modeling Results

Table 8 shows the predicted worst-case (loudest) construction noise levels for the Project, which are expected during Phase 1B of construction in June 2022. Noise levels for other phases of construction, including the MT-2 bridge demolition and pile driving, are expected to be lower than the predicted noise levels in this assessment because either quieter equipment will be used or construction will occur farther from the residences.

Worst-case daytime and nighttime hourly Leq noise levels at receptor R-1 during MT-1 bridge demolition and pile driving activities are predicted to be 86 and 85 dBA, respectively. For both scenarios, the loudest piece of equipment used is expected to be a vibratory hammer.

The predicted daytime construction noise levels do not exceed the FTA daytime noise limit of 90 dBA Leq(h). The predicted nighttime construction noise levels exceed the FTA nighttime noise limit of 80 dBA Leq(h). Noise from nighttime construction activities could annoy the nearest residences in the community; however, the loudest conditions will be temporary and, with the mitigation measures discussed below implemented, the nighttime noise impact is expected to be less than significant.

It is important to note that the predicted construction noise levels are for outdoors, and the sound level experienced indoors will be substantially lower as a result of attenuation

through the building walls. The exterior-interior noise reduction factor for a typical masonry building with windows closed ranges from 25 to 35 dBA.

Table 8. Construction Noise Assessment Results

Construction Scenario	Daytime Noise Level, dBA Leq(h)		Nighttime Noise Level, dBA Leq(h)	
	Predicted Noise Level at Receptor R-1	FTA Impact Criteria	Predicted Noise Level at Receptor R-1	FTA Impact Criteria
Phase 1B – MT-1 Bridge Demolition	86	90	86	80
Phase 1B – MT-1 Bridge Pile Driving	85	90	85	80

Construction Noise Mitigation

During some nighttime construction periods, unmitigated noise levels emanating from construction equipment and processes could exceed the 80 dBA impact criterion, potentially generating community reaction and annoyance.

During final design, limiting nighttime construction activities will be reconsidered as a noise mitigation measure if it is feasible to incorporate into the construction schedule. Specifically, JPB will evaluate whether pile driving can be restricted to the daytime hours.

To address the potential nighttime noise impact and reduce construction noise to acceptable levels, the following noise mitigation requirements will be incorporated into the project specifications.

- **Mitigation Measure NOI-01:** Turn off idling equipment. When not in use, idling equipment will be turned off. Consistent with air quality construction commitments, all equipment will be turned off within 2 minutes of idling.
- **Mitigation Measure NOI-02:** Use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators, intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment will be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices.
- **Mitigation Measure NOI-03:** Temporary perimeter noise barriers or curtains. Prior to the start of construction, the contractor will prepare a construction noise mitigation plan that incorporates noise mitigation measures to reduce ground-level nighttime noise at the first-row residences along Mclellan Avenue by at least 7 dBA. Noise mitigation options could include temporary perimeter noise barriers and/or installation of noise blankets or shrouds on pile drivers to provide additional attenuation. Different combinations of temporary noise mitigation measures may be needed during different project phases, and these details will need to be established in the noise mitigation plan. Noise mitigation must ensure that no vegetation removal outside the permitted limits of disturbance is required. The noise mitigation plan must also address temporary barrier maintenance issues, such as periodic graffiti removal or selection of materials that discourage graffiti.

- **Mitigation Measure NOI-04:** Implement a Community Outreach Program. JPB will keep residents informed regarding construction plans so residents can plan around periods of particularly high noise levels and to provide a conduit for residents to express any concerns or complaints. The Community Outreach Program may include a project hotline for receiving construction-related noise and vibration complaints and to assist in addressing them. Advance public notice will be provided to nearby residents regarding planned construction activities (such as demolition or pile driving) that must be performed at night or on weekends.

Appropriate noise mitigation measures will be integrated into the Project such that substantial temporary noise impacts in the vicinity of the project area will not occur during construction. Therefore, the project impact will be **less than significant with mitigation**.

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

Long-Term Operation Impacts

Operation of the Project will not increase train frequency or alter the existing track alignment; thus, train noise and vibration exposure will remain the same as existing conditions. Therefore, project operations will not generate excessive groundborne vibration or groundborne noise levels in the long term, and there will be **no long-term impact**.

Temporary Construction Impacts

An overview of the construction vibration assessment is provided below.

Criteria

Two distinct types of impact criteria are necessary for the assessment of potential impacts from groundborne vibration during project construction: (1) criteria for the onset of building cosmetic damage, and (2) lower thresholds addressing potential annoyance of building occupants.

Building Damage Criteria: **Table 9** summarizes the building damage criteria recommended for various building types by the FTA guidance manual (September 2018) and the Caltrans *Transportation and Construction Vibration Guidance Manual* (September 2013). For this Project, JPB has established its CEQA significance threshold for vibration damage during construction to be the same as the FTA criteria for buildings and the same as Caltrans criteria for bridges.

For the residence at 974 Mclellan Avenue, which is the nearest residential structure to project pile driving, 0.3 inches per second (in/sec) peak particle velocity (PPV) was selected as the appropriate vibration damage threshold. The building was likely constructed prior to 1960 without modern reinforced construction methods and does not appear to be a fragile structure. The selected impact threshold is consistent with the FTA recommendation for structures made from engineered concrete and masonry.

For the existing MT-2 bridge structure adjacent to the proposed MT-1 replacement bridge, 2.0 in/sec PPV was selected as the appropriate vibration damage threshold based on Caltrans guidance. The MT-2 bridge is a concrete structure constructed in 1990. The bridge meets seismic criteria and is not historically significant.

Table 9. FTA and Caltrans Construction Vibration Damage Criteria

FTA	
Building/Structure Type	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
Caltrans	
Building/Structure Type	PPV (in/sec)
Historic and some old buildings	0.5
Residential structures	0.5
New residential structures	1.0
Industrial buildings	2.0
Bridges	2.0

Annoyance Criteria: Construction vibration annoyance impact thresholds have been developed by Caltrans. For “transient” vibration sources such as pile driving, Caltrans identified the following human reactions:

- 0.035 in/sec PPV – barely perceptible
- 0.24 in/sec PPV – distinctly perceptible
- 0.9 in/sec PPV – strongly perceptible
- 2.0 in/sec PPV – severe

For this Project, JPB has established its CEQA significance threshold for vibration annoyance to building occupants to be 0.24 in/sec PPV, which is the level that would be “distinctly perceptible” according to Caltrans guidance.

Criteria from the FTA guidance manual were also reviewed to provide additional information on potential annoyance due to construction vibration. The FTA criteria are expressed in terms of root-mean-square vibration velocity levels (VdB). The FTA guidance manual states that evaluations of building occupant annoyance due to vibration (below damage thresholds) can use the long-term operation vibration criteria, which range from 72–80 VdB for residences depending on the frequency of vibration events. The 80 VdB threshold is reasonable for construction vibration impacts given the relatively short duration of pile driving in any one location.

Existing Conditions

This section provides a description of the existing structures in the project area and information on geologic/soil conditions pertaining to vibration propagation.

Description of Existing Structures: The following two structures near the proposed replacement bridge were identified as the most likely to potentially experience vibration impact from pile driving.

- Residence at 974 Mclellan Avenue – This single-family residence is the nearest residential building to pile drilling at the southern abutment of the MT-1 replacement bridge. The building has a stucco exterior along with gutters and downspouts and was likely constructed prior to 1960. Based on a desktop review using available street view imagery, the building appears to be in good condition with no signs of structural distress.
- Existing MT-2 Rail Bridge – The existing MT-2 bridge is directly adjacent to the MT-1 replacement bridge location and owned and operated by Caltrain. Pile drilling for the MT-1 bridge will occur near several of the existing MT-2 bridge piers. The MT-2 bridge is a concrete structure that was constructed in 1990 and will be extended South as part of the Project. This bridge does not require replacement and meets seismic criteria.

Geologic Conditions: Based on a review of the project soil borings and geotechnical report,³⁹ the subsurface conditions at the proposed bridge location consist primarily of fat clay, silty clay, and sandy gravel to a depth of 50 feet. The clays have consistencies from medium stiff to hard and the sandy gravel has a dense consistency. In general, stiff and hard clay materials tend to be more efficient in propagating ground borne vibration than looser and softer soils.

Vibration Building Damage Analysis

The Project intends to use drilled shafts with piles installed using a vibratory hammer. Vibration from vibratory pile driving during construction was estimated using Equation 1 below from the Caltrans *Transportation and Construction Vibration Guidance Manual* (September 2013).

Soil properties have an important effect on the propagation of vibration. The Caltrans equation suggests using an “n” value, which represents the vibration attenuation properties of soils, of 1.1 for a conservative assessment. Use of n = 1.1 for this vibration impact assessment is appropriate based on review of the available boring logs that show primarily medium stiff to hard clay soils underlying the construction site.

Equation 1: Caltrans Vibratory Pile Driver Model

$$PPV_{\text{Vibratory Pile Driver}} = PPV_{\text{Ref}} (25/D)^n \quad (\text{in/sec}) \quad (\text{Eq. 10})$$

Where:

$$PPV_{\text{Ref}} = 0.65 \text{ in/sec for a reference pile driver at 25 ft}$$

$$D = \text{distance from pile driver to the receiver in ft.}$$

$$n = 1.1 \text{ (the value related to the attenuation rate through ground)}$$

³⁹ HDR, Preliminary Foundation Report, Guadalupe River Bridge Replacement, Preliminary Engineering Design, PCJPB Work Directive No. 8041, San Jose, California, October 19, 2020.

Table 10 summarizes the results of the building vibration damage assessment. At the nearest residence to pile driving along Mclellan Avenue, the results show that the predicted PPV levels from vibratory pile driving will be well below the applicable damage threshold.

For the existing MT-2 bridge, pile driving is expected to occur within 10 feet of existing piers. The predicted PPV from vibratory pile driving at the existing MT-2 bridge is slightly lower than the impact criterion, so cosmetic damage is not expected.

Table 10: Construction Vibration Cosmetic Damage Impact Assessment Results

Receptor	Distance to nearest pile (feet)	PPV Impact Criterion (in/sec)	Predicted maximum PPV (in/sec)	Predicted Cosmetic Damage Impact?
Residence at 974 Mclellan Avenue	187	0.3	0.07	No
Pier of Existing MT-2 Bridge	10	2.0	1.78	No

Vibration Annoyance Analysis

The predicted PPV vibration levels discussed in the previous section are not directly comparable to FTA's VdB-based annoyance thresholds. Therefore, vibration annoyance in terms of VdB was calculated using the FTA manual equation assuming the "upper range" of 105 VdB at 25 feet for sonic (vibratory) pile drivers. **Table 11** summarizes the results of the building vibration annoyance assessment.

Table 11: Construction Vibration Annoyance Impact Assessment Results

Receptor	Distance to nearest pile (feet)	Annoyance Impact Criterion	Predicted maximum vibration	Predicted Annoyance Impact?
Residence at 974 Mclellan Avenue	187	PPV = 0.24 in/sec Vibration Level = 80 VdB	PPV = 0.07 in/sec Vibration Level = 79 VdB	No

The maximum vibration levels at the edge of the closest residence along Mclellan Avenue are predicted be 0.07 in/sec PPV and 79 VdB.

In terms of the Caltrans vibration annoyance criteria selected as the CEQA threshold of significance, analysis results indicate that vibration from impact pile driving will not exceed the threshold for "distinctly perceptible" vibration (0.24 in/sec PPV). Vibratory pile driving is also not expected to exceed the FTA long-term vibration criterion of 80 VdB (indicating some level of annoyance, but not necessarily unacceptable or severe annoyance).

Conclusion

The vibration assessment demonstrates that excessive groundborne vibration levels will not occur during construction and that temporary construction vibration impacts will be **less than significant**.

Some of the construction noise mitigation measures outlined above will also serve to mitigate vibration impacts, such as the proactive community outreach program. Because groundborne vibration impacts are not expected, no additional vibration mitigation measures are required.

- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

The Project is partially located within the Mineta San José International Airport Land Use plan and partially located within the 65 dB Community Noise Equivalent Level contour.⁴⁰ However, the Project will not add any new residential uses and will not expose project area residents or workers to excessive noise levels. Therefore, there will be **no impact**.

⁴⁰ Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San José International Airport. Adopted by Santa Clara County Airport Land Use Commission San José, California, May 25, 2011.

XIV. POPULATION AND HOUSING:

Would the project:

Potentially
Significant
ImpactLess Than
Significant
with
Mitigation
IncorporatedLess Than
Significant
ImpactNo
Impact

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

☐☐☐☒

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

☐☐☐☒

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

The Project entails the replacement of one existing railroad bridge and extension of a second existing railroad bridge along an active rail corridor and will not directly or indirectly induce population growth in the area. Therefore, there will be **no impact**.

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

The construction and operation of the Project will not result in the displacement of any existing people or housing. Therefore, there will be **no impact**.

XV. PUBLIC SERVICES:

Would the project:

Potentially
Significant
ImpactLess Than
Significant
with
Mitigation
IncorporatedLess Than
Significant
ImpactNo
Impact

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

Fire protection?

☐☐☐☒

Police protection?

☐☐☐☒

Schools?

☐☐☐☒

Parks?

☐☐☐☒

Other public facilities?

☐☐☐☒

Because the Project will not induce population growth of the area or displace any housing or people, it will not increase demand for fire protection, police protection, schools, parks, or other public facilities or affect levels of those public services. **No impacts** to public services will result.

XVI. RECREATION:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

The Project will not include any residential or commercial development that could increase use of an existing park or recreational facility. Therefore, there will be **no impact**.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Project will not construct any new recreational facilities or expand any existing recreational facilities. Therefore, there will be **no impact**.

XVI. TRANSPORTATION:

Would the project:

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

The Project will have no long-term impact on the transportation system. Construction of the Project will not require roadway detours or roadway closures. Temporary construction worker and truck trips will occur during construction. The primary construction site entrances for trucks will be at Virginia Street and Mclellan Avenue. From SR 87 Southbound, construction trucks will use Exit 4 and Lelong Street to Willow Street (see **Figure 13**). From I-280, the primary access route will be along Vine Street to reach Virginia Street or Willow Street. In terms of haul truck trips, the Project may involve truck trips in the range of 5 to 10 trips per day during peak periods for removal of the existing MT-1 bridge demolition debris and excess soil from channel widening. To minimize truck trips, excavated clean soil will be reused on-site to the extent practicable.

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

The Project will not conflict with the San José General Plan 2040; the San José bike plan 2020; or any other adopted policies, plans, and programs supporting active transportation. As discussed in Section XI, Land Use and Planning, the Project will not conflict with the City's proposed extension of the Guadalupe River Trail. The Project is supportive of transit system reliability, and the construction staging is designed to maintain Caltrain service throughout the construction period. Therefore, there will be **no impact**.

b. Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Long-Term Operation Impacts

The operation of the Project will not generate trips, increase traffic congestion, or have any long-term effect on vehicle miles travelled. As such, the Project will not result in any transportation impacts and will not be inconsistent with CEQA Guidelines § 15064.3, subdivision (b). Therefore, there will be **no impact**.

Temporary Construction Impacts

There may be a negligible and temporary increase in vehicle miles travelled during construction of the Project. This potential short-term impact will be **less than significant**.

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

The Project will not create hazardous design features. The Project involves replacing the MT-1 bridge, extending the MT-2 bridge, and addressing existing geomorphic instability and erosion issues by widening the channel. The Project will also address existing hazards, including the MT-1 bridge and scour and erosion conditions. The Project will not introduce any incompatible or hazardous uses. Therefore, there will be **no impact**.

d. Result in inadequate emergency access?

Long-Term Operation Impacts

Emergency access will not be affected by the Project. Therefore, there will be **no impact**.

Temporary Construction Impacts

Temporary construction activity will not require street closures. Appropriate off-street construction storage and staging areas have been incorporated in the Project. Therefore, there will be **no impact**.

Figure 13: Construction Vehicle Traffic Routes



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

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

- a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?**

There are no known tribal cultural resources listed or eligible for listing in the California Register of Historical Resources or in a local register of historic resources in the project area. Therefore, there will be **no impact**.

- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?**

No resources in the project area are anticipated to be culturally significant to a California Native American tribe. As part of coordination under Section 106 of the National Historic Preservation Act, FTA contacted six Native American tribal representatives identified by the California Native American Heritage Commission as potentially interested in the project area. No specific information regarding tribal cultural resources was identified as a result of this coordination. In addition, no potential cultural material was identified in the subsurface testing conducted for the Project (see Section V, Cultural Resources). Therefore, there will be **no impact**.

XVIII. UTILITIES AND SERVICE SYSTEMS:

Would the project:

Potentially
Significant
ImpactLess Than
Significant
with
Mitigation
IncorporatedLess Than
Significant
ImpactNo
Impact

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

☐☐☐☒

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

☐☐☐☒

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

☐☐☒☐

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

☐☐☐☒

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

☐☐☐☒

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

☐☐☒☐

g) Comply with federal, state, and local statutes and regulations related to solid waste?

☐☐☐☒

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The Project will not produce any wastewater. Therefore, there will be **no impact**.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The Project will not produce any wastewater or increase water demand. Therefore, there will be **no impact**.

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Appropriate post-construction stormwater treatment is included in the design; no additional stormwater facilities will be required. Therefore, there will be **no impact**.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The Project will not generate any new water demand. Water required for the Project during construction (e.g., for dust control) will be minimal. Therefore, there will be **no impact**.

e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Project will not produce any wastewater. Therefore, there will be **no impact**.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Solid waste generated by the Project will be limited to construction waste. Disposal of demolition and construction materials, including any hazardous wastes that may be encountered, will occur in accordance with federal, state, and local regulations. Disposal will occur at permitted landfills. Operation of the Project will not result in additional solid waste disposal needs. Therefore, the impact is considered **less than significant**.

g. Comply with federal, state, and local statutes and regulations related to solid waste?

The Project will comply with all federal, state, and local laws and regulations related to the disposal of solid waste. Therefore, there will be **no impact**.

XX. WILDFIRE:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

According to the California Fire Hazard Severity Zone Viewer,⁴¹ the project area is located in a local responsibility area and is not near any state responsibility areas (SRAs) or lands classified as very high fire hazard severity zones (VHFHSZs).

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

The Project is not located near any VHFHSZs or SRAs and will not affect emergency response or evacuation plans. Therefore, there will be **no impact**.

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?

The project area is not proximate to VHFHSZs or SRAs; therefore, there will be **no impact**.

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?

The Project is not located near any VHFHSZs or SRAs; therefore, there will be **no impact**.

⁴¹ <https://egis.fire.ca.gov/FHSZ/>.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

CEQA Guidelines Section 15065(a) requires a finding of significance if a project "has the potential to substantially degrade the quality of the environment." In practice, this is the same standard as a significant effect on the environment, which is defined in CEQA Guidelines Section 15382 as "a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the Project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." This Final IS, in its entirety, addresses and discloses all potential environmental effects associated with construction and operation of the Project. With incorporation of the mitigation measures identified in this document, no significant effects on the environment will occur, and the Project will not substantially degrade the quality of the environment.

- b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

The incremental effects of the Project have been analyzed in the context of past and current projects that have contributed to the existing environmental conditions and potential effects from other reasonably foreseeable future actions in the same area. The environmental factors on which the Project is anticipated to have no impact have not been considered in this analysis because there will be no project-related contribution to any potential cumulative impact. For this analysis, past and present projects are not quantified; rather, they are considered to have

contributed to the existing conditions outlined in this Final IS. The Caltrain Modernization Program and Caltrain/HSR blended system, the Valley Water Reach 7 flood control project, and the City of San Jose Guadalupe River Trail are the reasonably foreseeable future actions considered in this analysis.

Aesthetics

Several other projects in the project area will alter aesthetics. The Caltrain modernization program has already constructed support poles on the West side of the tracks that will subsequently be used for the overhead catenary system. The California High Speed Rail Authority's preferred alternative for the San Jose to Merced Project Section involves an additional track (MT-3) for Southbound high-speed rail service. The additional track would be located upstream of the MT-2 bridge and would require an additional bridge over the Guadalupe River, as well as bridges over SR-87 and local roadways.⁴² Valley Water's Reach 7 flood control project could result in further widening of the channel and potential additional extension of the MT-1 and MT-2 bridges. Finally, the City of San Jose's trail project also includes a new pedestrian bridge over the Guadalupe River (downstream of MT-1). In the context of these other changes to the visual environment, the impact of replacing an existing railroad bridge with a longer structure and lengthening another existing railroad bridge would be less than cumulatively considerable. In the long term, the existing positive visual characteristics of the site (e.g., riparian vegetation) will be enhanced by the Project through stabilization of the riverbanks and installation of new native vegetation per the HMMP.

Air Quality

Other projects and policies, such as the long-term phase out of diesel locomotives under the Caltrain modernization program, are expected to improve air quality in the project area. Cumulative temporary construction period air quality impacts could occur if the numerous projects by others proceed into construction at the same time as the JPB Project. However, this is very unlikely given the current status of design and funding for the other projects. The schedule for completion of California High Speed Rail-related infrastructure in the project corridor is uncertain but is likely to occur around or after 2030 and therefore would not overlap with construction of the JPB Project.⁴³ Similarly, there is no defined schedule available for Valley Water Reach 7 flood control project or the City of San Jose's Guadalupe River Trail. Because of the urgent need to address the poor condition of the MT-1 bridge and the availability of dedicated funding, the JPB Project is likely to be completed before the other projects under consideration in the area. In addition, the Project incorporates numerous construction air quality BMPs to ensure the contribution of the Project is less than cumulatively considerable.

Biological Resources/Hydrology and Water Quality

Cumulative impacts on biological resources and hydrology/water quality due to overlapping construction schedules are unlikely given the uncertain status of the other projects as discussed above under Air Quality. Projects implemented by others would need to obtain state and federal permits (such as Clean Water Action Section 404 permits) and meet various consultation requirements (such as federal Endangered Species Act consultation with NMFS regarding potential impacts on steelhead). These permit processes would require avoidance, minimization and mitigation measures to be incorporated into the other projects. Similarly, mitigation measures have been incorporated in the JPB Project that would render the project-related

⁴² https://hsr.ca.gov/docs/programs/san_jose_merced/Draft_EIRS_JM_V3-18_PEPD_Alternative_4_Book_4_A_Composite_Plan_Profile_and_Cross_Sections.pdf

⁴³ https://hsr.ca.gov/docs/about/business_plans/2020_Business_Plan.pdf

temporary incremental impacts to be less than cumulatively considerable. In the long term, the impact of the Project on biological resources, hydrology, and water quality will be beneficial because scour and bank failure risks will be reduced as a result of widening the channel and lengthening the bridges.

Hazardous Materials

All the construction projects proposed in the project area have the potential to encounter hazardous materials, as is routine for construction projects in urbanized areas. None of the projects involve creation of new permanent hazardous material exposure risks. During construction, the Project involves management of creosote wood waste and potentially contaminated sediments in accordance with regulatory requirements. With incorporation of appropriate BMPs and creation of a spill prevention and control plan as part of the SWPPP, the temporary contribution of the Project to hazardous materials exposure would be less than cumulatively considerable.

Noise

The construction of the JPB Project is likely to occur before construction of other projects in the area; therefore, cumulative impacts due to simultaneous construction noise sources are not anticipated. The Project includes a construction noise mitigation plan and community outreach plan, among other construction noise BMPs. With incorporation of these mitigation measures, the contribution of the Project to construction-noise related impacts would be less than cumulatively considerable.

The effect of increased service frequency under the Caltrain electrification program would be offset by the use of quieter electric trains. Based on analysis completed for the Caltrain electrification EIR, noise levels near the project area were predicted to decrease compared to existing conditions.⁴⁴ Noise impacts per Federal Railroad Administration criteria are predicted to result from the CAHSR Project for portions of the project area in the San Jose to Merced Project Section EIS/EIR.⁴⁵ However, the CAHSR Authority would implement a noise mitigation policy that would consider potential mitigation options such as noise barriers or building sound insulation in greater detail as the design for the CAHSR project is refined. The JPB Project will not contribute to cumulative operational train noise impacts because the MT-1 bridge will be replaced on the same alignment as the existing bridge, and no change in service frequency or operating characteristics (e.g., speed) will result.

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

The operation of the Project will have **no impact** on humans, either directly or indirectly, in the long term. The Project would result in temporary (construction-related) air quality, noise and vibration impacts; however, these are addressed through the previously outlined mitigation measures and construction commitments.

⁴⁴ <https://www.caltrain.com/Assets/Caltrain+Modernization+Program/FEIR/3.11+Noise.pdf>

Based on receptor 49 (456 Jerome St) as similar/representative to conditions in the project area.

⁴⁵ https://hsr.ca.gov/docs/programs/san_jose_merced/Draft_EIRS_JM_V1-12_CH_3.4_Noise_Vibration.pdf

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