

5.17 Utilities and Service Systems

UTILITIES AND SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Would the project disrupt the existing utility systems or cause a collocation accident?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Significance criteria for questions (a) through (g) established by CEQA Guidelines, Appendix G.

5.17.1 Setting

The Proposed Project would be located within the highly urbanized City and County of San Francisco and in the San Francisco Bay.

On shore, the Proposed Project would include 0.6 miles of underground transmission line installed using open trenching from Embarcadero and Potrero Substations to the landing point for the submarine cable. There would also be 0.2 miles of horizontal directional drilling at either end (0.4 miles total) where the submarine cable would transition from onshore to offshore. Underground utilities that may be encountered during these segments include buried water lines, combined storm drains/sanitary sewers, telephone, cable, fiber optic cable, natural gas, electric traffic loops, and electrical distribution lines. Overhead utilities include telephone, cable, and electrical distribution and transmission lines.

The 2.5-mile marine portion of the project would be installed underneath the seafloor parallel to the Trans Bay Cable. No other utilities were identified during PG&E's preliminary engineering in the submarine portion of the project (PG&E, 2012).

Utility services and providers are shown in Table 5.17-1 and discussed below.

Table 5.17-1. Local Utility and Service Providers

Utility or Service	Provider
Water Service	<ul style="list-style-type: none"> ▪ San Francisco Public Utilities Commission
Sewer and Storm Water Service	<ul style="list-style-type: none"> ▪ San Francisco Public Utilities Commission ▪ Port of San Francisco
Water Line Maintenance	<ul style="list-style-type: none"> ▪ San Francisco Water Department
Wastewater Collection and Treatment at the Southeast Water Pollution Control Plant	<ul style="list-style-type: none"> ▪ San Francisco Public Utilities Commission ▪ San Francisco Bureau of Street and Sewer Repair
Garbage Services	<ul style="list-style-type: none"> ▪ Recology – Golden Gate Disposal ▪ Recology – Sunset Scavenger
Landfills	<ul style="list-style-type: none"> ▪ Waste Management – Altamont Landfill until 2015 ▪ Recology – Recology Ostrom Road after 2015*
Natural Gas and Electric Service	<ul style="list-style-type: none"> ▪ San Francisco Public Utilities Commission ▪ PG&E ▪ Trans Bay Cable – City of Pittsburg

Source: PG&E, 2012.

*Proposed landfill contract is currently under environmental review in response to several legal challenges (Sabatini, 2012).

Utilities

Electricity and Natural Gas

Electrical and natural gas services within the City and County of San Francisco are provided by PG&E and San Francisco Public Utilities Commission (SFPUC). Additionally, electricity is imported into PG&E’s system from the City of Pittsburg via the Trans Bay Cable (Figure 4-2).

Water Supply

The SFPUC is a department of the City and County of San Francisco that provides drinking water, storm-water, and wastewater services to San Francisco. SFPUC’s regional water system consists of three integrated water supply and conveyance systems: Hetch Hetchy, Alameda, and Peninsula systems. The SFPUC provides potable water to 2.6 million customers in the Bay Area. Approximately one third of their water is delivered to San Francisco through a gravity flow system. The Hetch Hetchy Reservoir on the Tuolumne River produces about 85 percent of the water in the Hetch Hetchy system and can store up to 117 billion gallons. The remaining 15 percent is collected by six reservoirs in the Alameda and Peninsula watersheds (SFPUC, 2013a).

The SFPUC assisted the North San Mateo County Sanitation District in upgrading their treatment plant to produce tertiary level recycled water. This is currently used to irrigate three golf courses, two of which are located partially in San Francisco (PG&E, 2012). Additionally, the SFPUC operates a recycled water truck-fill station at the Southeast Water Pollution Control Plant that provides recycled water for dust control and soil compaction activities at no charge (SF Planning, 2012).

Service Systems

Wastewater and Stormwater

Ownership of the separate storm sewer system within the City and County of San Francisco is divided between the Port of San Francisco (for areas along the City waterfront) and Wastewater Enterprise, a branch of the SFPUC, for all other areas within the City’s jurisdiction. Although the Port of San Francisco and the SFPUC administer their stormwater programs separately, they coordinate on issues of mutual

concern and have entered into a Memorandum of Understanding for stormwater management and other water quality issues (Port of San Francisco, 2003).

Most of the stormwater in the City and County of San Francisco is collected in the San Francisco Combined Sewer System, a combined storm water and sanitary sewer system where water is treated prior to discharge to San Francisco Bay or the Pacific Ocean. The SFPUC's Wastewater Enterprise operates and maintains 993 miles of combined sewers, and operates storage facilities and three treatment plants. The City of San Francisco completed a Sewer System Master Plan in 2010 that assesses the current situation and provides a framework for future actions (SFPUC, 2010a). The Master Plan envisions retaining the existing combined storm and wastewater sewer system.

Large underground transport /storage boxes store, and provide initial treatment for stormwater around the City. The boxes are 40 feet square, and are buried at a depth of 10 feet below ground surface, resulting in the bottom of the facility located at an estimated total depth of 50 feet below ground surface. These massive storage tanks or tunnels catch combined stormwater and sewage and have a total storage capacity of about 200 million gallons. In the event that a prolonged storm event exceeds storage capacity, the wastewater is discharged to San Francisco Bay through one of 36 discharge points. These overflow discharges occur approximately 10 times per year (SFPUC, 2013b).

About 10 percent of the City's storm runoff does not flow into the City's combined system. These areas are served either by the Municipal Separate Storm Sewer Systems (the MS4 areas)³ or the Port of San Francisco for areas along the City waterfront. The Port of San Francisco operates a separate storm sewer system under an independent Stormwater Management Program developed in 2003 (Port of San Francisco, 2003). The piers along The Embarcadero and portions of Pier 70 are served by the Port of San Francisco. Parcels adjacent to 22nd and 23rd Streets, east of the Port's property line on Illinois Street, are discharged to the City's combined system. (PG&E, 2012)

Wastewater

There are three wastewater treatment plants in the City that are operated by the SFPUC. During dry weather, the Southeast Water Pollution Control Plant (WPCP) and the Oceanside WPCP provide primary and secondary treatment, and the North Point Facility can provide primary treatment during wet weather, as described below (SFPUC, 2010b):

- *Southeast WPCP* is located at 750 Phelps Street and treats 76 percent of the average annual wastewater flows. On average it provides secondary treatment for 63 mgd during dry weather, and is designed for an average of 85.4 mgd. Treated effluent is discharged 800 feet into San Francisco Bay.
- *Oceanside WPCP* is located at 3500 Great Highway and treats 20 percent of the average annual wastewater flows. It provides secondary treatment to an average dry weather flow of about 17.5 million gallons per day (mgd). It has a maximum treatment capacity of 65 mgd. Treated effluent is discharged 4.5 miles into the Pacific Ocean.

³ An MS4 is a conveyance or system of conveyances that is: (1) Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.; (2) Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.); (3) Not a combined sewer; and (4) Not part of a Publicly-Owned Treatment Works (sewage treatment plant). Polluted stormwater runoff is commonly transported through MS4s, from which it is often discharged untreated into local waterbodies. To prevent pollutants from being washed or dumped into an MS4, operators (e.g., City and County of San Francisco) must obtain a National Pollutant Discharge Elimination System (NPDES) permit and develop a stormwater management program for its stormwater discharges. (USEPA, 2013)

- *North Point Facility* is located at 111 Bay Street and operates only when it rains. This facility provides pretreatment and primary-level treatment of wastewater collected in the north part of the City during storm events and can treat 150 mgd. The facility operates on average 30 times per year (450 hours) and treats an annual average wet-weather flow of 0.7 billion gallons (4 percent of the average annual citywide wastewater flow). Treated effluent is discharged 800 feet into San Francisco Bay.

Storm and wastewater from the project area would be collected and discharged to the Southeast WPCP, or to the bay, as described above under overflow conditions.

Solid Waste Disposal

The City and County of San Francisco does not operate solid waste hauling operations. Solid waste hauling and disposal within the project area is conducted by Recology. Recology provides recycle, compost, and garbage collection services and operates recycling facilities in the City. Waste is collected through drop boxes and curbside collection. The San Francisco Board of Supervisors has mandated a goal of 75 percent waste diversion for all of San Francisco by the year 2010 and zero waste by 2020. Currently 80 percent of San Francisco's waste is diverted from the landfill (Recology, 2013). Waste is hauled to the San Francisco Dump, the local transfer station at 501 Tunnel Avenue, which is approximately four miles south of Potrero Switchyard.

There are no active solid waste disposal facilities in San Francisco. Waste is hauled by truck from the San Francisco Dump transfer station to Waste Management's Altamont Landfill, which has permitted disposal capacity through the year 2025. The City and County of San Francisco currently has a contract with Altamont Landfill that is set to expire in 2015. Altamont Landfill is located at 10841 Altamont Pass Road in Livermore, California (Waste Management, 2013).

In 2011, San Francisco signed a contract with Recology beginning after 2015 for waste to be landfilled via rail to Recology Ostrom Road Landfill, located in Wheatland, Yuba County. Recology Ostrom Road Landfill has a total design capacity of over 43 million cubic yards, has an expected closure date of 2066 and can accept up to 3,000 tons of municipal solid waste per day (CalRecycle, 2013). However, the 10-year \$112 million contract has been challenged by three separate lawsuits, including one by Waste Management, Inc., alleging improper bidding and inadequate environmental review. In response, in November 2012, Recology and the City agreed to terminate the agreement, which would effectively end the legal challenges, and share the costs of an environmental review of the proposed contract, which is expected to take a year (Sabatini, 2012).

Additional regional sanitary landfills include Ox Mountain Landfill in Half Moon Bay; BFI's Newby Island Landfill; Kirby Canyon Landfill in San Jose, Guadalupe Landfill in San Jose, and West Contra Costa Sanitary Landfill in Richmond (PG&E, 2012).

Communications

Telecommunication services are primarily provided by SBC/AT&T, with a wide range of other service providers in the market for wireless and long-distance services.

Applicable Regulations

The CPUC has primary jurisdiction over the project by virtue of its exclusive discretionary approval authority over construction, operation, and maintenance of public utility facilities. Because local governments do not have discretionary authority over this type of utility project, such projects are exempt from local ordinances. The following analysis of local regulations relating to solid waste recycling and use of reclaimed water is provided for informational purposes.

State

California Government Code – Protection of Underground Infrastructure. The responsibilities of California utility operators working in the vicinity of utilities are detailed in Section 1, Chapter 3.1, “Protection of Underground Infrastructure” (Article 2 of California Government Code §§4216-4216.9). This law requires that an excavator must contact a regional notification center at least two days prior to excavation of any subsurface installation. Any utility provider seeking to begin a project that may damage underground infrastructure can call Underground Service Alert, the regional notification center. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area. The code also requires excavators to probe and expose underground facilities by hand prior to using power equipment.

California Integrated Waste Management Board Solid Waste Policies, Plans, and Regulations. The Integrated Waste Management Act of 1989 (PRC 40050 et seq. or Assembly Bill (AB 939, codified in PRC 40000), administered by the California Integrated Waste Management Board (CIWMB), requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. This law set reduction targets at 25 percent by the year 1995 and 50 percent by the year 2000. To assist local jurisdictions in achieving these targets, the California Solid Waste Reuse and Recycling Access Act of 1991 (SWRR) requires all new developments to include adequate, accessible, and convenient areas for collecting and loading recyclable and green waste materials.

Local

San Francisco Public Works Code. The City of San Francisco includes discharge limitations for discharges to their combined sewer discharge system. San Francisco Public Works Code, Article 4.1 establishes discharge limitations for industrial wastewater discharges to the combined sewer system and requires a permit for discharge. City and County of San Francisco Department of Public Works Order No. 158170 Specifies discharge limitations for discharge to the combined sewer system in addition to those specified in Article 4.1.

Under Ordinance 175-91, non-potable water must be used for dust control and soil compaction activities during project construction if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code (SFPUC, 1991). The SFPUC operates a recycled water truck-fill station at the Southeast Water Pollution Control Plant that provides recycled water for these activities at no charge (SF Planning, 2012).

San Francisco Construction and Demolition Waste Ordinance (Ordinance 27-06). In 2006, the City adopted Ordinance No. 27-06 mandating the recycling of construction and demolition debris. Construction and demolition materials must be source-separated at the construction site or transported to a registered facility that can process mixed construction and demolition debris and divert a minimum of 65 percent of the material from landfills. (CCSF, 2006)

San Francisco Mandatory Recycling and Composting Ordinance (Ordinance 100-09). In 2009, the City adopted the Mandatory Recycling and Composting Ordinance (No. 100-09) requiring recycling separate bins for recyclables, compostables, and trash (CCSF, 2009).

San Francisco Green Building Ordinance (San Francisco Building Code 13C). The City’s Green Building Requirements include the following:

13C.4.410.2 Solid waste: Areas provided for recycling, composting and trash storage, collection and loading, including any chute systems, must be designed for equal convenience for all users to separate those three material streams, and must provide space to accommodate a sufficient quantity and type of containers to be compatible with current methods of collection (CCSF, 2010).

Applicant Proposed Measures

PG&E proposes to implement measures during the design, construction, and operation of the Proposed Project to ensure it would occur with minimal environmental impacts in a manner consistent with applicable rules and regulations. Applicant Proposed Measures (APMs) are considered part of the Proposed Project in the evaluation of environmental impacts. CPUC approval would be based upon PG&E adhering to the Proposed Project as described in this document, including this project description and the APMs, as well as any adopted mitigation measures identified by this Initial Study (see Table 5.17-2).

Table 5.17-2. Applicant Proposed Measures (APMs) Related to Utilities and Service Systems

APM Number	Issue Area
Utilities and Service Systems	
APM UTIL-1	Coordination with SFPUC Regarding Stormwater System Facilities. One of the extremely large SFPUC stormwater transport/storage boxes underlies The Embarcadero, where the northern HDD is planned. In this area, the HDD depth will be coordinated with SFPUC, in order to prevent damaging the storage box.
APM GHG-1	<p>Minimize Construction Exhaust Emissions. The following measures will be implemented during construction to further minimize the less-than-significant construction GHG emissions:</p> <ul style="list-style-type: none"> ▪ Encourage construction workers to take public transportation to the project site where feasible. ▪ Minimize construction equipment exhaust by using low-emissions or electric construction equipment where feasible. ▪ Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, such that idling is reduced as far as possible below the maximum of five consecutive minutes required by California regulation (13 CCR 2485). If a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. ▪ Minimize welding and cutting by using compression or mechanical applications where practical and within standards. ▪ Encourage use of natural gas or electric powered vehicles for passenger cars and light-duty trucks where feasible and available. ▪ Encourage the recycling of construction waste where feasible.

Table 5.17-2. Applicant Proposed Measures (APMs) Related to Utilities and Service Systems

<p>APM HM-1</p>	<p>Implementation of Hazardous Material and Emergency Response Procedures. PG&E will implement construction controls, training and communication to minimize the potential exposure of the public and site workers to potential hazardous materials during all phases of project construction. These construction practices include construction worker training appropriate to the site worker's role (see APM HM-3), and containment and spill control practices in accordance with the Stormwater Pollution Prevention Plan (see APM WQ-1). If it is necessary to store chemicals, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on site, as applicable.</p> <p>Soil that is suspected of being contaminated (on the basis of existing analytical data or visual, olfactory, or other evidence) and is removed during trenching or excavation activities will be segregated, tested, and if contaminated above hazardous levels, will be contained and disposed of offsite at a licensed waste facility. The presence of known or suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations.</p> <p>All hazardous materials and hazardous wastes will be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. Practices during construction will include, but not be limited to, the following:</p> <ul style="list-style-type: none"> ▪ Proper disposal of potentially contaminated materials. ▪ Site-specific buffers for construction vehicles and equipment located near sensitive resources/receptors. ▪ Emergency response and reporting procedures to address any potential hazardous material spills as described in PEA Section 3.9, Hydrology and Water Quality. ▪ Stopping work at that location and contacting the CUPA (SFDPH Environmental Health Section; see PEA Section 3.8.2.1 above) immediately if unanticipated visual evidence of potential contamination or chemical odors are detected. Work will be resumed at this location after any necessary consultation and approval by the CUPA or other entities as specified by the CUPA. <p>For the O&M phase of the project, existing operational hazardous substance control and emergency response plans will be updated as appropriate to incorporate necessary modifications resulting from this project. (Also see APM WQ-1 and APM WQ-3 in PEA Section 3.9.4.2)</p>
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Table 5.17-2. Applicant Proposed Measures (APMs) Related to Utilities and Service Systems

<p>APM WQ-1</p>	<p>Development and Implementation of a Stormwater Pollution Prevention Plan (SWPPP). Stormwater discharges associated with project construction activities are regulated under the General Construction Permit. Cases in which construction will disturb more than one acre of soil require submittal of a Notice of Intent, development of a SWPPP (both certified by the Legally Responsible Person (LRP)), periodic monitoring and inspections, retention of monitoring records, reporting of incidences of noncompliance, and submittal of annual compliance reports. PG&E will comply with all General Construction Permit requirements.</p> <p>Following project approval, PG&E will prepare and implement a SWPPP, which will address erosion and sediment control to minimize construction impacts on surface water quality. The SWPPP will be designed specifically for the hydrologic setting of the Proposed Project in proximity to the San Francisco Bay. Implementation of the SWPPP will help stabilize graded areas and reduce erosion and sedimentation. The SWPPP will designate BMPs that will be adhered to during construction activities. Erosion and sediment control BMPs, such as straw wattles, erosion control blankets, and/or silt fences, will be installed in compliance with the SWPPP and the General Construction Permit. Suitable soil stabilization BMPs will be used to protect exposed areas during construction activities, as specified in the SWPPP. During construction activities, BMPs will be in place to address construction materials and wastes.</p> <p>BMPs, where applicable, will be designed by using specific criteria from recognized BMP design guidance manuals. Erosion and sediment-minimizing efforts will include measures such as the following:</p> <ul style="list-style-type: none"> ▪ Defining ingress and egress within the project site to control track-out ▪ Implementing a dust control program during construction ▪ Properly containing stockpiled soil <p>Identified erosion and sediment control measures will be installed in an area before construction begins and inspected and improved as needed before any anticipated storm events. Temporary sediment control measures intended to minimize sediment transport from temporarily disturbed areas, such as silt fences or wattles, will remain in place until disturbed areas are stabilized. In areas where soil is to be temporarily stockpiled, soil will be placed in a controlled area and managed with similar erosion-control techniques. Where construction activities occur near a surface water body or drainage channel, the staging of construction materials and equipment and excavation spoil stockpiles will be placed at least 50 feet from the water body and properly contained, such as with berms and/or covers, to minimize risk of sediment transport to the drainage. Any surplus soil will be transported from the site and appropriately disposed of.</p> <p>A copy of the SWPPP will be provided to the CPUC for recordkeeping. The plan will be maintained and updated during construction as required by the SWRCB.</p>
<p>APM LU-1</p>	<p>Provide Construction Notification and Minimize Construction Disturbance. A public liaison representative will provide the public with advance notification of construction activities, between two and four weeks prior to construction. The announcement shall state specifically where and when construction will occur in the area. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. PG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur.</p> <p>All construction activities will be coordinated with the City and Port of San Francisco at least 30 days before construction begins in these areas. Work will be coordinated to minimize any potential conflicts with other construction or recreational projects.</p>

5.17.2 Environmental Impacts and Mitigation Measures

a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

LESS THAN SIGNIFICANT – CONSTRUCTION. The project area would be served by the Southeast WPCP via the combined storm and sanitary sewer system. Wastewater services would also be provided to project construction workers by portable toilets. Waste would be disposed of at appropriately licensed off-site facilities. Given the limited construction crew of no more than 75 personnel, the amount of effluent generated by the crew would not cause wastewater treatment plants to exceed treatment capacity.

PG&E would apply for a National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit for discharges of stormwater associated with Small Linear Underground/Overhead

Construction Projects (General Permit) from the State Water Resources Control Board. Groundwater encountered during trenching would be pumped into containment vessels (Baker tanks), tested for turbidity and pH, and discharged to the City's combined sewer system, unless the analysis shows that the water's pH and TDS exceeds the City's discharge criteria. In this case, the water would be trucked to an appropriate disposal facility. Temporary approvals for water use and discharge would be obtained, as required by the construction contractor, and water disposed of in accordance with State and federal standards. The project would not discharge trench water to the combined system during significant rain-fall events. (PG&E, 2012)

Wastewater treatment requirements of the Regional Water Quality Control Board would not be exceeded and impacts would be less than significant. Additional discussion regarding potential impacts to groundwater is included in Section 5.9, Hydrology and Water Quality.

NO IMPACT – OPERATION AND MAINTENANCE. Operation and maintenance of the project would not generate wastewater; therefore, no impacts would occur.

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

LESS THAN SIGNIFICANT – CONSTRUCTION. Water would be used for dust control, as discussed in Section 5.3, Air Quality, and Item (d) below. Per City of San Francisco Ordinance 175-91, construction projects are required to use recycled water for dust control activities. Although PG&E is exempt from this ordinance because the City does not have discretionary authority over the project, the project would source recycled water from the City of San Francisco's No. 3 Bulk Water Distribution Facility, located in the southeastern part of the City. The City's supply of recycled water varies from day to day, depending on whether Water Distribution Facility staff is using recycled water to clean on-site equipment, or if all recycled water is made available to outside users. Therefore, it is not possible for the City staff to quantify the amount of recycled water available at any time with absolute certainty. Nevertheless, given the relatively small amount of recycled water required by the Proposed Project, the Water Distribution Facility would be capable of meeting the project's construction demand on any given day (PG&E, 2013). Therefore, water would be obtained from existing supplies and would be sufficient for construction needs.

Wastewater service would be provided by portable toilets, and waste disposal will occur at appropriately licensed facilities offsite (PG&E, 2012). The minimal amount of effluent generated by construction workers would not cause a wastewater treatment plant to exceed its treatment capacity. Trench water would be disposed of as described in Item (a) to the combined system or hauled offsite to an appropriate disposal facility.

The project would not require the construction of new or the expansion of existing water facilities. Therefore, there would be no impacts to water or wastewater treatment facilities resulting in the need for new or expanded facilities.

NO IMPACT – OPERATION AND MAINTENANCE. Once operational, the new Potrero 230 kV Switchyard would not require a potable water source or a connection to the sewer system. Monitoring and control functions for the Proposed Project would be connected via telecommunications to PG&E's existing systems. Once the project is built and energized, PG&E's existing local maintenance and operations group would assume monitoring and control duties and maintenance, inspection, and security roles, as needed, with support from a marine contractor. Aside from contracted stand-by marine transportation and technical support, no additional staff would be hired by PG&E for operations and maintenance. Consequently, operation of the Proposed Project would not result in impacts to water or wastewater or require additional facilities.

c. Would the project require, or result in the construction of, new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

LESS THAN SIGNIFICANT. The proposed underground transmission line would feature an 11-foot burial depth, which would generally allow the cable to clear all other utilities in the right-of-way, with the exception of two large storm sewers at the following locations: (1) in the intersection of Spear and Folsom; and (2) at the end of the route as it turns to enter the Embarcadero Substation. In both cases, PG&E has stated that the trench would be lowered sufficient additional depth to clear the sewer. (PG&E, 2013)

Additionally, one of the SFPUC's storage/transport boxes underlies The Embarcadero where the project's north end would cross as an HDD. Implementation of APM UTIL-1 would ensure that the HDD depth is coordinated with SFPUC so that the project is designed to avoid impacts to the box. Construction of the Proposed Project could temporarily accelerate sedimentation and reduce surface water quality by disturbing the immediate area of the on shore transmission line route and substations. Stormwater drainage features at the existing substations, along with the construction best management practices (BMPs), such as the Stormwater Pollution Prevention Plan that would be developed per APM WQ-1, would manage project-related stormwater without using off-site facilities. The Proposed Project would not require the construction of new stormwater drainage facilities or expansion of existing facilities. Because no new or expanded drainage facilities would be required for the project, this impact would be less than significant.

d. Would the project have sufficient water supplies available to serve the Proposed Project from existing entitlements and resources, or would new or expanded entitlements be needed?

LESS THAN SIGNIFICANT – CONSTRUCTION. The primary need for water would be construction-related dust control activities and would be dependent upon the activity, season and weather. As described in detail in Section 5.9, Hydrology and Water Quality, water would be trucked in as needed. PG&E has estimated that project construction activities would typically require the use of two 2,000-gallon truckloads of water for dust control per day of construction (PG&E, 2013). Recycled water would be used if feasible, as discussed in Item (b). Water for the HDD operations would potentially be taken from a City hydrant under a permit with the City. Potable water for construction workers would likely be brought in on construction vehicles.

The SFPUC provides potable water to 2.6 million customers in the Bay Area. The Hetch Hetchy Reservoir on the Tuolumne River produces about 85 percent of the water in the Hetch Hetchy system and can store up to 117 billion gallons. The remaining 15 percent is collected by six reservoirs in the Alameda and Peninsula watersheds (SFPUC, 2013a). The minimal water needed for dust control and construction crew consumption would not exceed available supplies. Sufficient existing water supplies are available; therefore, impacts would be less than significant.

NO IMPACT – OPERATION AND MAINTENANCE. Operation and maintenance would not require additional water supplies and would not result in any impacts.

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

LESS THAN SIGNIFICANT – CONSTRUCTION. The Proposed Project would require portable toilets for construction workers. Sanitary waste would be disposed of at appropriately licensed official facilities with adequate capacity. Trench water would be disposed of as described above to the combined SFPUC system

or hauled offsite to an appropriate disposal facility. As discussed in Item (a) above, existing wastewater facilities would adequately accommodate the minor demand caused by project construction while serving existing commitments. Therefore, this impact would be less than significant.

NO IMPACT – OPERATION AND MAINTENANCE. Operation and maintenance activities would not create increased wastewater. No impacts would occur.

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

LESS THAN SIGNIFICANT – CONSTRUCTION. An estimated 6,300 cubic yards of excavated material from the transmission line trench and vault locations and the HDD entry pits would be hauled off-site for disposal to an appropriately licensed facility or hauled to a commercial soil recycling facility. Grading and excavation for construction of the new Potrero 230 kV Switchyard would require removal of up to 8,000 cubic yards of soil that is known to be contaminated. As also discussed in Section 5.8 (Hazards and Hazardous Materials), implementation of APM HM-1 (Implementation of Hazardous Material and Emergency Response Procedures) would ensure proper disposal at a licensed waste facility.

Small amounts of additional food-related trash, packing material, and other miscellaneous trash from construction would also be hauled on a regular basis from the construction sites. Under APM GHG-1, PG&E would encourage the recycling of construction waste where feasible. Additionally, under APM HM-1, all hazardous materials and hazardous wastes, including any contaminated soil, would be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. All project APMs appear in Table 4-5.

Waste would be hauled from the San Francisco Dump to Altamont Landfill, which has a permitted disposal capacity through the year 2025. San Francisco currently has a contract with Waste Management to use Altamont Landfill that is set to expire in 2015. Construction of the Proposed Project is expected to be completed by December 2015. The proposed contract for after 2015 is currently undergoing environmental review, which is expected to be completed in a year. Under the future contract, waste may be landfilled via rail at Recology Ostrom Road, a landfill owned by Recology located in Yuba County (Sabatini, 2012). Recology Ostrom Road has a total design capacity of over 41 million cubic yards and can accept up to 3,000 tons of municipal solid waste per day (CalRecycle, 2013). The landfills serving the project area would have adequate capacity for the expected waste. Therefore, impacts would be less than significant.

NO IMPACT – OPERATION AND MAINTENANCE. Operation and maintenance would generate minimal waste, and no impacts are expected to occur.

g. Would the project comply with federal, state, and local statutes and regulations related to solid waste?

NO IMPACT. The California Integrated Waste Management Act of 1989, which emphasizes resource conservation through reduction, recycling, and reuse of solid waste guide solid waste management requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE). The Proposed Project would operate in accordance with these applicable Solid Waste Management Policy Plans and would include PG&E's existing recycling program for underground construction in San Francisco and operation of the existing Potrero Switchyard and Embarcadero Substation. Under APM GHG-1, PG&E would encourage the recycling of construction waste where feasible. Additionally, under APM HM-1, all hazardous materials and hazardous wastes, including any contaminated soil, would be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. All project APMs appear in Table 4-5.

As identified in Item (f) above, the landfill serving the site would have sufficient capacity to accommodate project construction solid waste disposal needs, and project solid waste disposal would not require the need for new or expanded landfill facilities. Therefore, the Proposed Project would comply with federal, State, and local statutes and regulations related to solid waste disposal limits and landfill capacities. No impact would occur.

h. Would the project disrupt the existing utility systems or cause a collocation accident?

LESS THAN SIGNIFICANT WITH MITIGATION. Construction of the Proposed Project has the potential to disrupt existing collocated utility lines during underground and submarine construction. As discussed in Section 4.11.5, where the electrical transmission duct bank would cross or run parallel to other substructures (which have operating temperatures at earth temperature), a minimum radial clearance of 12 inches would be required. These substructures include gas lines, telephone lines, water mains, storm lines, and sewer lines. In addition, a 5-foot minimum radial clearance would be required where the new duct bank crosses another heat-radiating substructure at right angles. A 15-foot minimum radial clearance would be required between the duct bank and any parallel substructure whose operating temperature significantly exceeds the normal earth temperature. Such heat-radiating facilities may include other underground electric transmission circuits, primary electric distribution cables (especially multiple-circuit duct banks), steam lines, or heated oil lines. Clearances and depths would meet requirements set forth with Rule 33.4 of CPUC General Order 128 (Rules for Construction of Underground Electric Supply and Communication Systems).

PG&E stated that its engineering team has taken into consideration the location of other underground utilities in defining feasible routes for the underground portion of the project and the project would be designed to have no permanent impact on power, natural gas, communications systems, or any other utilities that are specifically documented (PG&E, 2012). The Proposed Project would include an 11-foot burial depth, which would generally allow the cable to clear all other utilities in the right-of-way, with the exception of two large storm sewers at the following locations: (1) in the intersection of Spear and Folsom; and (2) at the end of the route as it turns to enter the Embarcadero Substation. In both cases, PG&E has stated that the trench can feasibly be lowered sufficient additional depth to clear the sewer (PG&E, 2013). To prevent damage to SFPUC stormwater facilities, PG&E would work with the San Francisco Department of Public Works, through the Excavation Permit process, and the SFPUC to establish an appropriate shoring plan, work zone restrictions, or setbacks for adjacent structures.

Table 5.17-3 lists the documented natural gas transmission lines (gas transmission operates at a pressure greater than 60 pounds per square inch) that are in or near the streets of the proposed underground route. The proposed 230 kV transmission line would cross or pass within several feet of eight gas transmission lines, several of which would be paralleled or crossed more than once.

Table 5.17-3. Existing Gas Transmission Lines Near the Proposed Route

Proposed Alignment	Existing Gas Transmission Lines*
Downtown San Francisco Area – Northern Underground Segment	
Spear Street between The Embarcadero and Harrison Street	<ul style="list-style-type: none"> ▪ 2" transmission (parallel)
Spear Street at Harrison Street	<ul style="list-style-type: none"> ▪ 2" transmission (parallel; same as 2" pipe at Spear Street between The Embarcadero and Harrison Street) ▪ 4" transmission (crossing)
Spear Street at Folsom Street	<ul style="list-style-type: none"> ▪ 4" transmission (parallel; same as 4" pipe at Spear Street and Harrison Street) ▪ 4" transmission (crossing; same as 4" pipe at Spear and Harrison) ▪ 2" transmission (parallel)

Table 5.17-3. Existing Gas Transmission Lines Near the Proposed Route

Proposed Alignment	Existing Gas Transmission Lines*
Folsom Street at Fremont Street	▪ 3' transmission (crossing)
Folsom Street between Freemont Street and Embarcadero Substation	▪ 16" transmission (crossing)
Potrero Switchyard Area – Southern Underground Segment	
23rd Street from the San Francisco Bay	▪ 30" transmission (parallel)
23rd Street to Potrero Substation	▪ 30" transmission (parallel; same as 30" pipe at 23rd Street from the Bay) ▪ 24" transmission (crossing)

Source: PG&E, 2013.

* There are no gas distribution lines in the project area.

Additionally, due to utility congestion along the northern underground segment, a two-step analysis was performed to establish that there would be sufficient space in Spear and Folsom Streets to install an 11-foot-deep duct bank (B&V, 2012). First, PG&E obtained preliminary as-built drawings from the San Francisco Department of Public Works based on a recent City sewer replacement and repaving project in Spear Street. The City sewer project began at the dead end cul-de-sac on Spear Street, at the northern HDD landing area for the Proposed Project. The proposed alignment is based on these drawings and takes into account EMF policy goals (see Section 4.15) while avoiding conflicts with the existing utilities. (PG&E, 2013)

Secondly, along Folsom Street, PG&E conducted a visual survey of existing utilities as evidenced by their existing vaults. The survey concluded that the intersections of Folsom Street with Spear Street and with Main Street are crowded with utilities. However, PG&E has stated that there is enough room to install the duct bank between the existing utilities at a depth of 11 feet along the west side of Folsom Street (B&V, 2012; PG&E, 2013). Undocumented obstacles could result in re-routing the Proposed Project; however, over the past 10 years an underground PG&E transmission alignment has not had to be altered by more than a few feet due to such an obstacle so significant re-routing is not anticipated (PG&E, 2013).

Additional utilities identification and invert profile of existing lines would occur during final project design. As discussed in Item (c), by implementing APM UTIL-1, PG&E would coordinate with SFPUC regarding its stormwater system facilities, including its storage/transport box located under The Embarcadero where the proposed transmission line would cross. Section 4.11.5 discusses the steps that PG&E would take to coordinate with other utility system owners and implement measures such as increased cathodic protection or utility relocation to minimize any potential effects to existing facilities. If it is determined during detailed design that the proposed 230 kV transmission line duct bank must be installed in a configuration that conflicts with an existing gas line listed Table 5.17-3, the PG&E Embarcadero-Potrero Transmission Project Team would work with the PG&E Gas Engineering and Construction Department to safely relocate the affected gas line (PG&E, 2013).

Additionally, under Section 1, Chapter 3.1, "Protection of Underground Infrastructure," Article 2 of California Government Code §§4216-4216.9, PG&E is required to contact a regional notification center at least two days prior to excavation of any subsurface installation. This action would cause Underground Service Alert to notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area. The location of all underground electric, water, gas, cable or telecommunications lines within the vicinity (at least 1,000 feet) of the Proposed Project would be marked. In addition, PG&E would probe and expose existing utilities by hand before using power equipment to prevent impacts to existing utilities (PG&E, 2012).

Accidental Disruption and Coordination with Existing Underground Utility Owners. Coordination with other utility system owners and compliance with California Government Code §§4216-4216.9, CPUC General Order 128, and APM UTIL-1 would reduce the likelihood of accidental disruptions. However, APM UTIL-1 only states that the HDD depth would be coordinated with SFPUC to prevent damaging its stormwater storage box. Accidental disruptions could still occur to this and other facilities, especially during the underground segments on land. This impact is considered potentially significant even with regulatory compliance and implementation of APM UTIL-1, but would be mitigated to less than significant levels with the implementation of Mitigation Measure UT-1 (Protect underground utilities), which would ensure that existing facilities, in addition to the SFPUC's stormwater storage box identified in APM UTIL-1, are identified and avoided, and proper coordination with other utilities occurs.

Prior to construction, PG&E would provide construction notification to minimize construction disturbance under APM LU-1 and would also have developed a database of emergency contacts for utilities that may be in close proximity or require monitoring during construction of the project. In case of accidental service interruption to another utility, PG&E would use this database to immediately coordinate actions to restore service in a safe and timely manner (PG&E, 2012).

In addition, if the proposed 230 kV transmission duct bank crosses within 5 feet of a steel gas line, induced electrical currents travelling from and in the immediate vicinity of electric transmission line are known to accelerate the corrosion of nearby existing steel pipelines, which could lead to long term accidental system disruption of such pipelines. If the transmission line is placed more than 5 feet away or if protective measures are instituted, such as cathodic protection (a specialized rubber coating applied to the affected steel pipe), issues with induced current and collocation with existing underground gas transmission lines would be avoided.

As described in Section 4.11.5 of the Project Description, PG&E would identify utilities during final design, evaluate their proximity and potential for induced current and/or corrosion, and in coordination with the utility-system owner, determine whether steps are necessary to reduce the potential to induce current or cause corrosion. PG&E would take the necessary steps in coordination with those utility system owners to minimize any potential effects through measures, such as increased cathodic protection or utility relocation. The steps are summarized as follows:

- During final design, prepare study of corrosion and induced currents.
- Send results of study to each affected utility system owner for review and comments.
- Owners submit requirements for protection of each of their facilities.
- PG&E makes changes accordingly or compensates owner for future protection measures, per the owner's preference.

These steps, in addition to documentation of consultation required in Mitigation Measure UT-1, would ensure that existing underground steel pipelines are protected, as necessary, to reduce the risk of corrosion and resulting long-term accidental system disruption to a less than significant level.

Mitigation Measure for Accidental Utility Service Disruptions

MM UT-1 **Protect underground utilities.** Prior to commencing construction of the underground transmission line, PG&E shall submit to the CPUC written documentation of the following:

- Construction plans designed to protect existing utilities, showing the dimensions and location of the finalized alignment as well as the corrosion and induced currents study;
- Records that the Applicant provided the plans to the City and County of San Francisco for review, revision and final approval;

- Construction plans approved by the City and County of San Francisco detailing the steps taken to prevent damage to two large SFPUC storm sewers, including but not limited to an appropriate shoring plan, work zone restrictions, and setbacks for the adjacent structures, at the following locations: (1) in the intersection of Spear and Folsom; and (2) at the end of the route as it turns to enter Embarcadero Substation;
- Evidence of coordination with all utility owners within the approved right-of-way, including their review of construction plans, results of the induced current and corrosion potential analysis, and a description of any protection measures or compensation to be implemented to protect affected facilities;
- Copy of the Applicant's database of emergency contacts for utilities that may be in close proximity or require monitoring during construction of the project;
- Evidence that the project meets all applicable local requirements;
- Evidence of compliance with design standards; and
- Copies of any necessary permits, agreements, or conditions of approval.

Planned Utility Service Disruption During Construction. Also during final design, PG&E would assess whether some service disruptions during construction may be potentially unavoidable. These disruptions may occur while the transmission line and vaults are installed in the trench and the interrupted utility is reconnected around the new transmission line. If planned service disruptions are necessary, then PG&E has stated that it would closely coordinate with affected utilities until those utilities are returned to service. The affected utility may notify its customers regarding the outage in accordance with its company procedures and regulations.

For any planned outages to PG&E's own system, under CPUC Electric Rule No. 14 (Shortage of Supply and Interruption of Delivery), PG&E would provide reasonable notice to its affected customers and work would proceed as rapidly as may be practicable and at a time that will cause the least inconvenience to the majority of those involved. Under CPUC Electric Rule No. 14, PG&E would also be responsible for answering all outage related inquiries. Through coordination with affected utilities and efforts to minimize outage durations and provide advanced notification of any electric outages, impacts related to planned outages would be less than significant.

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