

2.17 Wetlands and Other Waters

2.17.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the CWA (33 USC 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by USACE with oversight by EPA.

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

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard Permits. There are two types of Standard Permits: Individual Permits and Letters of Permission. For Standard Permits, the USACE decision to approve is based on compliance with EPA's Section 404(b)(1) Guidelines (40 CFR 230) and on whether permit approval is in the public interest. The Guidelines were developed by EPA in conjunction with USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if a LEDPA to the proposed discharge would have lesser effects on waters of the United States and would not result in any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as FHWA or Caltrans as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that (1) there is no practicable alternative to the construction; and (2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board, the RWQCBs, and CDFW. California Fish and Game Code (CFGF) Sections 1600–1607 require any agency proposing a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) is required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation—whichever is wider. Wetlands under jurisdiction of USACE may or may not be included in the area covered by a LSAA obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities that may result in a discharge to waters of the United States. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.9, “Water Quality” for more details.

2.17.2 Affected Environment

A delineation of potential jurisdictional wetland and other waters of the United States within the BSA was performed on October 30, November 13, and November 15, 2012, and on February 28 and March 7, 2013 (ICF International 2014). The delineation was conducted using the routine onsite determination method described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the supplemental procedures and wetland indicators provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers 2008). Results of the delineation were submitted to the USACE on March 4, 2015.

This section is a summary of the analysis documented in the wetland delineation report prepared for this project (ICF International 2014a). The report is available on the project website at <http://8065interchange.org/>. The following wetlands and waters of the United States and waters of the State were delineated in the BSA and are considered jurisdictional by the USACE, RWQCB, and CDFW.

2.17.2.1 Perennial Stream

Perennial streams have flows year-round. The four perennial streams in the BSA are Antelope Creek, Miners Ravine, Secret Ravine, and Highland Ravine (see Figures 2.16-1a–f, 2.16-2a–f, and 2.16-3a–f). Segments of all four perennial streams are located within areas designated as Open Space. Additional information about the perennial streams is provided in the wetland delineation report.

2.17.2.2 Intermittent Stream

The four intermittent streams in the BSA are characterized by a relatively well-defined channel and convey water on a somewhat consistent basis during the wetter times of the year. The sources of flows for the intermittent streams are precipitation and sheet flow from the adjacent uplands, including the abutting retail and residential areas. Two of the intermittent streams occur east of Antelope Creek, and one is located south of Miners Ravine.

2.17.2.3 Ephemeral Drainage

The five ephemeral drainages in the BSA are characterized by less well-defined channels (i.e., more swale-like) and convey water only during, and for a short duration following, precipitation events. Ephemeral drainages occur in the western portion of the BSA in the vicinity of SR 65.

2.17.2.4 Riparian Forest/Shrub Wetland

Riparian forest/shrub wetlands in the BSA consist of areas within riparian habitat that meet all three federal wetland criteria (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology). The riparian forest/shrub wetlands are located on the east side of Antelope Creek, in the southern portion of the BSA, and southwest of the Galleria Boulevard/ Stanford Ranch Road interchange. The vegetative composition of riparian forest/shrub wetlands is similar to riparian forest.

2.17.2.5 Emergent Wetland

Emergent wetlands in the BSA are characterized by the presence of emergent vegetation and perennial hydrology. The emergent wetlands occur near Antelope Creek, between Taylor Road and the railroad tracks, southeast of Highland Ravine, and on the southern side of SR 65 west of the Galleria Boulevard/Stanford Ranch Road interchange. The vegetation in emergent wetlands includes narrowleaf cattail (*Typha angustifolia*), pennyroyal (*Mentha pulegium*), false waterpepper (*Persicaria hydropiperoides*), hardstem bulrush (*Schoenoplectus acutus*), rough cocklebur (*Xanthium strumarium*), and variable flatsedge (*Cyperus difformis*).

2.17.2.6 Seasonal Wetland

Seasonal wetlands in the BSA lack the plant species identified below as typically occurring in vernal pools. Additionally, although some of the plant species that inhabit seasonal wetlands also occur in emergent wetlands, the seasonal wetlands lack the perennial hydrology of the emergent wetlands (i.e., the seasonal wetlands are inundated only during wetter times of year). The seasonal wetlands occur in the portion of the BSA adjacent to SR 65. Herbaceous species in seasonal wetlands include spike rush (*Eleocharis macrostachya*), tall flatsedge (*C. eragrostis*), narrowleaf cattail, Bermuda grass (*Cynodon dactylon*), pennyroyal, dallis grass (*Paspalum dilatatum*), curly dock (*Rumex crispus*), Italian ryegrass, brome fescue (*Festuca bromoides*), and hairy willowherb (*Epilobium ciliatum*).

2.17.2.7 Vernal Pool

Vernal pools are a type of seasonal wetland; however, not all seasonal wetlands are vernal pools. Vernal pools in the BSA were distinguished from areas designated as seasonal wetlands based on their vegetative composition and hydrology. The vegetation in areas identified as vernal pools includes one or more of the following species that are typically found only in vernal pools: coyote thistle (*Eryngium castrense*), doublehorn calicoflower (*Downingia bicornuta* var. *picta*), horned downingia (*D. ornatissima* var. *ornatissima*), annual hairgrass (*Deschampsia danthonioides*), smooth goldfields (*Lasthenia glaberrima*), vernal pool buttercup (*Ranunculus bonariensis* var. *trisepalus*), stalked popcornflower (*Plagiobothrys stipitatus* var. *micranthus*), and whitehead navarretia (*Navarretia leucocephala* ssp. *leucocephala*). In terms of hydrology, areas identified as vernal pools exhibited a greater depth of ponding compared to seasonal wetlands and remained inundated for a longer duration than seasonal wetlands. Many of the vernal pools in the BSA are located in the grassland that is south of the east terminus of Antelope Creek Drive. The rest of the vernal pools are located inside the cloverleaf loops on SR 65 at the exit for Stanford Ranch Road/Galleria Boulevard.

2.17.3 Environmental Consequences

2.17.3.1 Build Alternatives

Each of the build alternatives would result in permanent and temporary effects on wetlands and waters of the United States and waters of the State, including riparian forest/scrub wetland, emergent wetland, seasonal wetland, vernal pool, perennial stream, intermittent stream, and ephemeral drainage. Figures 2.16-1a–f, 2.16-2a–f, and 2.16-3a–f depict the locations of each wetland and other waters type within the BSA for each alternative.

Effects to wetlands and other waters were considered to be permanent if construction of the proposed project would result in placement of permanent fill into these features. Temporary impacts on wetlands also would occur during access for project construction, including placement of temporary fill (falsework) to construct the East Roseville Viaduct. Additional indirect impacts caused by sedimentation or modification of hydrology could occur in portions of wetlands or other waters that lie outside the project footprint.

All wetlands and drainages in the BSA qualify as both waters of the United States and waters of the State, which are regulated under the CWA and the Porter-Cologne Act. Therefore, the project proponent will comply with the CWA by obtaining a permit from the Sacramento District of the USACE, and with the Porter-Cologne Act by obtaining a permit from the Central Valley RWQCB before discharging fill into, or excavating within, federally and state-regulated waters and wetlands. The project proponent will either obtain an individual permit from the Corps or authorization under a Nationwide Permit to comply with Section 404 of the CWA. The project proponent will also obtain water quality certification from Central Valley RWQCB to comply with Section 401 of the CWA and the Porter-Cologne Act.

The functions and values of the wetlands in the BSA are considered moderate to low in consideration of multiple factors, such as the extent of past and ongoing disturbance, proximity

to roadways, plant community composition, scenic value, recreation opportunities, and abundance within the region. The riparian forest/scrub wetlands and vernal pool in the BSA are considered to have relatively moderate functions and values on the basis of their declining abundance in the region, higher proportion of native plant species, and for the riparian forest/shrub wetlands, recreation opportunities (e.g., bike trails, birdwatching). The seasonal and emergent wetlands in the BSA are considered to have relatively low functions and values because they are not unique or unusual in the region, have lower proportions of native species and plant diversity, and do not provide recreation opportunities. The proposed project is not expected to result in significant changes to the functions and values of wetlands in the BSA because permanent impacts will be small (totaling 0.275 acre) and temporarily disturbed areas will be restored to pre-project conditions.

Impacts on wetlands and other waters are common to all build alternatives. Table 2.17-1 summarizes the impacts on wetland type by build alternative.

Table 2.17-1. Impacts on Wetlands and Other Waters by Build Alternative

Wetland Type	Alternative 1		Alternative 2		Alternative 3	
	Temporary (acres)	Permanent (acres)	Temporary (acres)	Permanent (acres)	Temporary (acres)	Permanent (acres)
Riparian forest/scrub wetland	0.181	0.004	0.181	0.004	0.181	0.004
Emergent wetland	0.194	0.116	0.194	0.116	0.194	0.116
Seasonal wetland	0.066	0.115	0.066	0.115	0.066	0.115
Vernal pool*	0	0.030**	0	0.030**	0	0.030**
Perennial stream	0.056	0.034	0.000	0.004	0.000	0.007
Intermittent stream	0.000	0.003	0.000	0.003	0.000	0.003
Ephemeral drainage	0	0	0	0	0	0

* = Habitat for federally listed vernal pool fairy shrimp will be mitigated as part of the compensatory mitigation for vernal pool fairy shrimp (described in Section 2.20).

**= For purposes of calculating impacts on vernal pools and based on the sensitive nature of vernal pool hydrology, the entire pool was considered permanently affected even if temporary or permanent disturbance would occur to only a portion of the pool.

2.17.3.2 No Build Alternative

The No Build Alternative would not result in habitat modification or increases in impervious surfaces or overwater structure (shade). Therefore, the No Build Alternative would not directly affect wetlands or other waters. However, the No Build Alternative could result in indirect impacts on water quality relative to existing conditions from increased traffic congestion (WRECO 2015).

2.17.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following measures will avoid, minimize, and mitigate the permanent and temporary effects on wetlands and other waters of the U.S. and waters of the State that would be caused by all three alternatives, as listed in Table 2.17-1. The compensatory measures mitigate

for the permanent loss of wetlands and of other waters of the U.S. and waters of the State in compliance with the CWA and Porter Cologne Act.

Install Fencing and/or Flagging to Avoid and Protect Sensitive Biological Resources

Please refer to the discussion of this measure in Section 2.16.

Conduct Mandatory Environmental Awareness Training for Construction Personnel

Please refer to the discussion of this measure in Section 2.16.

Retain a Qualified Biologist to Conduct Monitoring during Construction in Sensitive Habitats

Please refer to the discussion of this measure in Section 2.16.

Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Other Waters

The construction contractor will comply with all construction site BMPs specified in the SWPPP and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment in wetlands and other waters in and adjacent to the project area. These BMPs will address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-storm water management, and waste management practices. The BMPs will be based on the best conventional and best available technology.

The project is subject to storm water quality regulations established under the NPDES program, described in Section 402 of the CWA. In California, the NPDES program requires that any construction activity disturbing 1 or more acres comply with the statewide General Permit, as authorized by the State Water Board. The General Permit requires elimination or minimization of non-storm water discharges from construction sites and development and implementation of a SWPPP for the site. The primary elements of the SWPPP include the following.

- Description of site characteristics—including runoff and streamflow characteristics and soil erosion hazard—and construction procedures.
- Guidelines for proper application of erosion and sediment control BMPs.
- Description of measures to prevent and control toxic materials spills.
- Description of construction site housekeeping practices.

In addition to these primary elements, the SWPPP will specify that the extent of soil and vegetative disturbance will be minimized by control fencing or other means and that the extent of soil disturbed at any given time will be minimized. The SWPPP must be retained at the construction site.

The BMPs will be selected to achieve maximum sediment removal. The BMPs will represent the best available technology that is economically achievable and are subject to review and approval

by Caltrans. Routine inspections of the construction area will be performed to verify that the BMPs are properly implemented and maintained.

The BMPs will include, but are not limited to, the following.

- Conduct all earthwork or foundation activities involving wetlands and other waters in the dry season (generally between June 15 and October 15, may vary based on weather). Conduct all in-water work within streams that provide anadromous fish habitat (Antelope Creek, Miners Ravine, and Secret Ravine) between June 15 and October 15.
- Use only equipment in good working order and free of dripping or leaking engine fluids when working in and around drainages and wetlands. Perform all vehicle maintenance at least 300 feet from all drainages and wetlands. Conduct any necessary equipment washing where the water cannot flow into drainages or wetlands.
- Develop a Hazardous Material Spill Prevention Control and Countermeasure Plan before construction begins. The plan will include strict onsite handling rules to keep construction and maintenance materials from entering the river, including procedures related to refueling, operating, storing, and staging construction equipment, as well as preventing and responding to spills. The plan also will identify the parties responsible for monitoring the spill response. During construction, any spills will be cleaned up immediately according to the spill prevention and countermeasure plan.
- Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water.
- Measure baseline turbidity, pH, specific conductance, and temperatures in Antelope Creek, Miners Ravine, and Secret Ravine. As required by the Central Valley RWQCB, avoid exceeding water quality standards specified in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins over the natural background conditions.
- Prevent discharge of turbid water to Antelope Creek, Miners Ravine, Secret Ravine, and tributary drainages during any construction activities by filtering the discharge first using a filter bag, diverting the water to a settling tank or infiltration areas, and/or treating the water in a manner to ensure compliance with water quality requirements prior to discharging water to Antelope Creek, Miners Ravine, Secret Ravine or any drainage ditch, wetland, or other aquatic habitat.
- Prevent discharge of concrete to Antelope Creek, Miners Ravine, Secret Ravine or any other aquatic habitat as concrete is being poured, as required by the NPDES permit.
- Dispose of any surplus concrete rubble, asphalt, or other rubble from construction at a local landfill.
- Prepare and implement an erosion and sediment control plan for the proposed project. The plan will include the provisions and protocols listed below. The SWPPP for the project will detail the applications and type of measures and the allowable exposure of unprotected soils.

- Make discharge from dewatering operations, if needed, and runoff from disturbed areas conform to the water quality requirements of the waste discharge permit issued by the Central Valley RWQCB.
- Apply temporary erosion control measures, such as sandbagged silt fences, throughout construction of the proposed project that will be removed after the working area is stabilized or as directed by the engineer. Soil exposure will be minimized through use of temporary BMPs, groundcover, and stabilization measures. Exposed dust-producing surfaces will be sprinkled daily, if necessary, until wet; this measure will be controlled to avoid producing runoff. Paved roads will be swept daily following construction activities.
- Conduct periodic maintenance of erosion and sediment control measures.
- Plant an appropriate seed mix of native or naturalized species on disturbed areas upon completion of construction.
- Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1. All stockpile areas will be surrounded by a filter fabric fence and interceptor dike.
- Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattles, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
- Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) to control erosion from disturbed areas as necessary.
- Avoid earth or organic material from being deposited or placed where it may be directly carried into nearby wetlands or other waters.

The project proponent also will obtain a 401 Water Quality Certification from the Central Valley RWQCB and an LSAA from CDFW that may contain additional BMPs and water quality measures to ensure the protection of water quality.

Compensate for Temporary and Permanent Impacts on Wetlands

To compensate for temporary and permanent project impacts on seasonal wetland, freshwater emergent wetland, and riparian forest/scrub wetland, the project proponent will purchase credits at an approved mitigation bank to ensure no net loss of wetland functions and values. Vernal pool mitigation will be coordinated with compensatory mitigation for listed vernal pool fairy shrimp, such that mitigation for loss of listed species habitat does not duplicate mitigation for loss of USACE-jurisdictional vernal pool habitat. Mitigation banks with service areas for Placer County include Laguna Terrace East Conservation Bank, Reeds Creek Vernal Pool Preserve,

Twin Cities Conservation Bank and Preserve, Toad Hill Ranch Mitigation Bank, and Western Placer Schools Conservation Bank. The minimum wetland compensation ratio will be 1:1 (1 acre of wetland habitat credit for every 1 acre of impact) to ensure no-net-loss of wetland habitat functions and values.

The construction contractor will be required to implement the conditions and requirements of state and federal permits that will be obtained for the proposed project.

Compensate for Placement of Permanent Fill in Waters of the United States/Waters of the State

The project proponent will compensate for the permanent fill of other waters of the United States and waters of the State (a direct impact associated with roadway construction). Temporarily disturbed waters of the United States will be returned to pre-construction condition following construction. The project proponent will purchase compensatory credits at a USACE-approved mitigation bank to ensure no net loss of functions and values. As discussed previously, mitigation banks with service areas for Placer County include Laguna Terrace East Conservation Bank, Reeds Creek Vernal Pool Preserve, Twin Cities Conservation Bank and Preserve, Toad Hill Ranch Mitigation Bank, and Western Placer Schools Conservation Bank. The minimum other waters compensation ratio will be 1:1 (1 acre of other waters habitat credit for every 1 acre of permanent impact) to ensure no net loss of habitat functions and values.

The construction contractor will be required to implement the conditions and requirements of state and federal permits that will be obtained for the proposed project.

2.17.5 References Cited

- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. (Technical Report Y-87-1.) Vicksburg, MS: U.S. Army Waterways Experiment Station.
- ICF International. 2014. *Delineation of Potential Waters of the United States, Including Wetlands for the I-80/SR 65 Interchange Improvements Project*. Prepared for CH2M HILL. Sacramento, CA. May.
- U.S. Army Corps of Engineers. 2008a. *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region (Version 2.0)*. J. S. Wakeley, R. W. Lichvar, and C. V. Noble (eds.). (ERDC/EL TR-08-28.) U.S. Army Engineer Research and Development Center. Vicksburg, MS.
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