

Water Quality Assessment Report

for the

Railroad Avenue Bridges

Over Fornat Wash (Br. No. 56C0099; Federal Aid Project No. BRL0-5956(228))
and
Over East Channel Stubbe Wash (Br. No. 56C0101; Federal Aid Project No. BRL0-5956(229))

Submitted To

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September 2019

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Cc: 'Segovia, Frances'; Ahmed, Umer; 'Tolentino, Cesar'; 'James Lu'; Steve Hosford
Subject: RE: RCTD Six Bridges - Railroad Avenue (FPN BRLO-5956-228, -229) and Chuckwalla Valley Road (FPN BRLO-5956-239, -227, -226, -225) - LHS and FER Reports

Hi Theresa,

Yes please. Thanks!

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Subject: RE: RCTD Six Bridges - Railroad Avenue (FPN BRLO-5956-228, -229) and Chuckwalla Valley Road (FPN BRLO-5956-239, -227, -226, -225) - LHS and FER Reports

Hi Aaron,
Thanks for the update and review! Do we need to send final copies?

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Subject: RE: RCTD Six Bridges - Railroad Avenue (FPN BRLO-5956-228, -229) and Chuckwalla Valley Road (FPN BRLO-5956-239, -227, -226, -225) - LHS and FER Reports

Hi Theresa,

My apologies. We completed our review yet we did not notify you so thank you for sending us the reminder. Caltrans concurs with the WQARs for the Railroad Avenue Bridges under FPN: 5956(228, 229) and the Chuckwalla Road Bridges under FPN: 5956(225, 226, 227, 239).

Sincerely,

Aaron P. Burton
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Subject: RE: RCTD Six Bridges - Railroad Avenue (FPN BRLO-5956-228, -229) and Chuckwalla Valley Road (FPN BRLO-5956-239, -227, -226, -225) - LHS and FER Reports

Aaron, Marko,
Following up on the LHS and FER submittals. When do you anticipate we might receive Caltrans comments?

Thanks,
Theresa

From: Dickerson, Theresa
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Subject: RCTD Six Bridges - Railroad Avenue (FPN BRLO-5956-228, -229) and Chuckwalla Valley Road (FPN BRLO-5956-239, -227, -226, -225) - LHS and FER Reports

Good Morning Marko,
Please see attached the Location Hydraulic Study and Floodplain Evaluation Reports for Railroad Avenue and Chuckwalla Valley Road for your review.

The link below contains both the word docs and compiled pdf documents.

<https://cnsengineersinc.box.com/s/gjbxqrjo65msvyq8tzphzhqz3b0cokyd>

Let me know if you have any questions.
Thanks,
Theresa

EXECUTIVE SUMMARY

The County of Riverside (County), in cooperation with California Department of Transportation (Caltrans), proposes to replace the following two (2) existing scour critical and structurally deficient timber bridges along Railroad Avenue near Whitewater in Riverside County, California:

- Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099) (Federal Aid Project No. BRLO-5956(228))
- Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101) (Federal Aid Project No. BRLO-5956(229))

Railroad Avenue is an approximately 5-mile stretch of road that runs parallel to Interstate 10 (I-10) and the Union Pacific Railroad (UPRR). It mostly serves the sparsely populated Cabazon community. The average daily traffic (ADT) volume is approximately 211 vehicles. Periodically, the road carries detoured traffic from the heavily traveled I-10 when the freeway is temporarily closed for construction or emergency incidents. The road also serves as an access route for UPRR and utility maintenance crews.

The existing bridges along Railroad Avenue carry traffic going east and west over Fornat Wash and East Channel Stubbe Wash (Stubbe Wash). The timber bridges carry two lanes (one in each direction) and are approximately 59 feet long and are 32 feet wide from curb-to-curb.

The proposed project would replace the existing 2-lane timber bridges with new 2-lane modern bridges. The proposed road width would consist of two 12-foot-wide travel lanes, one lane in each direction, and a 4-foot-wide shoulder on each side. Modern traffic barriers/railings meeting current Caltrans safety design standards would be constructed. The proposed bridges would be approximately 60 feet long depending on the channel hydraulic capacity and water surface freeboard requirements. Potentially the elevation of Fornat Wash Bridge may increase, but by no more than two feet to meet freeboard requirements. The East Channel Stubbe Wash Bridge elevation would remain the same. Additionally, approach roadway improvements would be provided. Channel slope improvements, including rock-slope protection and concrete wing walls, will be administered to avoid future scour problems. It is envisioned that the channel bottom will remain earthen.

The proposed project drains to the Fornat and Stubbe Washes, these waterbodies are not listed on the state water resources control board for 303d impairments. There are currently no Total Maximum Daily Loads for these water bodies. The project does not plan to change the hydrologic features of the Fornat and Stubbe Wash drainage courses but will administer improvements to avoid future scour problems.

The purpose of the Water Quality Assessment Report (WQAR) for the Railroad Avenue Bridge Replacements is to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and provide information, to the extent possible, for the National Pollution Discharge Elimination System (NPDES) permitting.

This technical study will discuss the proposed project, the physical setting of the project area, and the regulatory framework with respect to water quality. It will also provide data on surface

water and groundwater resources within the project area and their water quality health, describe water quality impairments and beneficial uses, identify potential water quality impacts/benefits associated with the proposed project, and recommend avoidance and/or minimization measures for potentially adverse impacts.

Construction of this Project has the potential to impact water quality unless pollutant minimization and/or preventive measures are implemented. In accordance with requirements of the California NPDES Construction General Permit (CA CGP) and U.S. EPA Construction General Permit (EPA CGP), a Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented during the construction of the project. Implementation of the SWPPP is expected to:

- Provide adequate and appropriate measures to protect the quality of receiving waters (Fornat and Stubbe Washes) from discharges of pollutants in storm water from the construction site.
- Provide sufficient and appropriate measures to protect the quality of surface water and ground water from construction related materials and activities.

The post-construction or operation phase of the project also has the potential to impact water quality unless minimization and/or preventative measures are implemented. Post-construction best management practices will be developed and implemented in accordance with the CA CGP and EPA CGP post-construction requirements. Implementation of post-construction best management practices is expected to:

- Provide adequate and appropriate measures to protect the quality of receiving waters (Fornat Wash and Stubbe Wash) from discharges of pollutants in storm water from the completed project through its operational life.
- Provide sufficient and appropriate measures to protect the quality of surface water, receiving water, and ground water from the completed project through its operational life.

With proper implementation and maintenance of the aforementioned pollution controls, the proposed project's impacts to water quality are expected to be minimized or reduced to a level sufficient to protect receiving waters. The WQAR does not make conclusions regarding significance of the impacts; the determination of significance will be addressed in the NEPA/CEQA document based on information provided in the WQAR.

Summary of Water Quality Permits/Certification required:

- California Construction General Permit Coverage – Obtain through State Water Resources Control Board.
- Clean Water Act Section 401 Water Quality Certification – Obtain through Regional Water Quality Control Board.
- Clean Water Act Section 404 Permit – Obtain through United States Army Corps of Engineers.
- California Department of Fish and Wildlife Notification of Streambed Alteration (Fish and Wildlife Code Section 1602) – Obtain through California Department of Fish and Wildlife.

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1. INTRODUCTION

1.1 Approach to Water Quality Assessment

The purpose of the Water Quality Assessment Report (WQAR) is to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and to provide information for National Pollutant Discharge Elimination System (NPDES) permitting. The document includes a discussion of the proposed project, the general environmental setting of the project area, and the regulatory framework with respect to water quality; it also provides data on surface water and groundwater resources within the project area and the water quality of these waters, describes water quality impairments and beneficial uses, and identifies potential water quality impacts/benefits associated with the proposed project, and recommends avoidance and/or minimization measures for potentially adverse impacts.

The determination of adverse impacts on water quality will be based on two key Project phases: the construction phase and the post-construction or operational phase.

Construction Phase Impacts

- Soil disturbance
- Erodible areas
- Temporary removal of vegetation
- Non-storm water discharges
- Potential spills/leaks
- Potential discharges of sediments

Post-Construction Phase Impacts

- Discharges of roadway runoff to the washes

1.2 Project Description

The Railroad Avenue Bridge Replacements Project (the Project) will replace two (2) structurally deficient bridges and lies within the unincorporated portion of the County of Riverside, east of the City of Cabazon and west of the census-designated place Whitewater. The Project is located between the I-10 Freeway exits Main Street and Haugen-Lehmann Way. Railroad Avenue is parallel with both the I-10 freeway, immediately north, and with the Union Pacific Railroad (UPRR), directly south. Refer to Figure 1 on the following page for project location.

The eastern roadway improvement and construction staging areas on the bridge over Fornat Wash occur within the Morongo Band of Mission Indians Reservation. Given the nature of this project's extension into Tribal Lands, the project will require coverage during construction under the EPA CGP in addition to coverage under the CA CGP for portions of the Project not located on Tribal lands.

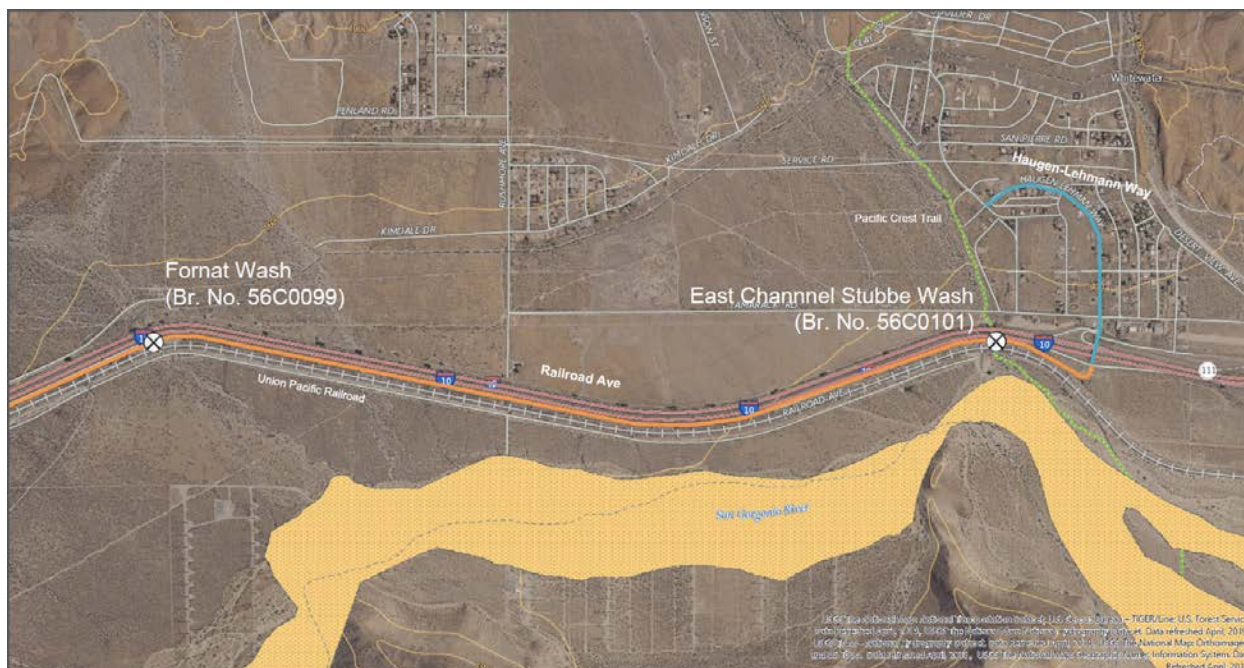


Figure 1: Project Location

Existing Site Features

Railroad Avenue is an approximately 5-mile stretch of road that runs parallel to Interstate 10 (I-10) and the Union Pacific Railroad (UPRR). It connects the Haugen-Lehmann Way and I-10 at the east end and Main Street and I-10 at the west end. It mostly serves the sparsely populated Cabazon community. The average daily traffic (ADT) volume is approximately 211 vehicles. Periodically, the road carries detoured traffic from the heavily traveled I-10 when the freeway is temporarily closed for construction or emergency incidents. The road also serves as an access route for UPRR and utility maintenance crews. Therefore, it is important to maintain this frontage road in sound condition at all times.

The existing timber bridges carry two lanes (one lane in each direction) of traffic over Fornat and East Channel Stubbe Washes. The timber bridges are approximately 59 feet long and are 32 feet wide from curb-to-curb. The County proposes replacing the existing two 2-lane timber bridges along Railroad Avenue with new 2-lane modern bridges with a curb-to-curb roadway width of 32 feet at the same locations.

The bridges are listed in the federal Eligible Bridge List (EBL) as "Structurally Deficient (SD)" with a low Sufficiency Rating (SR) between 59.1 and 62.9. A sufficiency rating is essentially an overall rating of a bridge's fitness for the duty that it performs. The rating is based on a bridge's structural evaluation, functional/geometric obsolescence, and its essentiality to the public. A low sufficiency rating may be due to structural defects, narrow lanes, low vertical clearance, or any of many possible issues. A bridge is healthy when its SR is more than 80.0. Bridges with SR equal to or less than 80.0 and more than 50.0 require rehabilitation or widening. When the SR falls less than 50.0, bridge replacement shall be considered for public safety. Although the Railroad Avenue bridges carry a status flag of SD with SR ratings between 50 and 80 (qualifying for major rehabilitation), it was determined that the bridges are well beyond their 50-year service life and it would be more cost-efficient to replace the bridges. Additionally, a scour Plan of

Action (POA) was performed on the bridges by the County in 2013. The POA recommended total replacement of the bridges as the most cost-effective option due to the extent of the scour, structural instability and deterioration of various timber bridge elements.

The Build Alternative

The County of Riverside (County), in cooperation with California Department of Transportation (Caltrans), proposes to replace the following two (2) existing scour critical and structurally deficient timber bridges (Attachment B: Maps) along Railroad Avenue near Whitewater in Riverside County, California:

- Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099) (Federal Aid Project No. BRLO-5956(228))
- Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101) (Federal Aid Project No. BRLO-5956(229))

The proposed project would replace the existing 2-lane timber bridges with new 2-lane modern bridges. The proposed road width would consist of two 12-foot-wide travel lanes, one lane in each direction, and a 4-foot-wide shoulder on each side. Modern traffic barriers/railings meeting current CALTRANS safety design standards would be constructed. The proposed bridges would be approximately 60 feet long depending on the channel hydraulic capacity and water surface freeboard requirements. Potentially the elevation of Fornat Wash Bridge may increase, but by no more than two feet to meet freeboard requirements. The East Channel Stubbe Wash Bridge elevation would remain the same. Additionally, approach roadway improvements would be provided and channel improvements would be administered to avoid future scour problems. It is envisioned that the channel bottom will remain earthen.

Existing underground utilities along the north side of Railroad Avenue and suspended utilities (a 4-inch gas line and a telephone line) along the north side of the East Channel Stubbe Wash bridge would be affected by construction and may require relocation.

All construction activities would be conducted within the existing roadway right of way with construction staging and material laydown areas on the roadway itself. Railroad Avenue between the two bridges to be replaced would be closed to continuous traffic during construction. The construction duration will be further determined during the project development. It is envisioned that the two bridges will be constructed one at a time to allow access to UPRR facilities and adjacent utilities from the Haugen-Lehmann Way/I-10 Interchange or the Main Street/I-10 Interchange. A Traffic Management Plan (TMP) would be prepared to address closure of the road and access to local utilities and properties.

The proposed construction would require a temporary construction easement (TCE) from UPRR for access to the channel bottom. However, construction activities are expected to stay at least 50 feet from the live rail tracks to eliminate any effects on railroad operations. The Railroad Avenue bridges abut adjacent State Bridges (Br. No. 56-166 and Br. No. 56-168) that carry I-10 traffic over the same washes. Structural modifications to the State Bridges are not anticipated; however, this will be evaluated during design. An encroachment permit from Caltrans District 8 would be obtained prior to construction.

1.2.1 No Project Alternative

The “No Project Alternative” would not mitigate the impacts of the structurally deficient and scour critical bridges. The proposed bridge replacements are needed for public safety issues. The project is designed to comply with current engineering and safety standards to remove it from the federal Eligible Bridge List.

2. REGULATORY SETTING

2.1 Federal Laws and Requirements

2.1.1 Clean Water Act

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a NPDES permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the State that the discharge will comply with other provisions of the act. (Most frequently required in tandem with a Section 404 permit request. See below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. The Federal Environmental Protection Agency delegated to the California State Water Resources Control Board (SWRCB) the implementation and administration of the NPDES program in California. The SWRCB established nine Regional Water Quality Control Boards (RWQCBs). The SWRCB enacts and enforces the Federal NPDES program and all water quality programs and regulations that cross Regional boundaries. The nine RWQCBs enact, administer and enforce all programs, including NPDES permitting, within their jurisdictional boundaries. Section 402(p) requires permits for discharges of stormwater from industrial, construction, and Municipal Separate Storm Sewer Systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S, including wetlands. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are also two types of Individual permits: Standard Individual permit and Letter of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE’s Individual permits. For Standard Individual permit, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (EPA) Section 404 (b)(1) Guidelines (U.S. EPA CFR 40 Part 230), and whether permit

approval is in the public interest. The 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have less effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures have been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition, every permit from the USACE, even if not subject to the 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

As previously mentioned, the Project is partially on Native American lands owned by Tribal members. This will require that the Project gain coverage under the EPA CGP and have an EPA SWPPP prepared for the Project during construction on the Tribal lands. EPA CGP coverage is required because the U.S. EPA is the NPDES regulatory authority for Tribal Lands in California.

2.2 State Laws and Requirements

2.2.1 Porter-Cologne Water Quality Control Act

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined and this definition is broader than the CWA definition of “pollutant”.

Waste – “includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.” (Porter-Cologne Water Quality Control Act, 2012)

Pollutant – “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. This term does not mean (A) "sewage from vessels" within the meaning of section 1322 of this title; or (B) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well-used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if such State determines that such injection or disposal will not result in the degradation of ground or surface water resources.” (Clean Water Act, 2012)

Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards as required by the CWA and regulating discharges to protect beneficial uses of water bodies. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set standards necessary to protect these uses. Consequently, the water quality standards developed for particular water body segments are based on the designated use and vary depending on such use. Water body segments that fail to meet standards for specific pollutants are included in a Statewide List in accordance with CWA Section 303(d). If a Regional Board determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed. The SWRCB implemented the requirements of CWA Section 303(d) through Attachment IV of the Caltrans Statewide MS4, as it includes specific TMDLs for which Caltrans is the named stakeholder.

2.2.2 California Fish and Wildlife Code Sections 1601-1603

The California Department of Fish and Wildlife (CDFW), through provisions of the California Fish and Wildlife Code (Sections 1601-1603), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams and rivers are defined by the presence of a channel bed and banks and at least an intermittent flow of water. CDFW typically extends the limits of its jurisdiction laterally beyond the channel banks for streams that support riparian vegetation. In these situations, the outer edge of the riparian vegetation is generally used as the lateral extent of the stream and CDFW jurisdiction. The California Fish and Wildlife Code Section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will result in one or more of the following: (1) substantial obstruction or diversion of the natural flow of a river, stream, or lake, (2) substantial change in or use of any material from the bed, channel, or bank of a river, stream, or lake, or (3) deposit or disposal of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. The Fish and Wildlife Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

2.2.3 State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility. This project is located within SWRCB Region 7, the Colorado River Basin.

2.2.3.1 National Pollutant Discharge Elimination System (NPDES) Program Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. The U.S. EPA defines an MS4 as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying stormwater.” The SWRCB has identified the County of Riverside as an owner/operator of an MS4 pursuant to federal regulations. The County’s MS4 permit covers all County rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted. This Project lies just outside of the County of Riverside Whitewater Region MS4. This region is not covered by any MS4 permits.

2.2.3.2 Construction General Permit

Construction General Permit (NPDES No. CAS000002, SWRCB Order No. 2009-0009-DWQ, adopted on November 16, 2010) became effective on February 14, 2011 and was amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. The permit regulates stormwater discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development.

For all projects subject to the CGP, the applicant is required to engage a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD) to develop, and a Qualified Stormwater Pollution Prevention Plan Practitioner to oversee implementation of, a SWPPP. All Project Registration Documents, including the SWPPP, are required to be uploaded into the SWRCB’s on-line Stormwater Multiple Application and Report Tracking System (SMARTS).

The eastern roadway improvement and construction staging areas on the bridge over Fornat Wash occur within the Morongo Band of Mission Indians Reservation. Given the nature of this project’s extension into Tribal Lands a U.S. Environmental Protection Agency Construction General Permit will need to be issued for this project. As in compliance with the Clean Water Act. The proposed project area will plan to conduct earth disturbing activity within the boundary of Tribal Lands, however all staging and roadway improvements within the reserve is confined to the paved areas on Railroad Ave.

Waivers from CGP coverage.

Projects that disturb over 1.0 acre but less than 5 acres of soil, may qualify for waiver of CGP coverage. This occurs whenever the R factor of the **Watershed Erosion Estimate** ($=R \times K \times L \times S$) **in tons/acre** is less than 5. Within this CGP formula, there is a factor related to when and where the construction will take place. This factor, the ‘R’ factor, may be low, medium or high. When the R factor is below the numeric value of 5, projects can be waived from coverage under the CGP, and are instead covered by the County MS4 Permit.

In accordance with SWMP, a Water Pollution Control Plan (WPCP) is necessary for construction of a project not covered by the CGP. This project will disturb approximately 2.76 acres. A risk assessment will need to be conducted to determine if the Watershed Erosion Estimate is less than 5. This project is expected to obtain CGP Coverage.

Construction activity that results in soil disturbances of less than one acre is subject to this CGP if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop a SWPPP, to implement soil erosion and pollution prevention control measures, and to obtain coverage under the CGP.

The CGP contains a risk-based permitting approach by establishing three levels of risk possible for a construction site. Risk levels are determined during the planning, design, and construction phases, and are based on project risk of generating sediments and receiving water risk of becoming impaired. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff pH and turbidity monitoring, and pre- and post-construction aquatic biological assessments during specified seasonal windows.

This Project will comply with the CA CGP and the EPA CGP for the project limits within the Morongo Band of Mission Indians, including development and implementation of a SWPPP.

2.2.3.3 Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with State water quality standards. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may prescribe a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act). WDRs may specify the inclusion of additional project features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

2.3 Regional and Local Requirements

NPDES permits for construction activities are enforced at the regional level by the local RWQCB. The Project is located within the jurisdiction of the Colorado River Basin Regional Water Quality Control Board (Region 7).

3. AFFECTED ENVIRONMENT

3.1 Introduction

The Project is located within the most eastern reach of the San Gorgonio Pass just before entering the Coachella Valley. The headwaters of the Fornat and Stubbe Washes descend from the north through canyons within the San Bernardino Mountains; whereas the San Jacinto Mountains makeup the southern barrier of the pass. Fornat and Stubbe Wash discharge into the San Gorgonio River, a main tributary of the Whitewater River Watershed. The bridges are located at approximately 7.25 miles and 4.35 miles upstream of the main Whitewater River channel.

3.2 General Environmental Setting

3.2.1 Population and Land Use

The Railroad Ave Bridge Replacement Project is located along the south side of Interstate 10 Freeway (I-10) in the census-designated place of Whitewater, surrounded by rural and undeveloped land. According to the latest census, the population in Whitewater, California was approximately 989 in 2017 ([American Community Survey \(ACS\), 2017](#)). Whitewater is known for the San Gorgonio Wind Farm. There are no urban or residential land uses directly adjacent to the project area. The land use of the project site and downstream vicinity is for the natural water course of the Fornat and Stubbe Washes with bridges utilized for road transportation across each channel. The proposed Project will keep this land use of the project site unchanged because the two new modern bridges will be built to replace the two existing, structurally deficient timber bridges in the same location.

Railroad Avenue serves to transport detoured traffic and emergency vehicles when the I-10 is closed, and to maintain access to the Union Pacific Railroad (UPRR) and various utilities running along the road. The Union Pacific Railroad (UPRR), in tangent with Railroad Ave and I-10, is located south approximately 120 feet from Fornat Wash Bridge and about 80 feet from Stubbe Wash Bridge. Existing underground utilities along both sides of Railroad Avenue and suspended utilities (a 4-inch gas line north of the pavement and a telephone line south) along the north side of the Stubbe Wash Bridge would be affected by construction and may require relocation. The gas line is currently under investigation to confirm the pipe is no longer in service. Construction activities in this area would remain within existing public right of way, except for a Temporary Construction Easement (TCE) that would be needed from the Union Pacific Railroad (UPRR) for access to the channel bottoms during construction.

The proposed project roadway improvements and staging area east of the Fornat Wash Bridge would encroach into the Morongo Reservation boundary limits. The Pacific Crest Trail, a national scenic trail, crosses under Railroad Avenue at Stubbe Wash.

Further south of Railroad Avenue, approximately 1.3 miles downstream of Fornat Wash Bridge and between the two wash intersections with the San Gorgonio river, a stretch of wind turbines and a wind turbine power substation sits adjacent to the channel and extend south near the base of the San Jacinto Mountains. Downstream, after the confluence of the San Gorgonio and Whitewater Rivers, the flow is channeled to percolation ponds to recharge the Coachella Valley Aquifer.

The construction of the bridges and associated improvements are not anticipated to change upstream or downstream hydrology to the San Gorgonio channel from their current conditions or affect the current land uses.

3.2.2 Topography

The two washes descend from the north and flow from the south-western region of the San Bernardino Mountains before entering the sedimentary basin that separates the mountain range from the San Jacinto Mountains to the south. At the project sites, Fornat Wash elevation is approximately 1,554 feet above MSL and Stubbe Wash lies around 1,351 feet above MSL. Fornat Wash merges with the San Gorgonio River a short distance from the bridge replacement site, or approximately half mile downstream. Sub-sequentially located 2.10 miles downstream, Stubbe Wash meets the San Gorgonio River approximately 675 feet downstream of the second bridge replacement site. There are no steep slopes that would be affected during construction.

The San Gorgonio River receives runoff from both sides of the pass; however, flow originates from the San Bernardino National Forest at approximately 5,600 feet above MSL near high peaks, such as Little San Gorgonio and Galena; then descends through Banning Canyon to meet the valley floor at approximately 2,440 feet above MSL. Another main tributary, Smith Creek originates further west along the base of the San Jacinto Mountains and merges with the San Gorgonio River at approximately 1,900 feet above MSL. Other tributaries within the Whitewater River watershed discharge into the main river channel as the grade levels out.

Approximately 5.8 miles downstream from the Smith Creek confluence, Fornat Wash meets the San Gorgonio River at approximately 1,440 feet above MSL, then Stubbe Wash at approximately 1,300 feet above MSL. The San Gorgonio and Whitewater River confluence follows roughly 4.35 miles downstream of Stubbe Wash and meet at an elevation near 1,065 feet MSL. The Whitewater River descends quickly from the San Bernardino National Forest, beginning at approximately 4,700 feet above MSL, but topography becomes less steep as it crosses the Coachella Valley. The Whitewater River's final elevation as it enters the Salton Sea, is approximately 233 feet below MSL. Figure 2 below depicts the project vicinity.

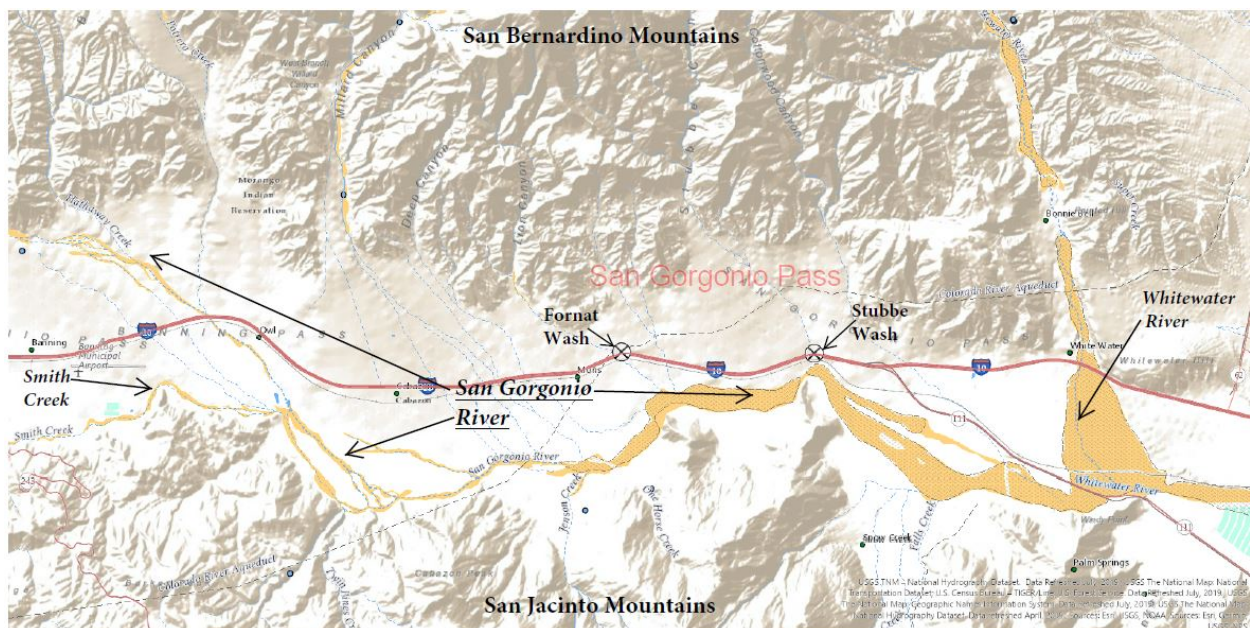


Figure 2: Project Vicinity

3.2.3 Hydrology

3.2.3.1 Regional Hydrology

The Whitewater River Watershed encompasses terrain from parts of the San Bernardino and Little San Bernardino Mountains, San Jacinto Mountains, and the Santa Rosa Mountains. The runoff and flow carried within the watershed would primarily infiltrate below the surface through the porous desert floor, providing ground water recharge of the Coachella Valley Aquifer. When the region experiences heavy precipitation, high flow descends from the drainage basins and is ultimately conveyed southeast along Whitewater River as the final path before flow terminates at the Salton Sea.

The Whitewater River Watershed encompasses roughly 1,950 square miles (Whitewater River Basin Feasibility Report: Environmental Impact Statement, 2000), which is further subdivided into many sub-watersheds. The project area resides within the San Gorgonio River Sub-basin. The Whitewater River is approximately 54 miles long while the main tributary San Gorgonio River is approximately 27 miles long.

Just before approaching Palm Springs, the Whitewater River is also joined by imported water from the Colorado River Aqueduct. Much of the flow from the upper Whitewater River watershed and all the Aqueduct flows are directed into spreading basins located Northwest of Palm Springs where the flows are artificially recharged into the Coachella Valley Aquifer. Refer to Figure 3 for the location of the spreading basins.

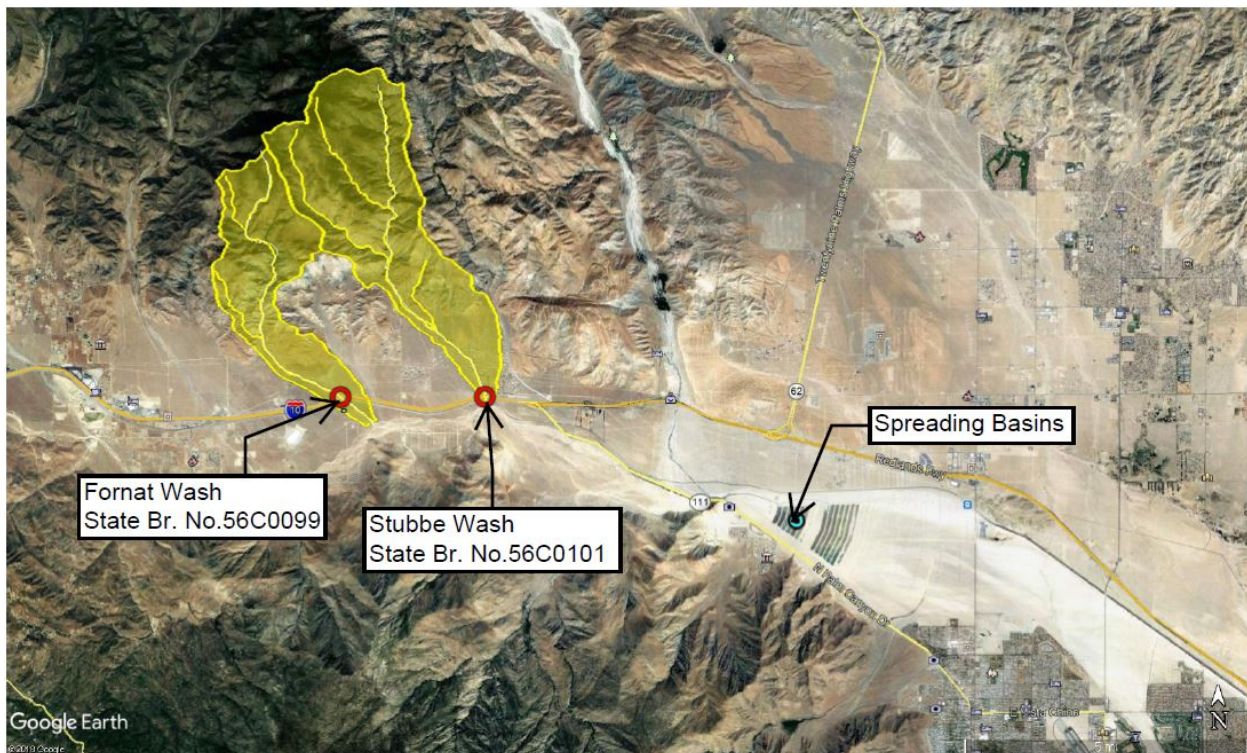


Figure 3: Location of Spreading Basins

3.2.3.2 Local Hydrology

Both Fornat Wash and Stubbe Wash are classified as 2nd order and 6th level streams within the Middle San Gorgonio River sub-watershed (refer to Figure 4) of the main Whitewater River Watershed. The streambeds are dry most of the year. Runoff collects in Fornat Wash from an area that spans approximately 5.06 square miles, while Stubbe Wash accounts for nearly 8.73 square miles north of the confluence with the San Gorgonio River. The San Gorgonio River is located approximately 3,550 feet downstream of Fornat Wash Bridge and only 120 feet downstream of the Stubbe Wash.

Drainage begins from the San Bernardino Mountains north near Kitching Peak, then is conveyed down separate paths through Lion Canyon along Fornat Wash and down Stubbe Canyon likewise. Flow in both canyons then exit towards the valley floor before converging with San Gorgonio River. The two canyons share a drainage divide until the ridge diverges giving way a catchment basin in-between, completing the northern side of the sub-watershed. The southern side of the sub-watershed is fed primarily by the One-Horse Creek drainage area of the San Jacinto Mountains. Refer to Figure 5 for the project area sub-watersheds.

The Fornat and Stubbe Washes are dry most of the year, any runoff will either be evaporated or infiltrated into the porous ground. The proposed bridges are not anticipated to change the upstream and downstream hydrology of the Fornat and Stubbe Washes or the Whitewater River watershed. After construction, flowrates of the two washes will observe a nominal increase due to the increased impervious area of the new bridges. The Project proposes to lengthen both bridges by only 1 foot with the width remaining the same. The difference in increased impervious area is essentially nonexistent because the existing roadway is already impervious. A 1-foot change in bridge length is not expected to change the hydrology of the project area and of the surrounding watersheds associated with this Project. Therefore, flows will continue on to the San Gorgonio River without any anticipated negative impacts.

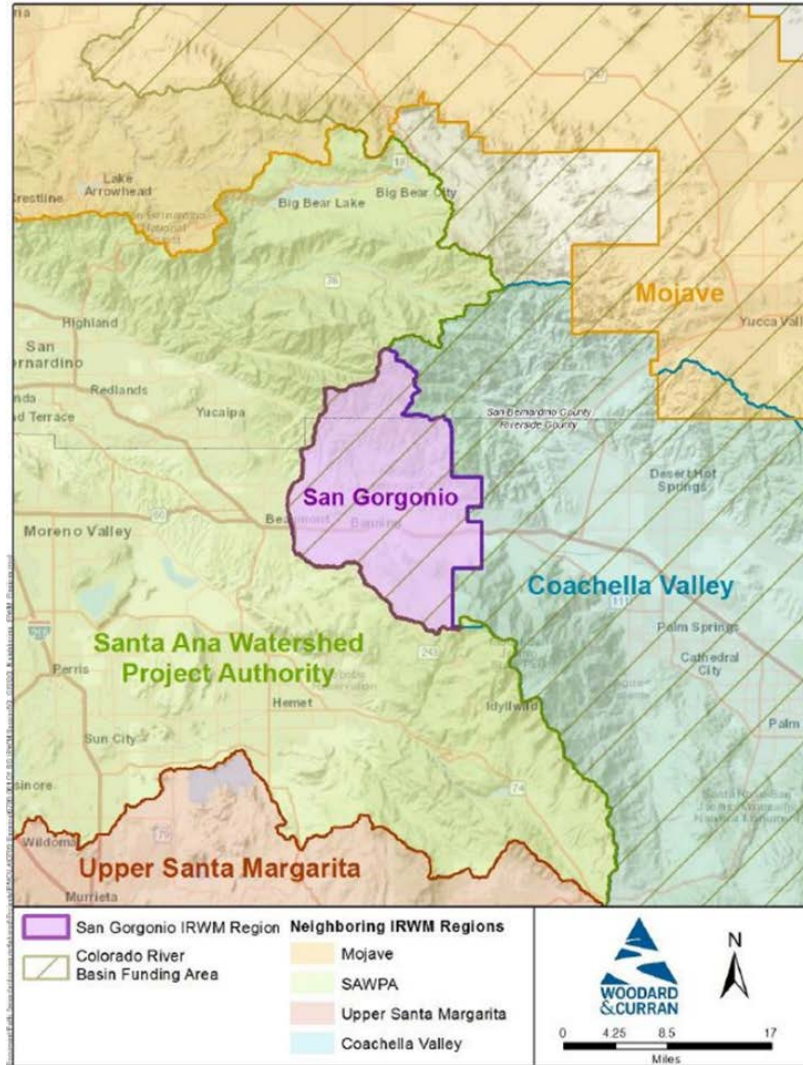


Figure 4: Sub-watershed Delineation (San Gorgonio IRWM 2018)

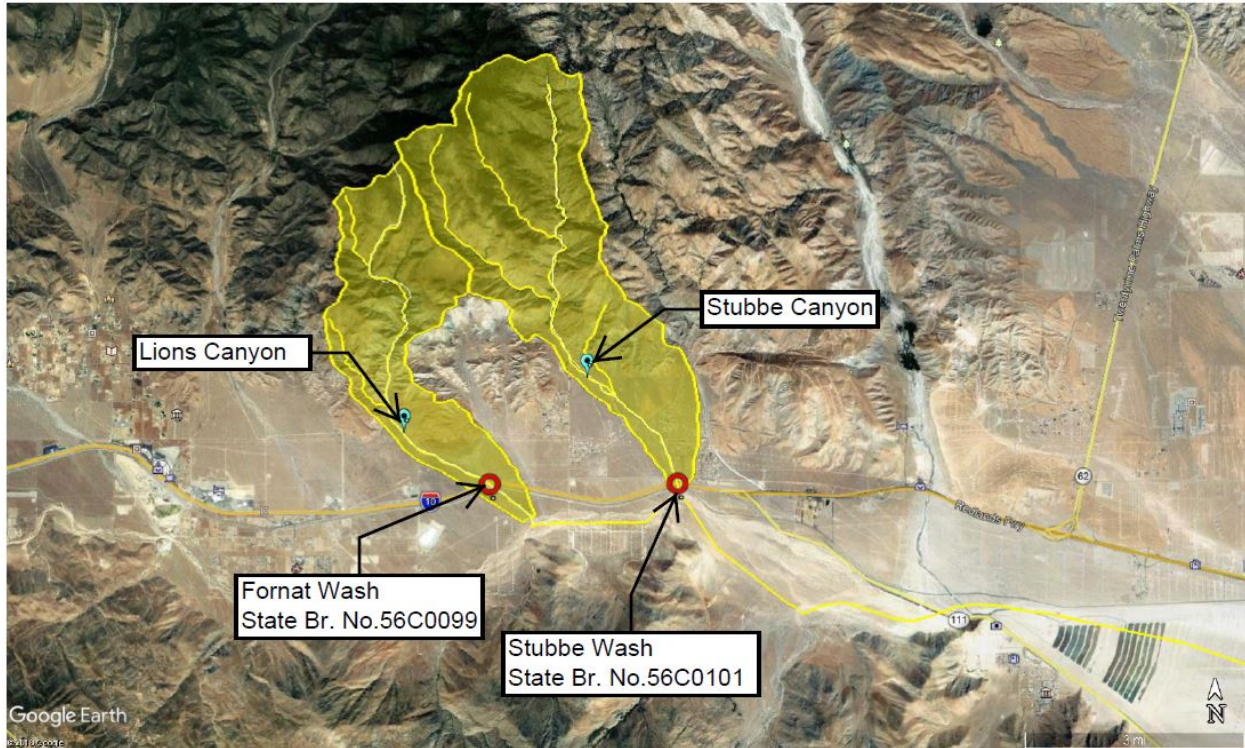


Figure 5: Project Area Sub Watersheds

3.2.3.2.1 Climate and Precipitation

The Whitewater River Watershed is mostly contained within Colorado Desert Region; however, the climate of the project area also resembles that of San Gorgonio Pass. The region wherein the project area resides, experiences a microclimate transition of marine coastal to arid influences as elevations decrease towards the Coachella Valley. The project areas traverse from semi-arid to arid environment going east.

The Project is located in a transition area between the San Gorgonio Pass on the west and the Coachella Valley on the East. Fornat Wash is located within semi-arid region of the San Gorgonio Pass. The average annual temperature for the San Gorgonio Pass, with hot summers and cool winters, range from 77°F to 47°F. Temperatures can reach a max at 96°F and go as low as 39°F on average. San Gorgonio Pass region receives 16.5 inches of rainfall per year on average. Rainfall is the main form of precipitation and will typically occur during November through April; refer to Figures 6 for more detail.

Month	Average Monthly ETo (inches) ¹	Average Rainfall (inches) ²	Average Max Temperature (°F) ²	Average Min Temperature (°F) ²
January	1.5	3.0	60.4	38.8
February	3.1	3.2	63.0	39.0
March	4.9	2.9	65.9	40.3
April	6.0	1.4	71.8	43.0
May	6.2	0.5	78.5	47.8
June	8.3	0.1	87.6	52.6
July	8.4	0.2	95.5	58.7
August	8.2	0.2	95.2	59.2
September	6.1	0.5	90.0	55.9
October	4.3	0.6	79.9	49.4
November	3.2	1.5	69.1	43.4
December	2.1	2.2	61.5	39.5
Annual	62.3	16.3	76.5	47.3

¹ CIMIS, 2017

² Western Regional Climate Center, 2017

Figure 6: San Gorgonio Average Monthly Climate (San Gorgonio IRWM 2018)

There most representative rain gauge for the Coachella Valley and near the project area is located in Palm Springs. The average annual precipitation for the Palm Springs Airport rain gauge is 3.58 inches per year based off an eighteen-year annual rain gauge history research. Most rainfall occurs during winter months; however, high intensity rains can occur during mid-summer producing flash floods and severe erosion. Temperatures can reach a max at 122°F and go as low as 38°F on average. On average temperatures in the summer will range from 82°F to 97°F, and in the winter

from 53°F to 68°F. Refer to Figure 7 for data on the Palm Springs Airport rain gauge and temperature data.

NOWData - NOAA Online Weather Data													NOWData - NOAA Online Weather Data														
Monthly Total Precipitation for Palm Springs Area, CA (ThreadEx)													Monthly Mean Avg Temperature for Palm Springs Area, CA (ThreadEx)														
Click column heading to sort ascending, click again to sort descending.													Click column heading to sort ascending, click again to sort descending.														
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	0.00	0.89	0.58	0.04	0.00	0.00	0.00	0.25	0.09	0.12	T	T	1.97	2000	60.1	60.6	65.2	74.6	82.5	89.1	91.7	92.2	85.0	72.8	59.5	59.6	74.4
2001	0.68	1.86	0.55	0.18	T	T	0.01	0.00	T	T	0.17	0.11	3.56	2001	55.1	56.3	66.7	69.3	85.2	89.3	91.0	93.6	89.9	79.1	67.9	54.5	74.7
2002	T	T	0.04	0.07	0.00	0.00	0.00	0.00	0.09	0.02	0.14	0.40	0.76	2002	56.8	62.6	63.8	72.1	78.4	86.2	93.9	91.0	87.9	73.4	67.7	56.4	74.4
2003	0.54	1.29	1.01	T	0.00	0.00	0.17	0.33	0.01	0.00	1.09	0.40	4.84	2003	65.2	59.4	66.4	67.1	79.6	85.8	94.7	92.6	89.9	82.4	60.6	56.0	75.0
2004	0.06	1.52	0.13	0.08	0.00	0.00	0.00	T	0.09	1.06	1.07	1.82	5.83	2004	57.6	56.9	73.9	73.5	80.4	86.4	92.8	91.1	84.9	73.1	60.2	56.7	74.0
2005	3.65	3.23	0.21	0.08	0.02	0.00	T	0.12	0.07	1.82	0.00	T	9.20	2005	56.8	58.7	65.0	70.2	80.8	84.5	95.0	93.0	84.3	75.6	66.6	59.7	74.2
2006	0.13	0.39	0.71	0.08	0.01	T	0.34	0.00	0.06	T	0.00	0.07	1.79	2006	58.8	63.6	60.7	68.8	82.7	91.8	97.2	91.7	86.8	74.5	67.7	56.7	75.1
2007	T	T	0.07	T	T	0.00	T	0.03	0.09	0.00	1.28	0.91	2.38	2007	55.6	61.8	70.5	73.3	81.0	88.5	94.1	94.6	85.0	75.4	69.9	53.0	75.1
2008	2.20	0.15	T	T	0.03	0.00	0.86	0.08	0.02	M	0.49	2.53	M	2008	54.4	59.8	67.5	72.3	76.6	90.5	93.4	92.5	89.4	78.0	69.8	55.0	74.9
2009	T	1.09	T	T	0.00	0.00	0.00	T	0.00	0.00	0.05	1.27	2.41	2009	61.5	57.9	65.4	70.9	84.7	82.7	95.9	91.9	89.3	73.1	66.8	56.7	74.6
2010	4.51	0.75	T	0.08	T	0.00	T	0.00	0.11	M	0.04	3.72	M	2010	57.4	60.5	64.9	68.6	76.2	87.1	93.4	91.3	87.7	75.6	63.6	59.1	73.8
2011	0.01	1.33	0.13	T	0.02	0.05	0.35	T	0.57	T	0.42	0.14	3.03	2011	58.4	56.3	66.0	71.8	75.1	84.7	91.5	93.9	88.3	78.1	61.5	54.7	73.4
2012	0.03	0.38	0.18	0.20	0.00	0.00	0.32	0.70	0.01	0.00	T	0.19	2.01	2012	61.1	61.5	65.0	73.8	81.9	88.2	91.8	95.0	90.4	77.9	67.5	56.9	75.9
2013	0.61	0.32	0.04	0.00	T	0.00	0.94	0.11	0.03	0.07	0.11	T	2.23	2013	55.9	59.3	71.2	74.7	81.3	89.7	93.4	91.2	87.0	73.3	65.3	57.8	75.0
2014	0.00	0.42	0.28	0.05	T	0.00	0.27	0.88	0.04	0.00	0.07	0.80	2.81	2014	63.7	65.1	69.8	74.5	82.1	89.6	94.4	91.4	90.1	80.7	66.1	58.6	77.2
2015	0.22	0.17	0.83	T	0.12	T	0.42	T	0.14	0.15	T	0.04	2.09	2015	61.7	68.0	73.8	74.1	76.0	91.0	90.8	95.6	89.3	81.1	62.5	56.3	76.6
2016	2.26	T	0.02	0.14	0.02	0.00	0.00	0.00	0.92	0.09	0.20	1.50	5.15	2016	56.6	68.0	69.9	74.0	77.5	91.5	95.3	94.0	84.2	77.9	68.0	57.6	76.2
2017	3.53	1.65	0.00	0.00	T	0.00	0.08	0.71	1.20	0.00	T	0.00	7.17	2017	55.4	63.3	72.1	76.4	80.1	92.0	96.8	95.2	85.8	80.7	70.9	62.6	77.6
2018	M	T	0.24	0.00	T	0.00	1.11	T	0.00	0.91	0.07	0.53	M	2018	64.1	62.5	67.3	76.9	79.9	90.0	97.4	96.0	90.7	77.2	66.5	58.4	77.2
2019	1.45	4.38	0.42	T	0.10	0.00	T	M	M	M	M	M	M	2019	57.8	54.2	65.6	75.9	74.7	88.6	94.3	95.1	M	M	M	M	75.8
Mean	1.05	0.99	0.27	0.05	0.02	0.00	0.24	0.17	0.19	0.25	0.27	0.76	3.58	Mean	58.7	60.8	67.5	72.6	79.8	88.5	93.9	93.2	87.6	76.8	65.7	57.1	75.3
Max	4.51	4.38	1.01	0.20	0.12	0.05	1.11	0.88	1.20	1.82	1.28	3.72	9.20	Max	65.2	68.0	73.9	76.9	85.2	92.0	97.4	96.0	90.7	82.4	70.9	62.6	77.6
Min	0.00	T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	Min	54.4	54.2	60.7	67.1	74.7	82.7	90.9	91.0	84.2	72.8	59.5	53.0	73.4

Figure 7 Monthly Average Precipitation & Temperature for Palm Springs

Excessive winds are common within the vicinity of the project. Consequently, these excessive winds have the potential to cause extensive damage to unprotected soils, plants, structures and vehicles. Airborne dust carried by these winds can compromise air quality and respiratory health.

3.2.3.2.2 Surface Waters

The San Gorgonio River is the main watercourse within the San Gorgonio basin; however, it only flows with surface water intermittently. Nonetheless, during the winter storm season, as runoff from the surrounding tributaries meet the basin floor, surface waters emerge and the San Gorgonio River flows with surface water. The surface water flows will pass through the spreading basins and when the spreading grounds are at capacity the upstream flows move into stretches of the Whitewater River inside the urban areas of the Coachella Valley. The stream confluences with the Whitewater River, which is directed through the valley along the Coachella Valley Stormwater channel and into the Salton Sea. Refer to Figure 8.

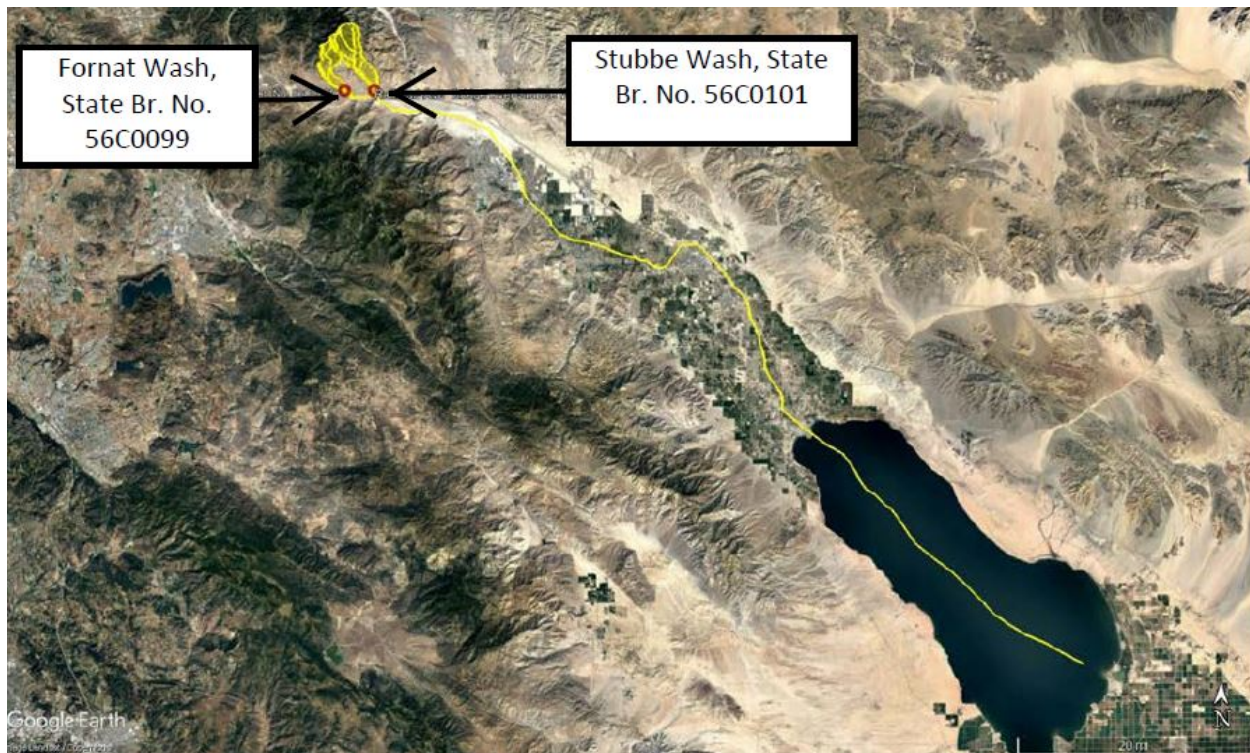


Figure 8: Regional Drainage Watercourse of Project Area

Pursuant to the 2010 Integrated Report, Clean Water Act Section 303(d) List, the Fornat Wash, Stubbe Wash, San Gorgonio River, and the Whitewater River are not listed as impaired waterbodies. Downstream from the Project is the Coachella Valley Stormwater Channel which is listed as a water body impaired due to the insecticide DDT (Dichlorodiphenyltrichloroethane), the insecticide dieldrin, polychlorinated biphenyls (PCB's), pathogens and toxaphene. Further downstream is the Salton Sea which is listed as a water body impaired due to the following: arsenic, chlorpyrifos (i.e., an insecticide chemical group), DDT, the bacteria enterococcus, salinity, selenium, and nutrients (from agricultural return flows, major industrial point source, and out-of-state sources). A TMDL has been developed and adopted for the Coachella Valley Stormwater Channel for indicator bacteria and is being addressed by the USEPA.

The Project will not utilize pesticides during construction activities; however, the Project could be a potential source of bacteria and nutrients. The Project will implement BMPs identified in the project-specific SWPPP to mitigate for these potential pollutants.

The proposed Project is an area already used for vehicular traffic. The replacement of the bridges will continue to allow for safe passage of terrestrial species that may inhabit the stream channels. Both washes are ephemeral and contain sandy soils. There is no presence specialized aquatic species or vegetation within the washes.

3.2.3.2.3 Floodplains

According to the FEMA Flood Map, the Railroad Avenue Bridge over Stubbe Wash (Br. No.56C0101) is located within Zone A of the floodplain map. Zone A areas are subject to inundation by the 1% annual-chance flood event as generally determined using approximate methodologies. The Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099) is located

within Zone X which is an area of minimal flood hazard. Zone X is an area determined to be outside the 500-year flood and protected by a levee from 100-year flood.

3.2.3.2.4 Municipal Supply

The Mission Springs Water district serves the Whitewater community near the Stubbe Wash project area. The project site is currently uninhabited and has no municipal supply of water or utilities except existing underground utilities along both sides of Railroad Avenue. Suspended utilities including telephone lines are observed to the south of the project area and may require relocation as the project commences. In addition, a 4-inch gas line found on the north side of the Stubbe Wash Bridge would be affected by construction and may require relocation as well. The gas line is currently under investigation to confirm the pipe is no longer in service. Water recharge facilities are located east of the Project, northwest of Palm Springs, and after confluence of the San Gorgonio and Whitewater River. The flow is joined by imported water by the Colorado River Aqueduct. Then the Coachella Valley Water District (CVWD) channels the flow into percolation ponds, the valley's largest groundwater recharge facility. These spreading basins are used to replenish the western Coachella Valley's aquifer. The Colorado River Aqueduct can be found within the Pass north of the project site and would have no bearing on the Project. The pipeline travels through the Coachella Valley into the Pass, then is directed underground through the San Jacinto Mountains.

3.2.3.3 Groundwater Hydrology

The portion of the Coachella Valley Groundwater Basin that lies entirely within the San Gorgonio Pass is described as the San Gorgonio Pass Sub-basin. Groundwater levels throughout the sub basin declined significantly from 1933 through 1939 during the construction of the San Jacinto Tunnel as large quantities of groundwater were pumped and diverted into the Indio Sub basin. Groundwater levels in the eastern part of the sub basin rose or stayed the same between 1967 and 1987.

According to the Coachella Valley Groundwater Basin, San Gorgonio Pass Sub Basin Bulletin 118 there are no known sources of impairments, however, Total Dissolved Solids (TDS) content from samples from municipal wells ranged from 106-205 mg/L. The groundwater is used for municipal/irrigation and domestic use.

3.2.4 Geology/Soils

The San Gorgonio Region's high desert mountain pass topography is covered by multiple alluvial fan deposits that were derived from the San Bernardino and San Jacinto Mountains. These alluvial fan deposits allow surface flow to infiltrate and recharge the underlying San Gorgonio Pass Groundwater sub-basin. The San Gorgonio Pass watersheds recharge approximately 72% of total watershed flows into groundwater basins on an annual average (San Gorgonio Integrated Regional Water Management Plan, May 2018). According to Web Soil Survey, accessed in June 2019, the underlying soil within the Fornat Wash consists of Gorgonio gravelly loamy fine sand and Soboba stony loamy sand. Web Soil Surveys indicates that Stubbe Wash is underlain by river wash soil material.

3.2.5 Biological Communities

This transitional region between the San Gorgonio Pass and the Coachella Valley is home to various animal species and biological communities. The proposed bridge replacements for the

project will primarily affect the species that live within the channel bed and the area immediately downstream therefore the focus of this section will be primarily on those species. Within the project areas the washes are both dry most of the year. The information presented in this section is based on the Project's environmental study.

3.2.5.1 Aquatic Habitat

The project does not occur within or adjacent to essential fish habitat areas. The two drainage watercourses are dry most of the year; therefore, there are no aquatic species that regularly live in the part of the channels near the bridge replacements. No aquatic life is expected to be encountered at the project site.

3.2.5.1.1 Special Status Species

The US Fish and Wildlife (USFWS) IPAC (Information, Planning and Conservation System) List and California Natural Diversity Database (CNDDDB) (January 2019), indicated that the two bridges are located within the Whitewater quad and the following federally listed threatened and endangered species are known to occur within or adjacent to the construction area: Desert Tortoise (*Gopherus agassizii*), Peninsular bighorn sheep (*Ovis canadensis*), least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, Coachella Valley fringe-toed lizard arroyo toad, California red-legged frog, southern mountain yellow-legged frog, Casey's June beetle, Coachella Valley milkvetch, triple-ribbed milkvetch, and slender-horned spine flower. According to the Project's Biologist, this project occurs within a critical habitat for the Desert Tortoise, a federal and state endangered species. The Project area provides a suitable habitat for this species; however, the species was not found during focused surveys for Desert Tortoise performed in May 2017 and updated in April 2019 using the current USFWS protocol. Avoidance measures will be implemented to prevent potential impacts.

Other sensitive species that could be present in the area include: burrowing owl (*Athene cunicularia*), San Diego pocket mouse, San Diego desert woodrat, American badger, pocketed free-tailed bat, big free-tailed bat, Townsend's big-eared bat, and pallid bat.

In addition, there are numerous Migratory birds that could potentially nest or forage within the Project area. Two sensitive species found in the Project area include the Black-tailed gnatcatcher (*Polioptila melanura*) and the loggerhead shrike (*Lanius ludovicianus*). Other migratory birds that are not special status however protected under the Migratory Bird Treaty Act and similar provisions of the Fish and Game Code include: Gambel's quail, rock pigeon, cactus wren, and the common raven. Migratory birds could potentially nest within the existing bridge structures and/or surrounding vegetation. Avoidance measures will ensure there are no effects on any nesting birds.

The proposed project is located within the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP) & Natural Community Conservation Plan area. The Project is located within the Cabazon and Snow Creek/Windy Point Conservation Areas of the MSHCP and is considered a covered activity under Section 7.3.1 of the Plan. A small portion of the construction area for Fornat Wash occurs outside of the Conservation Area and would be covered under Section 7.1 of the Plan. The MSHCP allows 'Take' of covered species or loss of their habitat, as long as the project is in compliance with the MSHCP's applicable land use, focused survey, and conservation requirements, including incorporation of applicable avoidance,

minimization, and mitigation measures identified in Section 4.4 of the Plan. The Project does not occur within critical habitat or essential fish habitat areas.

3.2.5.1.2 Stream/Riparian Habitats

During times of the year that Fornat and Stubbe Washes have flows from stormwater runoff, the stream bed can host a moderate and limited riparian habitat. There are sporadic desert willows found at Fornat Wash. There was no riparian vegetation identified at Stubbe Wash. Small mammals, snakes, and lizards also inhabit the channel.

3.2.5.1.3 Wetlands

The nearest Riverine classified wetlands to Fornat and Stubbe Washes are within a mile of each project site, however there are no wetlands associated with any of the jurisdictional features along Railroad Ave. The project is not expected to impact any wetlands downstream of the project. All post-project conditions will remain the same as pre-project conditions. . Refer to Figure 9 for the location of the Riverine Wetland neighboring project area.

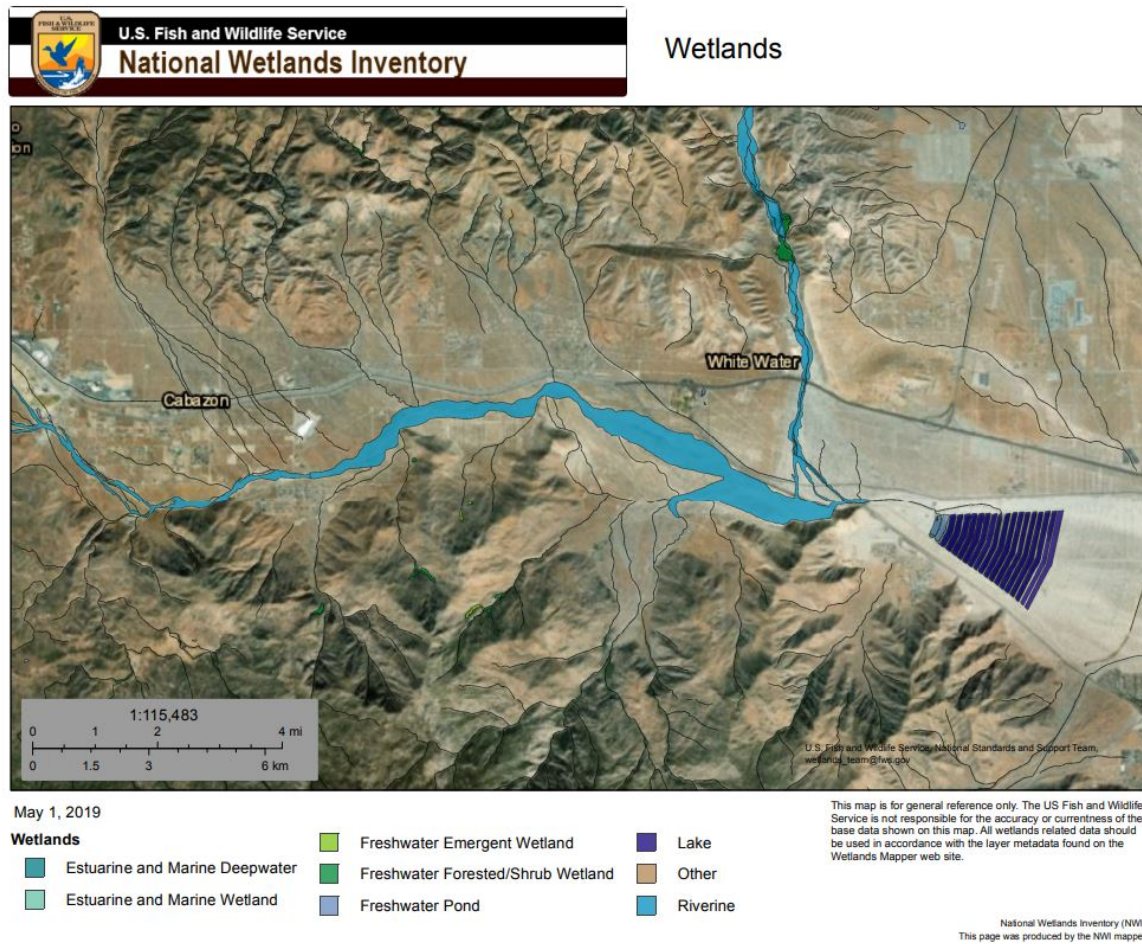


Figure 9: Riverine Wetlands of the San Geronio River

3.2.5.1.4 Fish Passage

This Project does not occur within critical habitat or essential fish habitat areas. No essential fish habitat is present within or adjacent to the project area.

4. ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

The purpose of this Water Quality Assessment Report is to analyze the difference between the existing conditions and the proposed Project build conditions with respect to water quality impacts. The assessment takes the following into consideration:

- Pollutants of concern (pollutants associated with the Project and pollutants impairing receiving waters)
- Impervious area and relation to amount of runoff (increase, decrease, or offset)
- Application of BMPs (types of BMPs, technologies, effectiveness)

The exact disturbed area acreage of the proposed bridges and associated street improvements is approximately 1.2 acres for the Stubbe Wash Bridge and 1.4 acres for the Fornat Wash Bridge. The disturbed area is expected to stay at least 50 feet away from the live railroad tracks to eliminate effect on railroad operations. For Fornat Wash Bridge, Figure 10 illustrates the disturbance limit set to 30 feet upstream and downstream of center line while measuring an approximate width of 880 feet. The disturbance limit expands roughly 45 ft downstream of center line near the bridge to account for the Temporary Construction Easement (TCE). Figure 11 depicts the Stubbe Wash Bridge roadway improvements spanning 30 feet upstream and downstream of center line and having an 810 feet width. Similar to the disturbance limit of the Fornat Wash Bridge, the limit for Stubbe Wash Bridge is approximately 60 feet from the downstream center line near the bridge for the TCE. The staging areas cover an additional space (0.16 acres) limited to Railroad Avenue east and west of the two bridges to store equipment and materials. The total permanent and temporary disturbed area for both bridges and the staging area is approximately 2.76 acres.

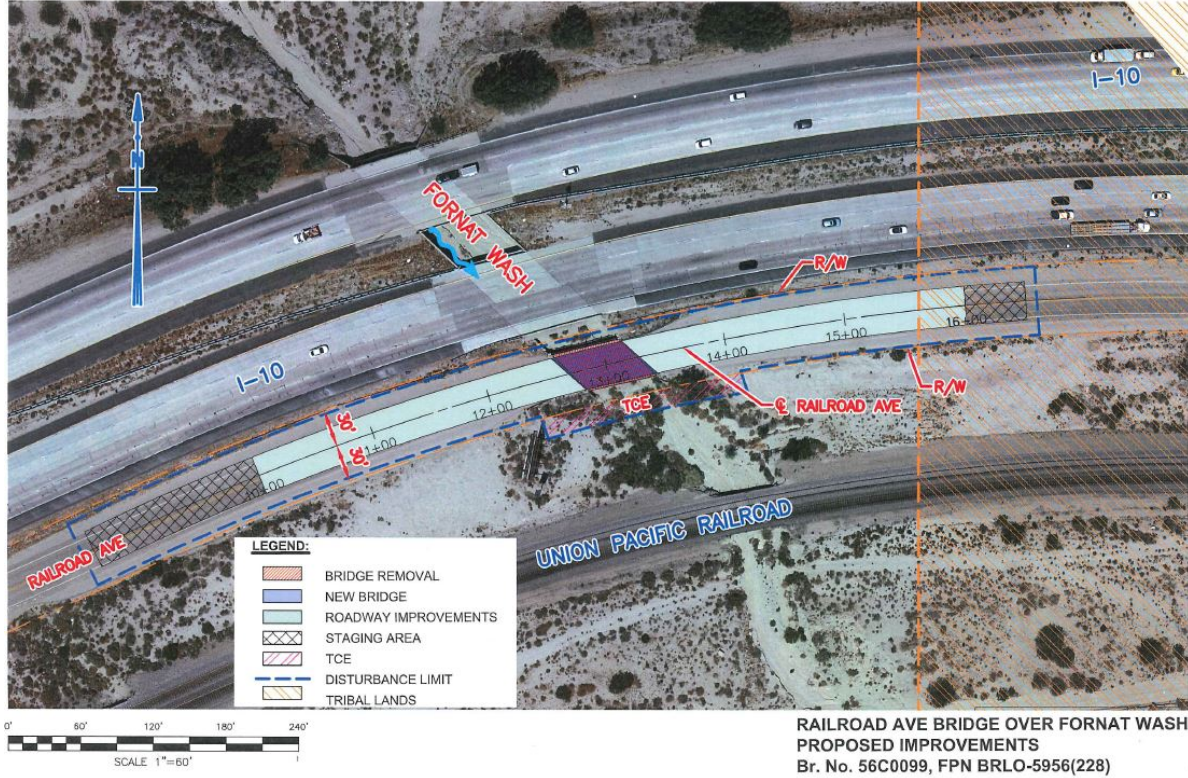


Figure 10: Proposed Improvements for Bridge over Fornat Wash

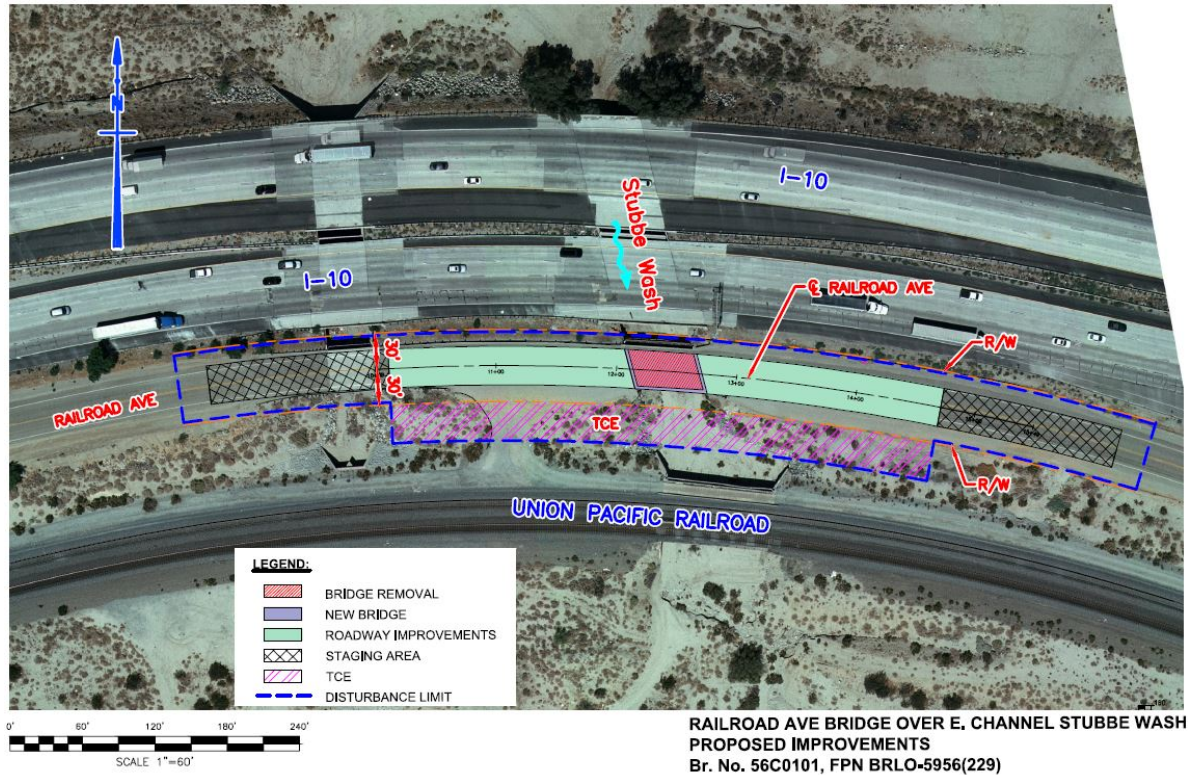


Figure 11: Proposed Improvements for Bridge over Stubbe Wash

No staging, parking of construction vehicles, material setup and delivery, work areas, storage areas, or maintenance areas will occur off the paved roadway of Railroad Avenue or within 50 feet of any drainage course.

The Project proposes no excavation, no back fill, or no disturbance of soil within the staging areas. The limits of the bridge replacements and improvements within the Fornat and Stubbe Wash will occur with as little of a footprint as feasible. The total temporary disturbed acreage within the washes is expected not to exceed 0.22 acres in each wash. Temporary construction BMPs, such as linear perimeter controls and good housekeeping measures as outlined in the Projects SWPPP will be utilized to reduce or eliminate pollutants on the construction site and protect upstream and downstream portions of the Fornat and Stubbe Wash not within the project limits. The increase in the footprint of the bridges will increase the 2, 10 and 100-year flows of the local hydrology of each wash by a nominal factor.

4.2 Potential Impacts to Water Quality

During Construction

The Project may utilize a temporary earthen ramp to gain access to the channel bottoms. If a temporary ramp is used, the contractor will implement BMPs around the ramp to prevent potential erosion of the earthen ramp in the event of dry weather low flows, rain event flows, or heavy rain event flows.

During construction of the bridges, the stream channels will have a temporary disturbed soil area. Disturbed soil, construction materials, and construction wastes have a potential to be deposited during construction activities and also have a potential to run off during rain storms and pollute the Fornat and Stubbe Washes. To prevent the release of pollutants into the channels and surrounding wetlands during construction the contractor will implement BMPs at Project perimeters to control runoff and potential run-on and will also implement materials storage and waste management controls throughout the construction site. These BMPs will be outlined in the Project SWPPP and will reduce or eliminate pollutants on the construction site from potentially causing adverse water quality impacts to the Fornat and Stubbe Washes.

Post-Construction

The proposed bridge replacements will be constructed to direct storm water flows such that they will discharge into the washes and then follow the existing drainage pattern away from the site. The proposed project will not constitute a significant change to the drainage system. The channels will still convey flows away from the Project. However, under the proposed condition, during low and high flow conditions the upstream flows of the washes will continue to pass under the bridges, preventing contact with the roadway surfaces. During the long-term life of the Project, the impacts to water quality will be minimized through site design characteristics and source control maintenance to remove pollutants that could accumulate on the road surface such as oil, grease, litter, and sediment.

4.2.1 Anticipated Changes to the Physical/Chemical Characteristics of the Aquatic Environment

4.2.1.1 Substrate

During Construction

Construction may require a temporary earthen ramp to be built to allow equipment to gain access to the channel bottoms. If a temporary ramp is used, the contractor will implement BMPs around the ramp to prevent potential erosion of the earthen ramp. Construction will require temporary disturbance for demolition of the existing timber bridge structures, grading, and the use of construction equipment and vehicles for bridge construction. The contractor will implement BMPs at project perimeters to control runoff and potential run-on into project areas. Once the new modern bridges are installed, the channel bed outside the permanent disturbance areas will be returned to a condition similar to that of the existing riverbed in the vicinity of the Project.

Post-Construction

The Project proposes a minimal increase in surface area of the bridges and proposes limited construction within the natural channel bed areas. The proposed channel improvements will be returned to a condition similar to that of the existing channel beds in the vicinity of the Project.

4.2.1.2 Currents, Circulation or Drainage Patterns

During Construction

As construction progresses, the stream course will be diverted around the current phase of bridge construction to prevent potential stormwater or ephemeral flows from coming into contact with the construction activities and storage areas. If a temporary earthen access ramp is used, the contractor will implement BMPs around the ramp to prevent potential erosion of the earthen ramp during dry weather low flows and rain event flows. If a heavy rain event is forecast, then the contractor will implement run on BMPs such as CASQA BMP NS-5 Clear Water Diversion to divert the flows around the earthen ramp, and erosion control BMPs on disturbed slope areas within the washes. These BMPs will be outlined in the Project SWPPP and will reduce or eliminate erosion from the earthen ramp from potentially causing adverse water quality impacts to the Fornat and Stubbe Washes.

Post-Construction

The existing drainage pattern will be retained and will still be able to handle the 2, 10, 100-year flows. Flows will be managed in a manner similar to the existing conditions upstream and downstream of the current flow crossing. Therefore, the channels and wetland areas are anticipated to be impacted by the proposed improvements.

4.2.1.3 Suspended Particulates (Turbidity)

During Construction

The proposed bridge replacements and associated road improvements have the potential to increase suspended particulates in the Fornat and Stubbe Washes. BMPs will be implemented and regularly maintained during each phase of construction to prevent soil erosion, waste discharge, eroding streambanks, and to control sediment from disturbed areas of the Project and the earthen access ramp from reaching flowing portions of the Fornat and Stubbe Washes.

Post-Construction

The proposed bridges and associated street improvements are not expected to increase suspended particulates in the Fornat and Stubbe Washes over existing conditions. The proposed bridge improvements will not increase the flows of the channels. Fornat and Stubbe Washes are dry most of the year; therefore, the transport of suspended particulates is limited. The bridges are existing stabilized surfaces and unlikely to contribute suspended particulates to the Fornat and Stubbe Washes. During the long-term life of the Project, the impacts to water quality will be minimized through site design characteristics and source control maintenance.

4.2.1.4 Oil, Grease and Chemical Pollutants

During Construction

The bridge replacements and associated street improvements have the potential to release oil, grease, or chemical pollution to the Fornat and Stubbe during construction. BMPs will be implemented for the proper management, storage, and removal of construction materials, solid wastes, and hazardous substances. Staging areas will be at least 50 feet from any drainage ditch and the maintenance or refueling or equipment will not take place within the washes.

Additionally, preventative practices will be used for the maintenance of construction equipment and vehicles, and personnel properly trained in spill prevention and clean up procedures will be onsite throughout the duration of construction. Jointly these controls will be used to prevent the introduction of construction pollutants into the Fornat Wash and Stubbe Wash, and the Riverine wetlands within. Pesticide application is not planned for this construction project. Every employee shall receive training on stormwater pollution prevention.

Post-Construction

The Project proposes to replace existing bridges that support vehicular traffic. In the proposed and existing condition flows of Fornat and Stubbe Washes do not come into direct contact with the bridge decks. The project is anticipated to reduce the water quality impacts to the washes associated with the introduction of oil, grease, and chemical pollutants from vehicular traffic by implementing site design and source control BMPs, such as litter removal and CASQA BMP SC-70 Road and Street Maintenance. Source control BMPs to remove the pollutants introduced to the bridge and road surfaces will be implemented. These controls will be used to prevent the introduction of typical roadway pollutants into the Fornat and Stubbe Washes. Since the bridges will be an engineered, raised surface, pesticides are not anticipated to be used in the post-construction condition.

4.2.1.5 Temperature, Oxygen, Depletion and Other Parameters

During Construction

The bridge replacements and associated street approach improvements are not expected to affect these parameters. During construction, BMPs for proper management, storage, and removal of construction materials, solid wastes, and hazardous substances (as applicable) will be utilized to ensure that construction activities do not introduce pollutants into the Fornat Wash, Stubbe Wash and wetland areas.

Post-Construction

The bridge replacements and associated street improvements are not expected to affect the temperature and oxygen of the Fornat Wash, Stubbe Wash and surrounding wetland areas above existing, pre-project conditions. During the long-term life of the Project, the impacts to water quality will be minimized through site design characteristics and source control maintenance.

4.2.1.6 Flood Control Functions

During Construction

The main flow line of the Fornat and Stubbe Washes will be diverted around active soil disturbance areas during construction in order to keep construction activities and materials from coming into contact with receiving waters. If a temporary earthen access ramp is used, the

contractor will implement erosion and sediment control BMPs around the earthen ramp during dry weather low flows and predicted rain event flows. If a heavy rain event is forecast, the contractor will divert the flows around the earthen ramp using run-on control BMPs, such as CASQA BMP NS-5 Clear Water Diversion, as outlined in the Project SWPPP.

Post-Construction

The proposed cross-sectional area of the bridges will increase the stream channel capacity by providing a wider section that is consistent with the rest of the channel and will continue to provide flood control capabilities of the Fornat and Stubbe Washes.

4.2.1.7 Storm, Wave and Erosion Buffers

The Project is not located within a tidelands area. Fornat and Stubbe Washes remain dry for most of the year, with seasonal flows.

During Construction

The Project site will utilize erosion and sediment control BMPs to control erosion from disturbed soil areas during the road improvements and construction of the bridges.

Post-Construction

The Fornat and Stubbe Washes will have rock-slope protection and concrete wing walls near the abutments of each bridge. Drainage will discharge directly to the earthen channel bottoms as existing.

4.2.1.8 Erosion and Accretion Patterns

During Construction

During construction the contractor will implement erosion and sediment control BMPs onsite to control erosion from disturbed soil areas during the construction of the bridges and street improvement. If a temporary earthen access ramp is used, the contractor will implement erosion and sediment control BMPs around the earthen ramp during dry weather low flows and rain event flows. The contractor will also implement wind erosion controls to control the fugitive dust created by this project and will comply with all AQMD requirements.

Post-Construction

The Project does not plan to alter any erosion and accretion patterns post construction, as post-construction conditions are expected to equal pre-construction conditions.

4.2.1.9 Aquifer Recharge/Groundwater

The proposed bridges and associated road improvements will not impede aquifer or groundwater recharge in the area. The Project does not propose to construct additional impervious surfaces in the channel beds. The channels will retain the same amount of pervious surface to infiltrate and recharge local aquifers.

4.2.1.10 Baseflow

The proposed bridges and associated street improvements will not affect the base flow of the Fornat and Stubbe Washes as it is dry most of the year due to dry weather climate and extremely permeable soils in the channel beds, which reduce the transport of flows.

4.2.2 Anticipated Changes to the Biological Characteristics of the Aquatic Environment

4.2.2.1 Special aquatic sites

There are no wetlands associated with any of the jurisdictional features along Railroad Avenue. The bridges over the Fornat and Stubbe Washes are not considered special aquatic sites. All ditches are ephemeral and contain sandy soils. No specialized aquatic species are present.

4.2.2.2 Habitat for Fish and Other Aquatic Organisms The proposed replacement bridges and associated roadway improvements to match the bridge approach to the grade of the existing roadway are unlikely to affect the characteristics of the habitat for fish and other aquatic organisms since the area in its existing condition is a raised roadway that supports vehicular traffic across the Fornat and Stubbe Washes. Also, the channels are dry most of the year. During construction, wildlife friendly BMP products (such as, but not limited to: biodegradable (burlap) gravel bags, fiber rolls (burlap wrapped), etc.) will be utilized within the channels. Therefore, there is no concern related to adverse impacts of the habitat for fish and other aquatic organisms.

4.2.2.2.1 Fish Passage (Beneficial Uses)

The proposed bridge replacements will neither increase or decrease potential fish passage for the Fornat and Stubbe Washes. These drainage paths are dry most of the year and fish species are not expected to be encountered at any time during construction or during the post construction phase of this project.

4.2.2.3 Wildlife Habitat

There are two vegetation communities within the ditches suitable for wildlife species: the creosote brush scrub and desert wash. This Project occurs within a critical habitat for specialized species such as the desert tortoise (*Gopherus agassizii*), the American badger (*Taxidea taxus*), the burrowing owl (*Athene cunicularia*), the pallid bat (*Antrozous pallidus*), the pocketed free-tailed bat (*Nyctinomops femorosaccus*), the big free-tailed bat (*Nyctinomops macrotis*), the Townsend's big-eared bat (*Corynorhinus townsendii*), the San Diego pocket mouse (*Chaetodipus fallax*), and the San Diego Desert Woodrat (*Neotoma lepida intermedia*). Migratory birds could potentially nest or search for prey within the Project area. Two sensitive species that reside in the Project vicinity are the black-tailed gnatcatcher (*Poliophtila melanura*) and the loggerhead shrike (*Lanius ludovicianus*). Avoidance measure will be implemented so there are no impacts on the species. The area in its existing condition is raised roadway that supports vehicular traffic across the Fornat and Stubbe Washes will continue to be a similar bridge and roadway after Project completion. Therefore, there is no concern related to adverse impacts to the wildlife habitat.

4.2.2.3.1 Wildlife Passage (Beneficial Uses)

The proposed bridge replacements and associated roadway improvements will not restrict potential wildlife passage for the Fornat and Stubbe Washes since the area underneath the bridges will remain open, allowing for the migration of wildlife. Wildlife passage during construction may be impacted temporarily while construction crews access the washes to construct improvements.

4.2.2.4 Endangered or Threatened Species

The Fornat and Stubbe Washes at this location are within a critical habitat for the desert tortoise (*Gopherus agassizii*) and other sensitive species such as the following: the American badger

(*Taxidea taxus*), the burrowing owl (*Athene cunicularia*), the pallid bat (*Antrozous pallidus*), the pocketed free-tailed bat (*Nyctinomops femorosaccus*), the big free-tailed bat (*Nyctinomops macrotis*), the Townsend's big-eared bat (*Corynorhinus townsendii*), the San Diego pocket mouse (*Chaetodipus fallax*), and the San Diego Desert Woodrat (*Neotoma lepida intermedia*).

Avoidance measures will be implemented so there are no impacts on the species. The proposed Project will only temporary affect the current habitat within the stream beds at these locations due to construction activity to replace the existing bridges. The post-Project conditions will equal the pre-Project conditions because the new modern bridges will be built in the same location as the existing bridges. This Project consists of bridge replacements that span their own stream courses, similar to the existing structure, only safer for vehicular usage.

4.2.2.5 Invasive Species

The proposed bridge replacements and associated roadway improvements have the potential to be affected by invasive species. Seeds can be dropped off from construction vehicle tires while entering and working within the washes. A construction entrance will be utilized shake off the tires before entering and leaving the construction to prevent the spread of invasive plant species to the washes and project area.

4.2.3 Anticipated Changes to the Human Use Characteristics of the Aquatic Environment

4.2.3.1 Existing and Potential Water Supplies; Water Conservation

There is no anticipated change to existing and potential water supply. The water for this area is supplied through natural groundwater recharge. During construction, water conservation practices will be employed, and minimal water will be used to control dust. The water use anticipated with this Project, once complete, is similar to the existing bridges at these locations.

4.2.3.2 Recreational or Commercial Fisheries

Due to the limited supply of runoff in this arid environment there are no local recreational or commercial fisheries that will be impacted by the Project.

4.2.3.3 Other Water Related Recreation

Due to the limited, seasonal flows of the Fornat and Stubbe Washes there are no other water related recreational activities that will be affected.

4.2.3.4 Aesthetics of the Aquatic Ecosystem

Post construction, the channels will be returned to their natural state and any temporary earthen access ramps removed from the channel bottoms.

4.2.3.5 Parks, National and Historic Monuments, National Seashores, Wild and Scenic Rivers, Wilderness Areas, etc.

Within this rural area of Riverside County and within the Fornat and Stubbe Washes, there are no park, historic monument, national seashore, wild and scenic river, or wilderness area. However, the Project will have temporary impact for travelers of Pacific Crest Trail, a national scenic trail running between Canada and Mexico, which crosses under Stubbe Wash Bridge.

4.2.3.6 Traffic/Transportation Patterns

The Project proposes to improve the safety of the structurally deficient bridges with total replacement. The current traffic and transportation patterns will remain the same.

4.2.3.7 Energy Consumption of Generation

The Project will not increase or decrease energy consumption or generation.

4.2.3.8 Navigation

The Fornat and Stubbe Washes are dry most of the year and there is no known navigation within the channels. The channel cross sections will be improved because the Project proposes to replace structurally deficient bridges with new modern bridges constructed with fewer piles that are designed to support modern vehicular traffic loads. The many timber piles used to support the old bridges will be properly discarded once the Project commences.

4.2.3.9 Safety

The existing timber bridges are structurally deficient. The Project will construct two new modern bridges that comply with current engineering standards and safety regulations.

4.2.4 Temporary Impacts to Water Quality During Construction

The replacement of the two bridges will include construction activities, materials, and wastes that have a potential to cause erosion, sedimentation, and the discharge of polluted storm water and non-storm water runoff from the Project site.

Construction activities that will be performed on-site will have the potential to affect water quality. Clearing of vegetation, demolition, generation of debris, and grading will be performed which could lead to exposed or stockpiled soils susceptible to peak storm water runoff flows. The compaction of soils by heavy construction machinery may reduce the infiltration capacity of soils (exposed during construction) and increase runoff and erosion potential. The paving of bridge decks and use of finishing agents are also activities that will need to have pollutant controls. When access to the channel bottoms is needed during construction to construct the pile columns and cast-in-drilled-hole pile installations, the contractor may utilize a temporary earthen access ramp constructed in the channels. This earthen ramp will be protected by erosion and sediment control BMPs in order to reduce potential erosion of the earthen ramp during dry weather low flows and rain event flows. If a heavy rain event is forecast, the contractor will divert the flows around the earthen ramp to prevent potential erosion.

Another potential pollutant on a construction site is construction materials. The presence of significant amounts of raw materials for construction of bridges and abutments will need to be controlled. This includes concrete, asphalt, mortar, and slurry.

The final pollutants present on a construction site are construction wastes. Construction wastes are generated from the use of raw materials or are a byproduct of construction activities.

If uncontrolled, pollutants associated with these activities, materials and wastes could lead to water quality problems including sediment-laden runoff, prohibited non-storm water discharges, and ultimately the degradation of downstream receiving waters, groundwater, and/or ecosystems.

Construction related impacts to water quality will be addressed by developing and implementing a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the requirements of the CA

CGP and EPA CGP. Table 1 lists potential pollutants related to construction and the typical location where each pollutant can be found.

Table 1: Potential Construction Pollutants

Material Type	Pollutant	Visually Observable	Typical Location
Diesel Fuel	Petroleum distillates, naphthalene, xylene	Sheen/Stain	Staging area
Gasoline	Benzene, toluene, xylene, MTBE	Sheen/Stain	Staging area
Hydraulic Oil	Mineral oil, trace additives	Sheen/Stain	Staging area
Engine Oil	Mineral oil, additives, combustion byproducts	Sheen/Stain	Staging area
Transmission Oil	Mineral oil, trace additives	Sheen/Stain	Staging area
Engine Coolant	Ethylene and propylene glycol, heavy metals	Green/red	Staging area
Grease	Petroleum hydrocarbons	Sheen/Stain	Staging area
Kerosene	Petroleum hydrocarbons	Sheen/Stain	Staging area
Fertilizer	Nitrogen, phosphorus	No	Material storage area
Pesticide	Water-insoluble chlorinated hydrocarbons, organophosphates, carbonates, and pyrethrums.	Varies	Material storage area
Herbicide	Chlorinated hydrocarbons, organophosphates	Varies	Material storage area
Soil Amendments		No	Material storage area
Concrete (wet)	Fly ash, heavy metals, Portland cement	White solid	Streets & foundation pads
Concrete coring slurry	Turbidity and pH	Gray liquid	Bridge construction & streets
Concrete sawing slurry	Turbidity and pH	Gray liquid	Bridge construction & streets
Cement	Aluminum calcium iron oxide, calcium sulfate	Gray powder	Bridge construction & streets
Grout	Silica sand, Portland cement	White powder	Block wall construction
Paint	Ethylene glycol, titanium oxide, VOC	Colored liquid	Streets
Sealers	Diacetone alcohol,		Bridge construction & streets
Adhesives	COD/ Pheno.ls/ SVOC	White/yellow	Bridge construction
Sanitary waste	Bacteria, Ammonia, Nutrients	Yes	Staging areas & all construction areas
Animal waste	Bacteria, Ammonia, Nutrients	Yes	All construction areas
Asphalt	Asphalt fumes, cutback asphalt,	Black material	Streets
Curing compounds	Glass Oxide, urea-extended phenol	Creamy white	Building construction & Streets

Table 1: Potential Construction Pollutants

Material Type	Pollutant	Visually Observable	Typical Location
Waste wash water	Residuals and modifications to pH	Suds, foam, froth	All construction areas
Wood Preservatives	Arsenic, Chromium (Total), Copper, and Zinc	Amber liquid	Bridge construction
Cleaning solvents	Perchloroethylene, methylene chloride, TCE	Varies	Staging areas
Sediment	Soil, turbidity, dust	Cloudy/muddy	All construction areas/ Access ramp
Vegetation	Organic matter	Yes	All construction areas
Solid waste	Floatable and blowable trash and debris	Yes	All construction areas

4.2.4.1 No Build Alternative

A No Build Alternative is proposed for this project.

4.2.4.2 Build Alternative(s)

No other Build Alternative(s) are proposed for this project.

4.2.5 Long-term Impacts During Operation and Maintenance

Since the Project is proposing to replace existing bridges, the Project will unlikely add physical or chemical characteristics that will impact the environment; or affect biological characteristics of the aquatic environment, over existing, pre-project conditions.

The replacement of the existing bridges will remove a structurally deficient structure and improve traffic flows. During the long-term life of the Project, the impacts to water quality will be minimized through site design characteristics and source control maintenance.

4.2.5.1 No Build Alternative

A “No Build Alternative” is proposed for this project.

4.2.5.2 Build Alternative(s)

No other Build Alternative(s) are proposed for this project.

4.3 Impact Assessment Methodology

There is no project alternative. The proposed bridge replacements are needed for public safety issues. The Project is designed to comply with current engineering and safety standards to remove it from the federal Eligible Bridge List.

4.4 Cumulative Impacts**During Construction**

With the successful implementation of the SWPPP requirements and proper management of the project-specific BMPs, cumulative impacts to the Project site are not expected.

Post-Construction

The hydrologic conditions will not change dramatically since the Project is not concentrating flows, and the additional impervious footprint is offset by the pervious area under each bridge. Therefore, the overall Project is not expected to adversely increase in runoff to the Fornat and Stubbe Washes over existing, pre-project conditions. Additionally, potential pollutants present during the post-construction or operational phase of the Project will be controlled through the County of Riverside roadway maintenance programs, such as road repairs as necessary, to minimize adverse impacts to water quality.

5. AVOIDANCE AND MINIMIZATION MEASURES

During each phase of the Project, construction and operational phase, the Project will feature avoidance and minimization measures to control, reduce, or eliminate potential water quality issues. These measures will each be given a WQ-# designation.

During Construction

During the construction of the two bridges, the County of Riverside will implement the specific requirements of the California NPDES Construction General Permit. A project-specific Storm Water Pollution Prevention Plan (SWPPP) will be developed and the practices and control measures therein will be implemented onsite during construction activities in order to control, reduce, or eliminate discharge of pollutants to the Fornat and Stubbe Washes. The plan will include, but is not limited to, housekeeping practices, waste management, hazardous waste management, non-stormwater management, spill prevention and clean up procedures, erosion controls, sediment control, training, inspections, and monitoring requirements during construction. Given the nature of this particular project, the eastern roadway improvements and construction staging area on the bridge over Fornat Wash occurs within the Morongo Band of Mission Indians Reservation. Because of this an EPA CGP will need to be issued for this project in addition to a CA CGP. The proposed project will conduct earth disturbing activity within the boundary of Tribal Lands, however all staging and roadway improvements within the reserve is confined to the paved areas on Railroad Ave. Refer to section 2.2.3.2 for more details.

The avoidance and minimization water quality measures outlined in the project specific SWPPP will be designated as:

- WQ-1 SWPPP: CA CGP SWPPP and EPA CGP SWPPP for portion of project area occurring on Tribal Lands.

Post-Construction

Post-construction measures will be used to avoid, minimize and/or mitigate storm water runoff impacts caused by the redevelopment of the site. This includes implementing control measures to prevent pollution from discharging from the site during the life of the Project. In order to control potential pollutants, the County of Riverside will implement site design (SD), and non-structural source control (SC) BMPs.

Site design BMPs are used to incorporate site features aimed to directly reduce and control post-development runoff. This is often accomplished by increased opportunity for infiltration onsite which reduces the transport mechanism for moving pollutants off site, and helps to mitigate the differences between pre- and post-development hydrographs. Structural source control BMPs are any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g., canopy, structural enclosure, slope and channel protection, energy dissipation, etc.). Site design and non-structural source control BMPs, such as employee training and litter control, will be incorporated into the permanent build of the site. Throughout the operational life of the Project these BMPs will be maintained using a regular maintenance program implemented by the County.

Source control BMPs will be used to reduce the potential of stormwater runoff and pollutants from coming into contact with one another. Source control BMPs are often managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for

contamination at the source of pollution. It also includes administrative actions, prohibitions of practices, maintenance procedures, design of a structural facility, usage of alternative materials, and operation, maintenance, inspections, and establishing compliance of an area. These practices are typically applied before, during, and/or after pollution producing activities. Throughout the operational life of the Project these BMPs will be maintained using a regular maintenance program implemented by the County. The following non-structural source control BMPs will be used at the site:

The following site design and structural source control BMPs will be used at the site:

- WQ-2 Employee Training (SC)¹
- WQ-3 Litter Control (SC)²
- WQ-4 Slope and Channel Protection (SD)³
- WQ-5 Minimization of Impervious Surfaces (SD)⁴

¹ Employee Training BMP shall be in accordance with CASQA Municipal BMP SC-70 Road and Street Maintenance and County of Riverside Requirements.

² Litter Control BMP shall be in accordance with CASQA Municipal BMP SC-70 Road and Street Maintenance and County of Riverside Maintenance Requirements and Frequencies.

³ Slope and Channel Protection BMP shall be in accordance with CASQA New Development and Redevelopment BMP SD-10 Site Design and Landscape Planning or the equivalent County of Riverside Standard.

6. REFERENCES

Caltrans Division of Design Stormwater homepage for guidance and tools (Project Risk Level, Estimating for CGP, Erosion Prediction software, etc.):

<http://www.dot.ca.gov/design/hsd/index.html>

Caltrans Division of Environmental Analysis Stormwater Homepage:

<http://www.dot.ca.gov/hq/env/stormwater/>

Caltrans Standard Environmental Reference (SER) Volume I

- For wetlands, hydromorphic method and water assessment information, see Chapter 15 - Waters of the U.S. and the State:
<http://www.dot.ca.gov/ser/vol1/sec3/natural/ch15wetland/ch15wetland.htm>
- For hydraulic studies and floodplain encroachment information, see Chapter 17 - Floodplains: <http://www.dot.ca.gov/ser/vol1/sec3/special/ch17flood/chap17.htm>
- For Coastal Zone permits information, see Volume 5 - Coastal Zone:
<http://www.dot.ca.gov/ser/vol5/vol5.htm>
- For Wild and Scenic Rivers information, see Chapter 19 - Wild and Scenic Rivers:
<http://www.dot.ca.gov/ser/vol1/sec3/special/ch19wsrivers/chap19.htm>

Caltrans Stormwater Quality Handbook Project Planning and Design Guide (PPDG):

http://www.dot.ca.gov/design/hsd/ppdg/PPDG-Final_2017-07.pdf

Caltrans Stormwater Quality Practice Guidelines:

http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/pdfs/management_ar_rwp/CTSW-RT-02-009.pdf

Caltrans Water Quality Planning Tool: <http://www.water-programs.com/wqpt.htm>

Regional Water Quality Control Board website and Basin Plans:

http://www.swrcb.ca.gov/plans_policies/

State Water Resources Control Board Storm Water Program, 2009-0009-DWQ Construction General Permit:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

State Water Resources Control Board Watershed Management:

http://www.swrcb.ca.gov/water_issues/programs/watershed/

United States (U.S.) Environmental Protection Agency Section 404(b)(1) guidelines:

<http://www.epa.gov/owow/wetlands/pdf/40cfrPart230.pdf>

U.S. Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey:
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

6.1 Works Cited

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- “Coachella Valley Groundwater Basin, San Gorgonio Pass Sub-basin.” *California Department of Water Resources*, Bulletin 118 California's Groundwater, 27 Feb. 2004, water.ca.gov/LegacyFiles/groundwater/bulletin118/basindescriptions/7-21.04.pdf.
- “Coachella Valley – San Gorgonio Pass.” *Groundwater Exchange*, groundwaterexchange.org/basin/coachella-valley-4/. Bulletin 118 Basin 7-021.04 Map
- “EPA's 2017 Construction General Permit (CGP) and Related Documents.” EPA, Environmental Protection Agency, 18 June 2019, www.epa.gov/npdes/epas-2017-construction-general-permit-cgp-and-related-documents.
- National Weather Service Corporate Image Web Team. “NWS San Diego.” *National Weather Service*, 24 Oct. 2005, w2.weather.gov/climate/index.php?wfo=sgx.
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www.casqa.org/sites/default/files/BMPHandbooks/BMP_NewDevRedev_Complete.pdf.
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www.fws.gov/wetlands/Data/Mapper.html.

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