

2.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant with Mitigation	Less-than-Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2.10.1 Environmental Setting

2.10.1.1 Existing Conditions

Information in this section is based on the Stormwater Data Report (WRECO 2014a), Water Quality Assessment Report (WRECO 2014b), Water Quality Technical Memo (ICF 2014), and the Water Quality Technical Errata (ICF 2020) prepared for the Project. The Water Quality Assessment Report has been included in **Appendix I**.

Surface Water Hydrology

The Bay Bridge marks the border of the Central San Francisco Bay (Central Bay) of the Central Basin, and the Lower San Francisco Bay (Lower Bay) of the South Bay Basin watersheds. Therefore, the Project area is located within both watersheds. Runoff flows into storm drains that ultimately discharge into the San Francisco Bay. The western connection of the Link to the Bay Bridge Trail (refer to Segment 5 in **Figure 1-3**) is the portion of the Link that is the closest to the San Francisco Bay (approximately 0.08 mile or 420 feet). The potential stormwater treatment area beneath I-880 on the south side of West Grand Avenue supports an earthen drainage ditch. As described in Section 2.4, *Biological Resources*, the ditch is considered a water of the State and a potential water of the United States because of its vegetation, location near the Bay, and direction of flow towards the Bay (**Figure 1-9**).

Groundwater Hydrology

The Project area is located in the East Bay Plain subbasin of the Santa Clara Valley Groundwater Basin (Basin No. 2-9.04) which is approximately 77,800 acres. The East Bay Plain Basin extends beneath the San Francisco Bay to the west. The regional direction of groundwater flow is generally southwestward toward San Francisco Bay. Shallow groundwater beneath the Project area is hydraulically connected to the Bay; its flow direction is highly variable due to its perched nature within Bay Muds and tidal fluctuation. Shallow groundwater in the Project area typically varies from 2 to 6 feet below ground surface (bgs) (**Appendix H, Preliminary Foundation Report**).

Flooding

The Project area is not located within a 100-year flood hazard area designated by the Federal Emergency Management Agency (FEMA) (FEMA 2018). It is located within the unshaded FEMA-designated flood Zone X/0.2 percent flood hazard, which indicates an area of minimal flood hazard. These areas are outside the Special Flood Hazard Area (SFHA) but with some areas lower than the elevation of the 0.2-percent-annual-chance (or 500-year) flood. The western end of the Project area is located near (but not within) Zone VE, the 100-year floodplain for coastal areas, along the San Francisco Bay shoreline.

Historically, flooding was an issue in West Oakland after the tidal marshlands were developed. However, construction in 1954 of an extensive storm drain network and pump station improved stormwater drainage from West Oakland to the Emeryville Crescent. The most common flood hazards in Oakland now are all associated with excess stormwater runoff from heavy rain, including the overtopping of stream banks, the failure of storm drains, and the erosion of creek banks from high-velocity water flows.

Projected sea level rise (SLR) as an effect of climate change will increase the areas of coastal flooding along the San Francisco Bay beyond current levels. **Table 2.10-1** provides a summary of the SLR projections provided by the latest State guidance document (OPC 2018). Coastal and low-lying areas within the Project area may be vulnerable to future SLR.

Table 2.10-1. State Sea Level Rise Projections for Areas within the Project Vicinity

Time Period	OPC SLR guidance document (San Francisco, Medium-High risk Aversion Scenario; 0.5% probability)	
	Feet	
2000–2030	0.8	
2000–2050 (mid-century)	1.9	
2000–2100 (end of century)	5.7 to 6.9	

Sources: OPC 2018.

Water Quality

Surface Water

Water quality in a typical surface water body is influenced by processes and activities that take place within the watershed. Because of the urbanized nature of the Project vicinity, surface water quality in the Project area is directly affected by stormwater runoff from adjacent streets, highways, the Port of Oakland, and properties using fertilizers, pesticides, metals, hydrocarbons, and other pollutants. Typically, pollutant levels in the creeks are highest following the first storm flows of the season when constituents accumulated during the dry season are “flushed” into the creeks.

San Francisco Bay Regional Water Quality Control Board has region-wide and water body-specific beneficial uses and has set numeric and narrative water quality objectives for several substances and parameters in numerous surface waters in its region. **Table 2.10-2** presents the beneficial uses the Basin Plan lists for Central and Lower San Francisco Bay.

Table 2.10-2. Beneficial Uses of the Central and Lower San Francisco Bay

Beneficial Uses	Central Bay	Lower Bay
Industrial service supply (IND)	X	X
Industrial process supply (PROC)	X	
Commercial and sport fishing (COMM)	X	X
Shellfish harvesting (SHELL)	X	X
Estuarine habitat (EST)	X	X
Fish migration (MIGR)	X	X
Preservation of rare & endangered species (RARE)	X	X
Fish spawning (SPWN)	X	X
Wildlife habitat (WILD)	X	X
Water contact recreation (REC-1)	X	X
Noncontact recreation (REC-2)	X	X
Navigation (NAV)	X	X

Source: San Francisco Bay Regional Water Quality Control Board 2019.

X = Existing Beneficial Use

Note: There were no changes of beneficial uses between the 2013 and 2019 version of the Basin Plan.

Water quality objectives have been designated in the San Francisco Bay Basin Plan for the San Francisco Bay watershed. These objectives include criteria for parameters such as pH, dissolved oxygen, electrical conductivity, turbidity, salinity, temperature, taste and odor, oil and grease, bacteria, toxicity, unionized ammonia, and chemical constituents.

The State Water Resources Control Board (State Water Board) boundary for 303(d) impairments defines the Project area as within Central San Francisco Bay. **Table 2.10-3** shows 303(d) listed impairments for the Central San Francisco Bay based on the 2010 California Integrated Report (State Water Board 2011).

Groundwater

The San Francisco Regional Water Quality Control Board identified 13 distinct locations of major groundwater pollution within the East Bay Plain Groundwater Basin. These were identified as having plumes of contamination greater than 1,000 feet in length. Most contamination is due to release of fuels and solvents. Most contamination appears to be restricted to the upper 50 feet of the subsurface (San Francisco Bay Regional Water Quality Control Board 1999). The Project area is adjacent to industrial activities associated with the Port of Oakland, the Oakland Army Base, and Caltrans Maintenance Facility. There is ongoing hazardous materials remediation onshore in this area.

Table 2.10-3. Section 303(d) Listed Impairments for the Central San Francisco Bay

Pollutant	Source	Expected TMDL Completion Date
Chlordane	Nonpoint Source	2013
DDT (Dichlorodiphenyltrichloroethane)	Nonpoint Source	2013
Dieldrin	Nonpoint Source	2013
Dioxin compounds (including 2,3,7,8-TCDD)	Atmospheric Deposition	2019
Furan Compounds	Atmospheric Deposition	2019
Invasive Species	Ballast Water	2019
Mercury	Atmospheric Deposition Industrial Point Sources Municipal Point Sources Natural Sources Nonpoint Source Resource Extraction	2008
PCBs (polychlorinated biphenyls)	Unknown Nonpoint Source	2008
PCBs (dioxin-like)	Unknown Nonpoint Source	2008
Selenium	Exotic Species Industrial Point Sources Natural Sources	2010
Trash	Illegal dumping Urban Runoff/Storm Sewers	2021

Source: State Water Board 2011.

2.10.1.2 Regulatory Setting

Federal and State

Clean Water Act

Clean Water Act (CWA) Sections 303, 305, and 402 are applicable to the Project. CWA Sections 401 and 404 are not expected to apply to the Project, but they are included in this section to provide reasoning for inapplicability and a description as to what may trigger compliance under specific conditions.

Sections 303 and 305 – Impaired Waters and TMDLs

California adopts water quality standards to protect beneficial uses of State waters as required by Section 303(d) of the CWA and the Porter-Cologne Act. Section 303(d) of the CWA established the total maximum daily load (TMDL) process to guide the application of State water quality standards (see the discussion of State water quality standards below). In order to identify candidate water bodies for TMDL analysis, a list of water quality–limited segments was generated by the State Water Board. These stream or river segments are impaired by the presence of pollutants such as sediment and are more sensitive to disturbance because of this impairment. CWA section 305(b) requires states to develop a report assessing statewide surface water quality. Both CWA requirements are being addressed through the development of a 303(d)/305(b) Integrated Report, which addresses both an update to the 303(d) list and a 305(b) assessment of statewide water quality. The 2014/2016 California Integrated Report was approved by the U.S. EPA on April 6, 2018.

Table 2.10-3 shows 303(d) listed impairments for the Central San Francisco Bay based on the 2010 California Integrated Report. All of the 303(d) listed impaired waters with potential to be impacted by the Project will be evaluated as part of the Project, and minimization measures will be implemented to protect waters from further impairment.

Section 401—Water Quality Certification

Section 401 of the CWA requires that an applicant pursuing a federal permit to conduct an activity that may result in a discharge of a pollutant obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States.

The Project is not expected to require a Water Quality Certification. The Project includes a potential stormwater treatment area located under I-880 where there is earthen drainage ditch. If it is determined that wetland fill or discharge would occur, a 401 Certification would be obtained.

Section 402—NPDES Program

Section 402(p) requires permits for discharges of storm water from industrial, construction and municipalities. The State Water Board and Regional Water Boards administer this permitting program in California. Below are NPDES permits relevant to the Project:

- The Municipal Storm Water Permitting Program regulates storm water discharges from 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 storm water.” The Project will comply with the requirements of the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (San Francisco Bay MRP) (Order No. R2-2015-0049). More information on the San Francisco Bay MRP is in the *Regional and Local* Section.
- The Caltrans MS4 Permit was amended in November 2017 (Order 2012-0011-DWQ [NPDES CAS000003, as amended by Order 2014-0006-EXEC], Order 2014-0077-DWQ, Order 2015-0036-EXEC, and ORDER WQ 2017-0026-EXEC), NPDES Statewide Stormwater Permit, Waste Discharge Requirements (WDRs) for Caltrans (Caltrans MS4 Permit). It regulates all discharges from Caltrans MS4s and maintenance facilities. This Order does not regulate discharges from Caltrans’ construction activities, including dewatering effluent discharges from construction projects. Instead, Caltrans is required to obtain coverage under a NPDES Construction General Permit (described below) and develop a SWPPP. Caltrans’ SWMP describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. The last SWMP was adopted in July 2016. This Project Planning and Design Guide (PPDG), last updated in April 2019, was prepared in support of the SWMP. It provides guidance on the process and procedures for evaluating Project scope and site conditions to determine the need for and feasibility of incorporating BMPs into projects, as well as for incorporating those stormwater quality controls into projects during the planning and design phases. The Caltrans’ Statewide NPDES Storm Water Permit applies because portions of the Project lie within Caltrans’ right-of-way. Based on the Caltrans Project Planning and Design Guide (2019), the Project is required to implement treatment BMPs because it would result in a net increase of more than 1 acre of new impervious surface. Treatment BMPs would be considered to avoid and minimize impacts to water resources to the maximum extent practicable.

- The NPDES Construction General Permit (Order No. 2009-009-DWQ, as amended by 2012-0006-DWG), adopted on November 16, 2010, became effective on February 14, 2011. The permit regulates storm water 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. The Project would disturb approximately 9 acres of land (TYLIN 2014b), and therefore is subject to the Construction General Permit requirements.

Section 404—Dredge/Fill Permitting

Section 404 of the CWA regulates placement of fill materials into the waters of the United States. Section 404 permits are administered by the USACE.

The Project may be required to obtain a Section 404 Permit if permanent Project features or construction occurs within federal jurisdictional waters. The Project includes a potential stormwater treatment area located under I-880 where there is earthen drainage ditch has been identified. This drainage ditch has been identified as a water of the State and a potentially jurisdictional water of the United States.

Porter-Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act (Porter-Cologne Act), established in 1969 under Division 7 (Water Quality) of the California Water Code (CWC), complements the CWA. It established the State Water Board and divided the State into nine regions, each overseen by a Regional Water Board. The State Water Board is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies, although much of its daily implementation authority is delegated to the Regional Water Boards, which are responsible for implementing CWA Sections 401, 402, and 303(d). In general, the State Water Board manages both water rights and statewide regulation of water quality, while the Regional Water Boards focus exclusively on water quality within their regions.

The Porter Cologne Act provides for the development and periodic review of Water Quality Control Plans (basin plans) for each region. Basin plans identify beneficial uses of water bodies and their tributaries and water quality objectives to protect those uses. Basin plans are implemented primarily by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met. Basin plans are updated every 3 years and provide the technical basis for determining WDRs and taking enforcement actions.

Protection of beneficial uses and compliance with water quality objectives apply to all waters that could potentially be affected by the Project, which includes an earthen drainage ditch located under I-880, offsite waters receiving stormwater runoff via storm drains or sheet flow originating from the Project area, and the San Francisco Bay. Beneficial uses for the San Francisco Bay are listed above in the *Environmental Setting* section.

State Executive Order S-13-08 on Sea Level Rise

Executive Order S-13-08, issued on November 14, 2008, directed State agencies to plan for SLR and coastal impacts. That executive order also requested the National Research Council (NRC) to issue a report on SLR to advise California on planning efforts. The final report from the NRC, *Sea-Level Rise for the Coasts of California, Oregon, and Washington*, was released in June 2012.

The Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), led by the Ocean Protection Council (OPC), developed the *State of California Sea-Level Rise Guidance Document* for State agencies to incorporate SLR into planning and decision making for projects in California (http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013_SLR_Guidance_Update_FINAL1.pdf). The

document was developed in response to Executive Order S-13-08. The *State of California Sea-Level Rise Guidance Document* was last updated in March 2013 with the scientific findings of the 2012 NRC report.

In the CO-CAT SLR guidance document (CO-CAT 2013), three SLR projections based on time periods (2030, 2050, and 2100) were selected for south of Cape Mendocino using year 2000 as the baseline. SLR projections based on the *State of California Sea-Level Rise Guidance Document* are described later in this section. The Gateway Park Working Group will consider the CO-CAT SLR guidance document for Project planning and decision making.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA) is a comprehensive three-bill package that Governor Jerry Brown signed into California State law in September 2014. The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for State intervention only if necessary to protect the resource. The plan is intended to ensure a reliable groundwater water supply for California for years to come. SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge.

The Project area is in the East Bay Plain subbasin of the larger Santa Clara Valley groundwater basin, which is designated as a medium-priority basin. SGMA requires local agencies to form groundwater sustainability agencies (GSAs) by June 30, 2017, and prepare groundwater sustainability plans (GSPs) by January 31, 2022, for medium-priority basins to manage the sustainability of groundwater basins. GSAs for all high- and medium-priority basins, as identified by the Department of Water Resources, must adopt a GSP or submit an alternative to a GSP. Groundwater in the basin is managed by the East Bay Municipal Utility District and the City of Hayward as the GSA for the East Bay Plain subbasin. The GSP for the East Bay Plain subbasin manages groundwater in the basin and extends across portions of Contra Costa County and Alameda County. Development of the East Bay Plain subbasin GSP is ongoing and estimated to be completed in 2022.

Regional and Local

Waste Discharge Requirements for Dewatering and Other Low-Threat Discharges to Surface Waters

The Porter-Cologne Act also includes the WDRs Program, which regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Every Regional Water Board implements the program autonomously. The San Francisco Bay Regional Water Quality Control Board has established WDRs for some dewatering activities. While temporary construction-related dewatering of small volumes of water are typically covered under the General Construction Permit, the San Francisco Bay Regional Water Quality Control Board has regulations specific to dewatering activities that typically involve reporting and monitoring requirements. At a minimum, the San Francisco Bay Regional Water Quality Control Board will need to be notified of the nature and type of dewatering discharge. The following two permits are required for specific types of dewatering:

- NPDES Permit No. CAG912002, General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOCs), Fuel Leaks, Fuel Additives, and Other Related Wastes (VOC and Fuel General Permit) (Order No. R2-2017-0048), covers dewatering discharges of groundwater contaminant with fuel or solvent.

- Groundwater General Permit (Order No. 2018-0026) covers dewatering discharges of groundwater greater than 10,000 gallons per day and requiring treatment for pollutants other than fuels and VOCs.

Should groundwater be encountered and discharged into surface waters during construction activities, the Project would be in compliance with the appropriate requirements.

San Francisco Bay Municipal Regional Stormwater Permit

Stormwater discharges in the City of Oakland are permitted under the San Francisco Bay MRP. The San Francisco Bay MRP is a regional collaborative effort to consolidate six Phase I municipal NPDES permits into one consistent permit. The MRP is the governing document which identifies stormwater discharge limits and BMPs, which refer to a wide variety of pollution prevention systems or efforts. In compliance with the MRP, the City of Oakland, along with other 17 other Alameda County cities, forms the Alameda Countywide Clean Water Program (ACCWP).

Provision C.3 of the SF Bay MS4 Permit is for New Development and Redevelopment projects authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of LID techniques including infiltration and biotreatment. The provision also states that “all projects regardless of size should consider incorporating appropriate source control and site design measures that minimize stormwater pollutant discharges to the maximum extent practicable [MEP]...” Regardless of a project’s need to comply with Provision C.3, municipalities apply the MEP standard, including standard stormwater conditions of approval for projects that receive development permits. More information on the Project’s applicability to these requirements is provided in the discussion of the Alameda Countywide Clean Water Program (ACCWP) below.

Alameda Countywide Clean Water Program

The Alameda Countywide Clean Water Program (ACCWP) maintains compliance with the NPDES permit requirements by requiring: local agencies to address storm water quality during development review, the utilization of water quality BMPs during Project construction, and the reduction of long-term water quality impacts using site design and source control measures.

The ACCWP has developed a C.3 Stormwater Technical Guidance (Version 6.0, October 2017) to assist developers and engineers in complying with treatment and hydromodification requirements. The MRP provides provisions and requirements for permanent stormwater treatment. Stormwater treatment measures are required to reduce the sediment and pollutant load resulting from the loss of pervious area and creation of impervious area. The permit sets impervious area thresholds for requiring projects to implement permanent stormwater treatment measures. The thresholds applicable for the Project include requiring permanent stormwater treatment measures when 10,000 sf or more of impervious roadway area is created or replaced. If a project creates and/or replaces impervious area equal to more than 50 percent of the existing impervious area not previously requiring treatment, then the project must provide treatment for all existing and newly created impervious area.

In addition to permanent stormwater treatment requirements, the MRP provides provisions and requirements for hydromodification mitigation. Hydromodification is defined as the alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources. In the case of a stream channel, this is the process whereby a stream bank is eroded by flowing water. This typically results in the suspension of sediment in the water course. Under the permit, projects subject to hydromodification management (HM) requirements are required to evaluate

hydromodification impacts to downstream water bodies and implement mitigation measures where appropriate.

Under the ACCWP, a Project requires hydromodification management (HM) if the Project creates and/or replaces one acre or more of impervious surface; increases impervious surface over pre-Project conditions; and is located in a susceptible area as shown on the HM Applicability Map. More specifically, all projects are required to comply with the HM requirements if it meets the following applicability criteria:

- The Project creates and/or replaces one acre or more of impervious surface,
- The Project will increase impervious surface over pre-Project conditions, AND
- The Project is located in a susceptible area, as shown on the default susceptibility map.

ACCWP guidance shows a schematic view of a portion of the hydromodification susceptibility map. The full map may be downloaded from the Clean Water Program website¹² in an interactive format that enables zooming to a closer view of the Project vicinity with local streets. The requirements do not apply to projects that drain directly to the bay or tidal channels nor to projects that drain into channel segments that have been hardened on three sides and/or are contained in culverts continuously downstream to their outfall in a tidal area.

The Project will comply with requirements and any relevant stormwater guidance documents from ACCWP in Project planning and design. Because the Project involves the addition and/or replacement of greater than 10,000 sf (approximately 3 acres or 130,680 sf), it is subject to C.3 requirements. However, because the Project is located within an area that is tidally influenced, it is not subject to ACCWP hydromodification requirements.

City of Oakland General Plan Open Space, Conservation and Recreation Element

The OSCAR Element (City of Oakland 1996) includes the following policies relevant to the Project and protecting water quality.

- **Policy CO-5.3: Control Urban Runoff.** Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program, to: a) reduce water pollution associated with stormwater runoff; and b) reduce water pollution associated with hazardous spills, runoff from hazardous material areas, and improper disposal of wastes.
- **Policy CO-6.5: Protection of Bay and Estuary Waters.** Protect the surface waters of the San Francisco Estuary system, including San Francisco Bay.

City of Oakland Grading Ordinance

As a permittee under the San Francisco Bay MRP, the City of Oakland established a Grading Ordinance, which requires a permit for grading activities on private or public property for projects that exceed certain criteria, such as amount of proposed excavation, area of lane disturbance, degree of site slope, and depth of excavation. The purpose of the Grading Ordinance is to protect surface water quality by prevention of soil erosion and the transport of soil sediments, which may result from grading operations if sediment and erosion control measures/BMPs are not implemented.

The Project is expected to result in a land disturbance greater than one acre and a volume of excavation and/or fill of 50 cubic yards or greater. Thus, the Project proponent would be required to obtain a grading permit from the City of Oakland Director of Planning and Building prior to earthwork.

¹² https://cleanwaterprogram.org/images/uploads/C3TG_v6_Oct_2017_Appendix_I_HM_Map.pdf.

City of Oakland Standard Conditions of Approval

As stated in Section 1.7.2, *Permits/Approvals*, the Oakland SCA includes conditions of approval for projects. The following SCAs (summarized below) are relevant because Project construction requires ground disturbance and a grading permit.

48. Erosion and Sedimentation Control Plan for Construction. If a grading permit is required by the Oakland Grading Regulations pursuant to Section 15.04.660 of the Oakland Municipal Code, the grading permit application shall include an erosion and sedimentation control plan with measures to control erosion and prevent excessive stormwater runoff carrying solid materials from grading operations to adjacent lands, storm drains and water ways.

49. State Construction General Permit. All projects that disturb one acre or more of surface area shall comply with the Construction General Permit issued by the State Water Board prior to approval of a construction-related permit.

53. NPDES C.3 Stormwater Requirements for Regulated Projects. All Regulated Project under the NPDES C.3 Requirements would require a Post-Construction Stormwater Management Plan and Maintenance Agreement.

2.10.2 Discussion of Potential Impacts

- a. **The Project would have a less-than-significant impact with mitigation for potential violation of water quality standards or waste discharge requirements and would not substantially degrade surface or groundwater quality**

Surface Water

Project construction activities, such as site grading and stockpiling, could temporarily affect water quality by introducing sediments, turbidity, and pollutants associated with sediments into storm drains or other water bodies. Construction-related activities that expose and move soils are primarily responsible for sediment releases. Non-sediment potential contaminants that could enter water runoff from the construction site include oil, gasoline, petroleum products, and trash. Implementation of **Mitigation Measures HYD-1** (A Toxic Materials Spill Prevention and Response Plan) would reduce this impact to less than significant by regulating the use of petroleum-based products (fuel and lubricants) and other potentially toxic materials associated with Project construction.

The Project would disturb approximately 9 acres of land and, therefore, will be required to obtain a NPDES Construction General Permit, and prepare and implement a SWPPP. The SWPPP will include BMPs to protect stormwater runoff and monitor BMP effectiveness. At a minimum, BMPs will include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The SWPPP would specify properly designed centralized storage areas that keep these materials out of the rain. If grading must be conducted during the rainy season, the primary BMPs selected will focus on erosion control (i.e., keeping sediment on the site). More examples of construction BMPs are provided in the Project WQAR in **Appendix I**, (Section 5.2.3, *List of Proposed Temporary Construction Site BMPs*).

The Project has the potential to result in other construction water quality impacts, such as those that can result from wetland dredge and fill. The potential stormwater treatment area beneath I-880 on the south side of West Grand Avenue supports an earthen drainage ditch (**Figure 1-9**). As described in Section 2.4, *Biological Resources*, the ditch is considered to be a water of the State and a potentially jurisdictional water of the United States because of its vegetation, location near the Bay, and direction of flow toward

the Bay. A formal wetland delineation has not been conducted because the Project design has not been finalized; therefore, these conclusions are based on a reconnaissance-level site visit and desktop review of aerial imagery. Should the area be chosen as a stormwater treatment area, it could affect the ditch (via dredge or fill) to improve overall offsite/onsite drainage conditions. If this occurs, permits for potential impacts on jurisdictional waters, such as CWA Section 404 (USACE 404 Permit) and 401 (401 Water Quality Certification), California Department of Fish and Game Code 1602 (Streambed Alteration Agreement), would be obtained. However, these permits are not anticipated because it is possible to avoid the earthen drainage ditch.

Once constructed and operating, stormwater runoff from the Link and increased impervious surfaces would likely eventually discharge to the San Francisco Bay via existing storm drains or surface flow. As described in Section 1.3.4.8, stormwater on the elevated structure would likely drain off at downspouts at the columns, and continue as surface flows or be conveyed to an existing drainage system, depending on the existing drainage patterns and facilities at each location. As described in Section 1.3.4.8, the Project proposes approximately 0.93 acres of stormwater treatment, either vegetated flow-through treatment areas or bio-treatment basins, beneath the elevated path and/or in vacant areas by freeways and the proposed Wood Street parking lot. The vegetative areas would be designed to provide natural infiltration of stormwater runoff, increase drainage capacity, reduce the potential for flooding, and help filter out contaminants through biological processes. All areas under consideration for stormwater treatment options are within the Project area (**Figure 1-9**). In addition, expansion of Link network connectivity could potentially result in increased use of bikes for transportation and decreased use of cars, which could result in decreases in stormwater pollutants generated by car use such as oils, grease, and metals. Therefore, the Project would have a less-than-significant impact on surface water quality.

Groundwater

Project construction and operation could also affect groundwater quality. As described in Section 1.6.1, it is estimated that the Project would result in up to approximately 2,600 cubic yards of cut material. During excavation, soils would be tested for contamination. Clean soils would be used or sold for reuse at nearby construction sites. Contaminated soils would be disposed at an appropriate facility.

As described in Section 2.9.1, the Project area includes two sites identified as *recognized environmental concerns* in the Phase I ISA. Both sites are located near the cross-section of West Grand Avenue and Maritime Street. Implementation of **Mitigation Measures HAZ-1** (Prepare Phase II ESA) and **HAZ-2** (Implement Engineering Controls and Best Management Practices) would ensure soil in these areas is investigated prior to soil disturbance. If hazardous substances are found in the soil during construction activities, they would be properly disposed of in a hazardous waste facility or remediated to appropriate levels prior to reuse.

Project construction would require excavation up to 3 feet deep for at-grade portions of the path, Wood Street parking lot, and stormwater treatment areas, and up to 5 feet deep for the elevated Link column footings. The elevated path requires approximately 45 supporting columns whereby piles would be driven 50–60 feet deep. Shallow groundwater in the Project area typically varies from 2–6 feet below ground surface. Therefore, dewatering activities are likely to occur during installation of supporting piles. Water extracted during dewatering (i.e., removal of groundwater by pumping), if required, could contain chemical contaminants (either from pre-existing sources or from equipment), or could become sediment-laden from construction activities. If dewatering to surface waters is required, the contractor would either properly treat the water prior to discharge or dispose of the water at a hazardous waste facility to prevent any discharge of contaminated dewatered groundwater into the storm drain system that could ultimately contaminate surface waters. These activities would be in compliance with applicable groundwater

discharge requirements, such as the San Francisco Regional Water Quality Control Board dewatering requirements, and the NPDES Construction General Permit.

The SWPPP for construction would include spill cleanup and prevention measures to minimize the potential for contamination of groundwater that could occur from accidental spills during construction (e.g., fuels, solvents, etc.).

Once the Project is constructed and operating, groundwater could be affected by infiltration of polluted runoff from the new Link, parking lot and other impervious surfaces. As described above, the Project includes stormwater treatment, either vegetated flow-through treatment areas or bio-treatment basins, beneath the elevated path and/or in vacant areas by freeways and the proposed Wood Street parking lot. The vegetative treatment areas would help filter out contaminants through biological processes prior to reaching groundwater aquifers. In addition, the Link is not expected to generate additional pollutants that could contaminate groundwater with increased bicycle and pedestrian use. Therefore, the Project would have a less-than-significant impact on groundwater quality.

In summary, potential impacts of the Project on surface water and groundwater quality would be less than significant with implementation of **Mitigation Measure HYD-1** (Prepare and Implement a Toxic Materials Spill Prevention and Response Plan) and compliance with permitting requirements specified in the NPDES Construction General Permit, Caltrans' Statewide NPDES Storm Water Permit, municipal stormwater requirements, dewatering requirements, and local stormwater ordinances, including Oakland Grading Ordinance and Oakland SCAs, as applicable.

b. The Project would have a less-than-significant impact as a result of potentially decreasing groundwater supplies or interfering with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

As described above, Project construction would require excavation up to 3 feet deep for at-grade portions of the path, Wood Street parking lot, and stormwater treatment areas, and up to 5 feet deep for the elevated Link column footings. The elevated path requires approximately 45 supporting columns whereby piles would be driven 50–60 feet deep.

Given the potentially shallow subsurface water levels (2 to 6 feet), groundwater could flow into excavations that extend below the groundwater table. In the event that groundwater is encountered during excavation activities, common practices employed to facilitate construction include either dewatering or shoring the sides of the excavation to reduce groundwater inflow. If dewatering methods are used, groundwater would be pumped out and then discharged typically to either a nearby storm drain leading to the San Francisco Bay. Should groundwater dewatering be necessary during construction, it would be temporary and likely consist of small volumes of water since the column footings and supporting piles would be narrow and cover an overall small area. The Project would be in compliance with dewatering and stormwater requirements, as applicable.

No excavation would occur during Project operation. Therefore, no dewatering would be necessary, and the Project would not contribute to depletion of groundwater supply during operation.

Of the 2.98 acres of proposed new and replaced impervious area, the Project would add 1.68 acres (or 73,180 sf) of new impervious space (conversion of existing pervious to impervious area) within the Project area that would result in a slight decrease of groundwater infiltration. Recharge is determined by the ability for water to infiltrate into the soil. However, the Project includes providing 0.93 acres (or 40,510 sf) of vegetated stormwater treatment area. The new stormwater treatment areas will promote soil infiltration and groundwater recharge. The ability for groundwater infiltration within the Project area would be similar to if not the same as existing conditions. In addition, any water supply needed for Project construction

(e.g., dust control) or operation (e.g., landscaping) would be provided by the EBMUD. There are no groundwater supply wells within the Project area, and the Link would not utilize or deplete local groundwater supplies during operation. Therefore, the Project would not decrease groundwater supply during Project construction or operation or impede sustainable groundwater management of the basin, and this impact would be less than significant.

c. The Project would have a less-than-significant impact as a result of potentially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surface, in a manner that could:

(i) Result in substantial erosion or siltation onsite or offsite.

Construction and operation of the Project would have the potential to alter drainage patterns through temporary and permanent changes to the topography and hydrology through new impervious area or minor modifications to storm drainage flow.

During construction, approximately 9 acres of paved and unpaved land would be disturbed from grading and excavation activities necessary to install the elevated and at-grade portions of the Link, the Wood Street parking lot, and the stormwater treatment areas. The areas under consideration for stormwater treatment (**Figure 1-9**) would remain unpaved and pervious. Construction staging would occur on disturbed or paved areas away from drainages. Land disturbance during construction could temporarily alter localized drainage patterns at the localized site, but would not alter overall drainage patterns in the area. BMPs specified in the Project SWPPP for compliance with the NPDES Construction General Permit would minimize erosion or siltation onsite or offsite. Small portions of the elevated path alignment and the Wood Street are currently unpaved and would be permanently converted to pavement.

Once constructed and in operation, the Project would add approximately 1.68 acres (73,180 sf) of new impervious area from conversion of existing pervious to impervious area (WRECO 2014a), which may result in increased stormwater runoff volumes and associated polluted runoff. Stormwater from the elevated structure would flow to drains and downspouts at the supporting structure columns, and continue as surface flows or be conveyed to an existing drainage system (i.e., city stormwater collection system). Flows would also be routed to stormwater treatment areas, either vegetated flow-through treatment areas or bio-treatment basins, beneath the elevated path and/or in vacant areas by the freeways and the proposed Wood Street parking lot (**Figure 1-9**). This would depend on the existing drainage patterns and facilities at each location. No new stormwater inlets or drainage ditches would be constructed, unless necessary to avoid or minimize impacts to existing wetlands or natural drainages. In addition, with the Project area being within highly saturated soils and a tidally influenced/depositional area (as mapped by the ACCWP),¹³ it would be relatively unaffected by hydromodification, and existing drainage patterns are expected to be relatively unaffected.

The additional surface runoff volumes would be minor and would only slightly alter existing drainage patterns throughout the Project area due to existing soil and tidal conditions. It would not alter the course of a stream or river and would not result in substantial erosion or siltation onsite or offsite. Therefore, this impact is less than significant.

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

See discussion for (c)(i) above. The additional surface runoff volumes would be minor and would only slightly alter existing drainage patterns throughout the Project area due to existing soil and tidal

¹³ The Project is not located in a BCDC jurisdiction area.

conditions. Proposed stormwater treatment areas would be designed to increase drainage capacity and thereby reduce the potential for flooding. Therefore, this impact is less than significant.

(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

See discussion for (c)(i) above. Any additional surface runoff volumes would be minor and would not exceed existing or planned stormwater drainage systems. Proposed stormwater treatment areas are expected to be sufficient in offsetting impacts of new impervious area resulting from the Project. No new stormwater inlets or drainage ditches would be constructed, unless necessary to avoid or minimize impacts on existing wetlands or natural drainages. Therefore, this impact is less than significant.

(iv) Impede or redirect floodflows.

Portions within the Project area may be vulnerable to localized ponding, flooding, or storm drain overflows during a high rain event. However, the Project area is not located within a 100-year flood zone, and there are no major water crossings where overtopping or erosion of creek banks could occur. Nevertheless, should a high rain event occur during construction, construction equipment would be relocated such that flows would not be impeded or redirected. Furthermore, no new structures would impede or redirect flows.

Compliance with the Construction General Permit and implementation of the SWPPP will minimize or eliminate potential flooding impacts during construction. Stormwater runoff will ultimately be conveyed to vegetative areas that would help minimize the potential for localized ponding or flooding within the Project area. This would reduce construction-related impacts from flooding to less than significant.

SLR is a concern for the future, particularly in combination with future storm events and coastal flooding. A scenario with 100-year flood flows coincident with high tides, taking into account SLR over a 50-year or 100-year horizon, would dramatically increase the risk of flooding in the vicinity of the Project area. The Project and associated facilities would have a small footprint relative to their surrounding areas. Thus, they would not divert or increase flood risks relative to other adjacent areas associated with these events. However, future SLR may result in worsened coastal flooding events that could affect Project infrastructure. The concern is the impact of SLR on the Project, as opposed to the impact of the Project on SLR. This is because the Project is not expected to contribute to a substantial increase in GHG emissions which is known to contribute to SLR. Given court rulings (including *Ballona Wetlands* and *CBIA vs. BAAQMD*), analysis of such “impacts of the environment on the project” are not required by CEQA. BATA/Caltrans is providing this analysis as a conservative approach and for the purposes of public disclosure.

With projected SLR, the low-lying areas within the Project area would experience tidal flooding and storm flooding in the future. Based on the NOAA Sea Level Rise Viewer (NOAA 2014), daily tidal flooding is projected to occur between 2050 and 2100. It is not expected to occur prior to 2050 because a 2-foot SLR scenario does not result in direct daily flooding in the Project area. However, storm flooding would likely occasionally affect the Project area. Current storm floods are approximately 3 feet above daily tide levels. Based on the NOAA Sea Level Rise Viewer (NOAA 2014), with 1-foot SLR and storm level 3 feet above daily tide levels, storm flood impacts could begin to affect the Project area by 2050 or sooner. The majority of the structure is elevated and would not affect flooding. Furthermore, the at-grade bike paths and Wood Street parking lot would be paved and thus relatively resilient to periodic flooding. Therefore, the impact of SLR storm flooding prior to 2050 and associated risk with respect to impeding or redirecting floodflows is considered less than significant.

Sometime between 2050 and 2100, SLR may be 5 feet or greater. It is possible that sea walls or levees will be constructed to protect I-80, the toll plaza, EBMUD, and Port facilities west of I-880 as well as homes and businesses east of I-880. However, this is unknown. Therefore, although the elevated portions of the Link would not be flooded, the at-grade portions of the Link and Wood Street parking lot could be flooded daily with high tide depending on actual SLR. Daily flooding, should it occur, would prevent facility use and cause permanent damage to the facilities. Implementation of Mitigation Measure HYD-2 (Include Protection of Bike Path Facility in Planning Protection for Other Transportation Facilities) would reduce this impact to less than significant.

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

A major hazard associated with earthquakes is water inundation resulting from a tsunami or seiche. A tsunami with a wave height of 20 feet at the Golden Gate Bridge, which is likely to occur approximately once every 200 years, would result in a run-up of less than 10 feet above sea level. Further, because the Bay Area has not been adversely affected by seiches during its history within this seismically active region of California (Alameda County 2012), both a tsunami and seiche are extremely unlikely to occur. Low lying Project features which could be inundated during a seiche or tsunami include the western and eastern touchdowns and supporting column foundations of the elevated bike Link, the Wood Street parking lot, and potential stormwater treatment areas. The majority of the Project itself would likely not be inundated. In the event of Project inundation, implementation of stormwater BMPs during construction and stormwater treatment areas (vegetated flow-through treatment areas or bio-treatment basins) during operation would reduce release of pollutants due to Project inundation. Therefore, this impact would be less than significant.

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

Project construction and operation would comply with local, State, and federal regulations, including the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Caltrans MS4 Permit, NPDES Construction General Permit, Basin Plan, and the City's Municipal Code. Commonly practiced BMPs, as required by these regulations, would be implemented to control construction site runoff and reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff. As part of compliance with permit requirements during ground-disturbing or construction activities, implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the Water Quality Control Plan for the San Francisco Bay Basin. Construction runoff would also have to comply with the appropriate water quality objectives for the region. The NPDES permits listed above require stormwater discharges not to contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated beneficial uses. Therefore, the Project would not obstruct implementation of a water quality control plan.

Although there is potential shallow subsurface water levels of groundwater within the area, there is no sustainable groundwater management plan for the East Bay Plain Groundwater Basin. In addition, groundwater dewatering is not anticipated during Project construction. Groundwater would not be used during construction activities or operation. As described earlier, the Project proposes approximately 0.93 acres of stormwater treatment, either vegetated flow-through treatment areas or bio-treatment basins, beneath the elevated path and/or in vacant areas by freeways and the proposed Wood Street parking lot. The vegetative areas would be designed to provide natural infiltration of stormwater runoff to help filter out contaminants through biological processes and allow for groundwater recharge. Thus, for the reasons specified above, construction and operation of the Project would not conflict with or obstruct

implementation of a water quality control plan or sustainable groundwater management plan. Therefore, this impact would be less than significant.

2.10.3 Mitigation Measures

Mitigation Measure HYD-1: Prepare and Implement a Toxic Materials Spill Prevention and Response Plan

Caltrans/BATA will ensure the construction contractor prepares a toxic materials spill prevention and response plan before allowing construction to begin. The plan will specify BMPs to regulate the use of petroleum-based products (fuel and lubricants) and other potentially toxic materials associated with Project construction. Caltrans/BATA or their construction monitor will routinely inspect the construction site to verify that BMPs specified in the plan are properly implemented and maintained. Caltrans/BATA or their monitor will notify the construction contractor immediately if there is a noncompliance issue and will require compliance.

Mitigation Measure HYD-2: Include Protection of Link Facility in Planning Protection for Other Transportation Facilities

BATA/Caltrans will include flood protection of the Link facilities when planning for the protection of other transportation facilities in the vicinity from daily flooding. Other transportation facilities include I-80, the Bay Bridge Toll Plaza, the Maze, I-880 and connecting roadway facilities. BATA/Caltrans will work with the Port of Oakland, EBMUD, and the City of Oakland in developing flood protection measures that are determined necessary, feasible and able to protect both transportation and non-transportation assets in the Project vicinity. This measure would be implemented as part of other improvements included in broader flooding protections to protect other facilities in the area. Since daily flooding of the Project area is currently estimated to occur sometime after 2050 and then only if the higher range of SLR estimates comes to fruition, this mitigation does not require action until 10 years prior to actual predicted inundation.