PG&E Power Asset Acquisition Project

San Francisco Planning
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Public Draft

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SUMMARY

S.1 Introduction

This document is a draft environmental impact report (EIR) for the proposed PG&E Power Asset Acquisition Project ("project"). This chapter provides a summary of the project; anticipated environmental impacts of the project and recommended mitigation measures; areas of controversy to be resolved; and alternatives, including the environmentally superior alternative.

The City and County of San Francisco ("City") proposes (1) the purchase ("acquisition") of Pacific Gas and Electric Company (PG&E)-owned electrical transmission and distribution assets ("Assets") located in San Francisco and San Mateo counties that are needed to provide electric service[1] to customers within San Francisco, and (2) other transactions and physical changes necessary for the City to own, operate, and maintain the electricity grid in San Francisco ("separation"). The Assets include equipment, facilities, property, and records that the City would acquire, including the following:

- PG&E's distribution assets within San Francisco (distribution-level substations, metering, customer serving distribution lines, and related facilities)
- PG&E's 115 *kilovolt*[2] (kV) and 230 kV transmission assets within San Francisco and portions in San Mateo County (substations, transmission lines, transformers, and related facilities needed for operations)
- Certain PG&E distribution lines in Brisbane emanating from the Martin Substation that serve customers in San Francisco[3]
- A portion of the Martin Substation facilities (located in Brisbane) or *interconnections*[4] needed to enable the San Francisco Public Utilities Commission (SFPUC) to operate the transmission and distribution system from Martin Substation into San Francisco
- Other systems and equipment, materials, records, operating and maintenance facilities, property, and other land-related agreements as necessary for safe and reliable operation, maintenance, repair, control, and protection of the acquired transmission and distribution system

After the City completes its acquisition of the Assets, the City would own, operate, and maintain the electricity grid in San Francisco, most of which is currently owned, operated, and maintained by PG&E. In addition, the City would acquire property rights as needed to operate and maintain the Assets and new City equipment, as needed, on public and private lands. This project would not include the purchase of PG&E's natural gas facilities; thus, PG&E would continue providing natural gas services to customers in San Francisco.[5]

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[1] Broadly, electric service includes generation, transmission, distribution, and customer services. Generation service refers to sources (supplies) of electricity, generated using electric generation facilities, such as power houses, solar arrays, cogeneration facilities, and wind turbines. Transmission (high-voltage electricity transport) and distribution (low-voltage electricity transport) services deliver electricity to customers. Customer service includes customer programs, billing services, affordability assistance, and similar services.

[2] Kilovolt is a unit of electric potential and electromotive force. One kilovolt is equal to 1,000 volts.

[3] Existing distribution lines serving only customers in San Francisco would be acquired by the City. Distribution lines serving only PG&E customers outside of San Francisco would remain with PG&E. Finally, some of the distribution lines serve both customers in San Francisco and customers outside of San Francisco. These feeders would be separated at the border new infrastructure would be built to ensure that each utility would have its own system and that all customers would continue to be served.

[4] Interconnection is defined as an electrical connection between multiple entities.

[5] In addition, the interconnection between the transmission system in San Francisco and the Trans Bay Cable (TBC), and TBC operation, would not be physically changed as a result of the acquisition.

As part of the project, some of the acquired Assets would be physically separated from PG&E's electricity grid outside of San Francisco so there would be two separate systems generally divided along the San Francisco-San Mateo County border. After the acquisition and separation of PG&E's facilities, the SFPUC would provide electric service to customers in San Francisco currently served by PG&E; PG&E would continue to provide electric service to its customers outside San Francisco.

The SFPUC anticipates the project would: (1) allow the City to provide and deliver Hetch Hetchy hydropower, and other clean power, to all customers in San Francisco; (2) improve the cost and efficiency of new electrical grid connections for critical City functions, such as public safety, affordable housing production, transportation, utility infrastructure, and schools; and (3) allow the City to own and manage the City's electric system with transparency and accountability, consistent with a cost-based, not-for-profit business model that will prioritize affordable, cost-effective, reliable, safe, and timely service in San Francisco.

Under the San Francisco Administrative Code, chapter 31, the San Francisco Planning Department's Environmental Planning Division is responsible for conducting the environmental review of all City and County of San Francisco projects pursuant to the requirements of the California Environmental Quality Act (CEQA). The planning department is the lead agency responsible for preparing this EIR in compliance with CEQA. The SFPUC is the project sponsor proposing to implement the project.

S.2 Background

Since 1945, the City has purchased wholesale transmission and distribution services from PG&E pursuant to a series of bilateral agreements that have allowed the City to deliver its power supplies to individual customers scattered throughout San Francisco. The last of these bilateral agreements expired on June 30, 2015. Since then, the City has purchased transmission and distribution services from PG&E through federally regulated, open access tariffs.[6] PG&E and the City currently both provide electric service within San Francisco. Together, the SFPUC's two public power programs, Hetch Hetchy Power and CleanPowerSF, serve more than 75 percent of the electricity demand in San Francisco. Another approximately 15 percent of electricity demand in San Francisco is served by other private providers, and less than 10 percent of the electricity demand in San Francisco is sourced by PG&E. Nevertheless, PG&E owns, controls, and is responsible for 100 percent of the grid pathways within San Francisco that are needed to deliver electricity to all of San Francisco's electricity users. The City's service connections are subject to the physical constraints of PG&E's distribution grid and the rules and requirements imposed by PG&E through its open access tariff.

Since 1913, the City attempted several times to purchase PG&E's electric grid, portions of which have been in place since 1879, so the City could provide power throughout San Francisco.[7,8] Since 1945, PG&E's cooperation with the City to allow Hetch Hetchy Power to serve City facilities has been limited. The City and PG&E have frequently disagreed about whether PG&E or the City is entitled to serve specific customers and whether PG&E's terms of service are reasonable. Although federal law requires that grid owners like PG&E provide "open access" to their electric grids, confirming the City's right to connect to PG&E's grid at

[6] Under federal law, PG&E and other utilities are required to provide access to its grid to electricity consumers and producers with rates and terms (tariffs) that are non-discriminatory, fair, and reasonable for all eligible users. This federal "open access" requirement is intended to benefit consumers by allowing for competition and protect grid users from anti-competitive behavior by monopoly grid owners.

[7] Federal Energy Regulatory Commission, City and County of San Francisco v. Pacific Gas and Electric Company, FERC Docket EL15-3002, Direct Testimony of James J. Hoecker, Feb. 1, 2016, Exhibit SF-1, at pp 11-17 at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20160202-5258.

[8] PG&E, 150 Years of Energy: the History of PG&E Corporation. https://web.archive.org/web/20120629010809/http://www.pgecorp.com/150_non_flash/index.html.

reasonable rates and under non-discriminatory terms of service, and prohibiting anti-competitive behavior by PG&E, PG&E has continued to obstruct City electric service by raising rates, delaying or denying service, and requiring the City to install large, expensive electric equipment to serve even its smallest customers.[9] More broadly, there has been growing concern amongst many government and financial institutions regarding PG&E's near- and long-term ability to manage its system in a safe, responsible, and transparent manner, not just in San Francisco, but across PG&E's service territory.

San Francisco voters and policy makers have established their preference that electric service be provided to City projects and new developments by the City's own utility, Hetch Hetchy Power, when feasible.[10] Hetch Hetchy Power has worked with customers, City departments, and developers, partnering to invest in distribution facilities and distributed energy resources.[11] Although these investments have furthered the goal of the City's independence from PG&E's grid, PG&E continues to be the monopoly distribution service provider.

The City's proposed acquisition of the PG&E electrical Assets in San Francisco would allow the City to provide electric services to all end-users in San Francisco and reduce reliance on PG&E for electric service in San Francisco.

S.3 Project Description

S.3.1 Project Components

The project includes the acquisition of PG&E's transmission and distribution Assets needed for the City to provide safe and reliable electric service to customers in San Francisco. This EIR analyzes some project components at a "project level" and others at a "program level" based upon the level of information available at this time. System separation would consist of the following components (**Figure S-1**), which are described in greater detail in Chapter 2, Project Description:

- **Martin Substation Separation (*Project-Level Review*).** This component would consist of reconfiguring the existing PG&E-owned Martin Substation, located at the corner of Bayshore Boulevard and Geneva Avenue in Brisbane (**Figure S-2**). These changes could include adding or relocating cable terminations, circuit breakers, cable trenches, revenue meters, and transformer locations within the existing substation fence. The Martin Substation is the location of PG&E's incoming transmission lines from San Mateo County, which supply electricity to San Francisco. The substation also reduces voltage from transmission to distribution service voltage levels, for distribution feeders, which serve customers in San Francisco.
- **Distribution Express Feeders *(Project-Level Review)*.** This component would involve constructing new underground distribution express feeders from the separated Martin Substation to connect to the

[9] San Francisco Chronicle, SF Complains PG&E is holding up major projects with unreasonable demands, March 27, 2018, https://www.sfchronicle.com/bayarea/article/SF-complains-PG-E-is-holding-up-major-projects-12786362.php ; San Francisco Chronicle, Big Holdup for New Northern California Housing? PG&E. March 10, 2023, https://www.sfchronicle.com/politics/article/california-housing-projects-pge-17828169.php; San Francisco Blames PG&E for $41 million in expenses and delays to affordable housing projects, April 12, 2023, https://www.sfchronicle.com/sf/article/pge-affordable-housing-delays-17889772.php

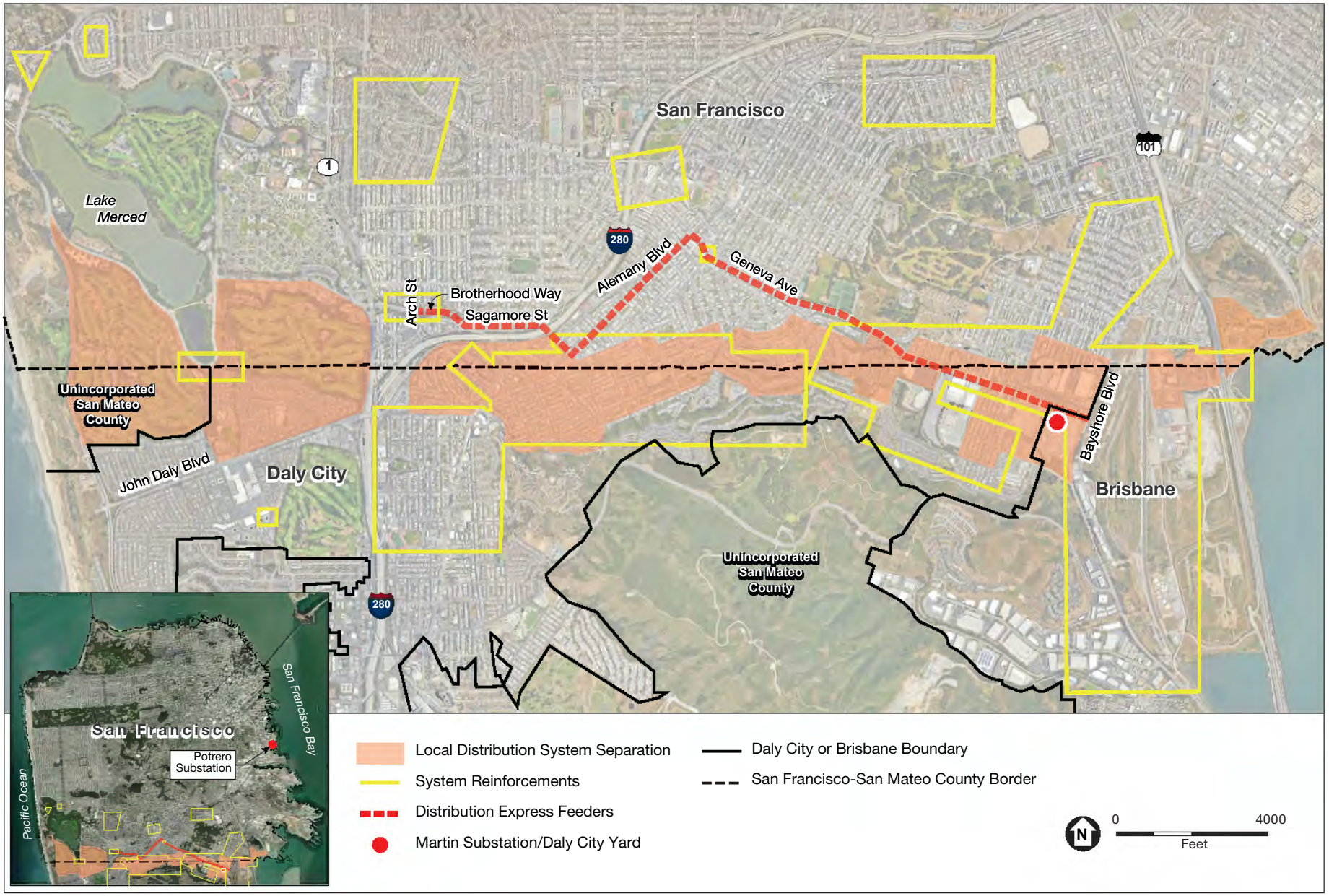
[10] San Francisco Charter section 16.101: Acquisition of Public Utilities and San Francisco Administrative Code section 99: Public Power in New City Developments.

[11] Targeted investments have created some electric infrastructure in sections of the city such as Hunter's Point Shipyard and the Bay Corridor Transmission and Distribution project. These projects are connected to the PG&E-owned grid. PG&E provides retail transmission and distribution service to all remaining customers in San Francisco.

existing distribution system grid in the southwestern part of San Francisco.[12] The proposed distribution express feeders would be installed underground in a duct bank. The proposed duct bank for the distribution express feeders would be approximately 3.8 miles long, extending through parts of southern San Francisco, northern Daly City, and Brisbane. For most of the alignment, the typical duct bank size would be approximately 4.5 feet wide and 3 feet tall and would contain up to nine 6-inch-diameter *conduits* that enclose the cables.[13] The typical trench to accommodate this duct bank size would range from approximately 5 to 6 feet wide and 8 to 10 feet deep.

- **Local Distribution System Separation *(Program-Level Review)*.** This component would involve reconfiguring and separating distribution lines on overhead poles and in underground vaults near the county border. The local distribution system separation would include installation of new overhead lines or underground lines in duct banks along with equipment to facilitate both the separation and reconnection of feeder segments. Specific locations and equipment would be determined based on the location of existing feeders, site conditions, and *load flow analysis*.[14] Up to approximately 4 linear miles of underground work and approximately 0.75 mile of overhead work would occur in the local distribution system separation border areas.
- **System Reinforcements Associated with Separation of the Distribution System *(Program-Level Review).*** This component would implement reinforcements to ensure that, after separation, the independent City and PG&E electrical systems along the county border comply with all applicable requirements and standards for safety, functionality, and reliability. These improvements consist of changes to overhead and underground lines, equipment, and control software to locate abnormal system conditions, isolate electrical faults, and restore customer service. Specific locations and equipment would be determined based on the location of existing feeders, site conditions, and load flow analysis. The project proposes approximately 4.2 miles of new underground duct banks and 2.1 miles of new overhead wires along the border area, in and around San Francisco, Brisbane, Daly City, and unincorporated San Mateo County, to ensure reliability for San Francisco and San Mateo County customers.
- **Modifications to Retain PG&E Access to Non-Electrical Facilities (*Project-Level Review*).** The City would not acquire PG&E's non-electrical facilities (e.g., natural gas) serving San Francisco. At the Potrero Substation and the Martin Substation, PG&E-owned natural gas and electrical equipment are located on the same site. The City would acquire the electrical equipment at these sites, and would make site modifications, such as fencing and driveway additions or improvements, where necessary to allow PG&E continued access to its non-electrical facilities. Fencing and other access modifications at the Martin Substation would be included in the Martin Substation work.
- **Other Separation Components *(Program- Level Review)*.** The project also includes an operations control center, operations and maintenance service yards, materials and equipment storage, and telecommunications equipment. Specific locations and equipment for the operations control center and operations and maintenance service yards would be determined based on the location of existing and available facilities and site conditions.

[12] Areas in the west and southwest parts of San Francisco are currently supplied by distribution feeders originating from PG&E's existing Daly City Substation in San Mateo County that would be disconnected at the boundary with the acquisition.
[13] Conduits are plastic (high density polyethylene or HDPE) protective tubes to protect the cables.
[14] A load flow analysis is a computerized system model used to evaluate the steady state performance of a power system under various possible operating conditions and equipment configurations. A load flow analysis can identify the optimum operating conditions for system components to meet demand without overloading facilities, and conduct maintenance without compromising system reliability.



SOURCE: Google Earth Aerial Imagery

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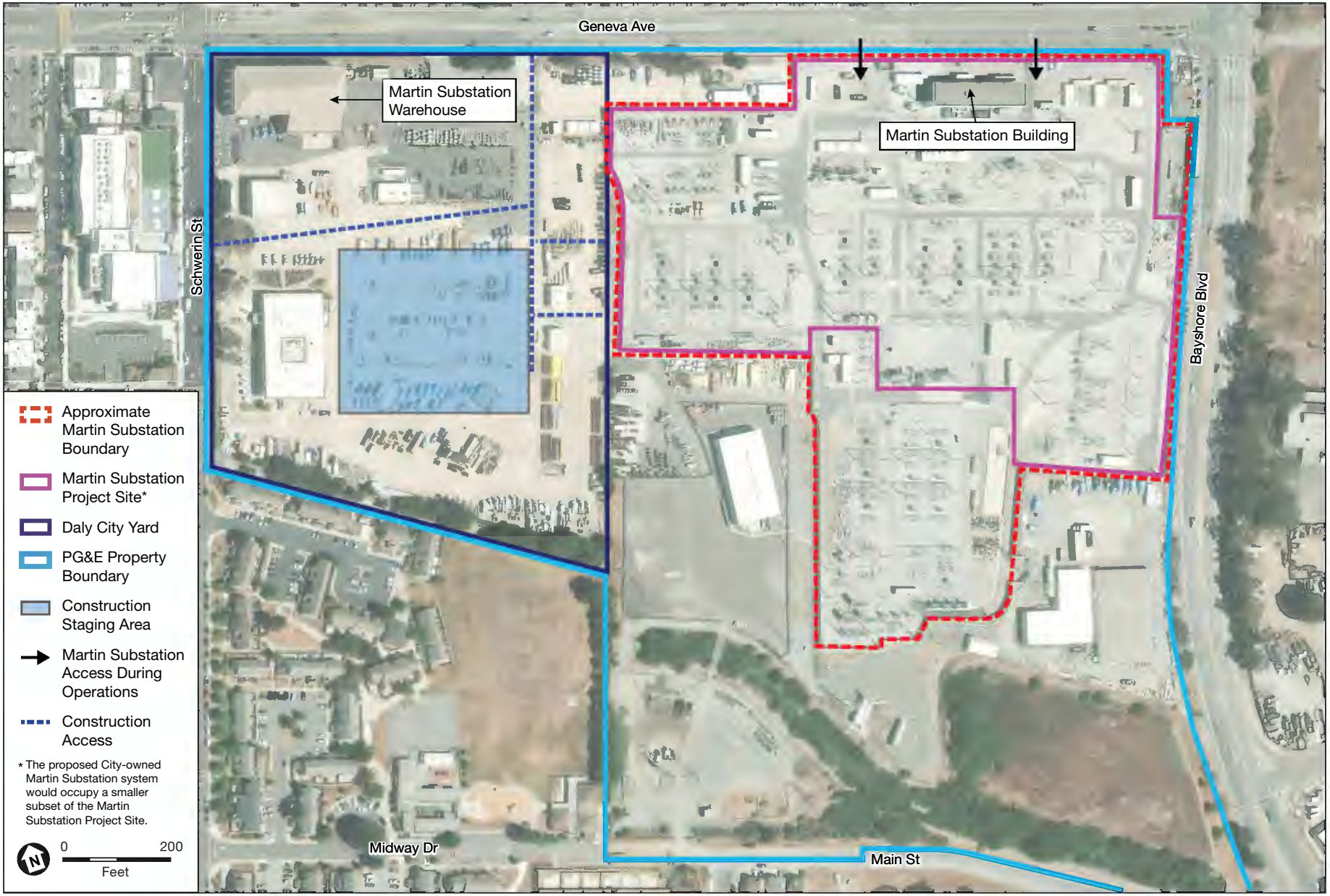
Note: The project includes purchase of PG&E's transmission and distribution assets needed for the city to provide reliable electric service to customers in San Francisco, including some assets in San Mateo County. Physical changes would occur at existing PG&E substations, along the distribution express feeders alignment, and at some locations within the areas shaded or outlined in yellow. The project also includes an operations control center and operation and maintenance service yards in southeastern San Francisco.

Figure S-1
Project Areas Overview



SOURCE: Google Earth Aerial Imagery

PG&E Asset Acquisition Project

Figure S-2
Martin Substation Project Site and Construction Staging Area

S.3.2 Construction

The total duration of construction would depend on the number of crews working concurrently, and crew deployment timing would be confirmed as project design progresses. Project construction would occur over approximately three years, with an estimated construction period of 2026 to 2028, although construction could occur later depending on the entitlement process.[15] Construction activities would proceed at multiple work areas concurrently, generally with two crews working concurrently on each of the major components (Martin Substation separation, distribution express feeders installation, local distribution separation, and system reinforcements). Due to the limited space at the Martin Substation, the Daly City Yard would serve as the primary staging and laydown area for separation work at the Martin Substation. Most of the underground power line construction associated with the distribution express feeders and local distribution system separation would be restricted to within roadways. For the linear underground components (distribution express feeders, local distribution system separation, system reinforcements) approximately 40 feet of construction would be completed each day. The project would use various construction equipment and vehicles, such as concrete saws, excavators, backhoes or loaders, pile drivers, air compressors, portable generators, rollers, pavers, cranes, compactors, and concrete trucks. Up to 76 workers would be involved in construction in various work areas when multiple construction activities overlap.

Martin Substation separation or construction of a new City Substation (a variant of the project described below under section S.3.4) would occur within areas covered by existing land use covenants,[16] operations and maintenance agreements,[17] and soil management plan requirements,[18] therefore, consultation with the California Department of Toxic Substances Control (DTSC) would be needed prior to excavation. Soils excavated within the Martin Substation would be tested for contaminants and, if necessary, excavated spoils would be disposed of at a landfill licensed to accept hazardous waste.

S.3.3 Operations and Maintenance

The SFPUC would be responsible for the continued operations and maintenance of the acquired electrical transmission and distribution system and new infrastructure in accordance with federal and state regulations and standards for safe and reliable operations. The total energy delivered to serve electricity customers in San Francisco is not expected to change as a result of the project or project variant. Operation and maintenance of the system would involve routine inspections, meter readings, periodic testing, and as-needed repairs and replacement of existing equipment during regular maintenance cycles in accordance with generally accepted industry standards and manufacturers' recommendations. All distribution system facilities (overhead, underground, and substations) would be inspected and maintained in accordance with applicable provisions of the California Public Utilities Commission guidelines and general orders (e.g., General Orders 95, 165, and 174 for inspecting overhead facilities, underground facilities, and substations). These guidelines are applicable to PG&E's existing operations and to the SFPUC's current power operations. PG&E's existing operations and the City's current power operations operate 24 hours per day, seven days per week; no changes to operating hours are anticipated. The SFPUC anticipates approximately 400 employees

[15] If work on multiple components proceeds concurrently, construction would take about three years to complete. If some project components are delayed, work could take up to five years. The date of construction start (2026) is an estimate.
[16] PG&E and DTSC, 1995. Covenant to Restrict Use of Property, Daly City Yard. March 23; PG&E and DTSC, 2002. Covenant and Agreement to Restrict Use of Property, PG&E Martin Service Center February.
[17] PG&E and DTSC, 1995. Agreement for Operation and Maintenance, PG&E Martin Service Center Daly City Yard. January 3; 2003. PG&E and DTSC, Revised Operation and Maintenance Agreement, Docket# HSA-94/95-010, PG&E Martin Service Center, Daly City Yard, Daly City, California. March 7.
[18] Haley & Aldrich, Inc. 2017. Soil Management Plan, Pacific Gas and Electric Company, Martin Service Center/Daly City MGP, 3004 Geneva Avenue, Daly City, California. June 15.

may be hired for administration, operation, and maintenance of the electrical system and would be based at SFPUC offices, operations and maintenance service yards, and the operations control center.

S.3.4 New City Substation (Project Variant)

As a variant of the project, instead of the work described in Section S.3.1 for Martin Substation Separation, a new, gas-insulated substation (the new City Substation) would be constructed at PG&E's adjacent Daly City Yard, as shown in **Figure S-3**. The components of the project variant would be the same as those of the proposed project except that (1) the variant would include construction of the new City Substation instead of the separation work at the existing Martin Substation, (2) the distribution express feeders would originate from the new City Substation, and (3) the variant would also include installation of new incoming transmission lines from the Martin Substation to the new City Substation and outgoing distribution and transmission lines from the new City Substation to the existing distribution and transmission system. To site the new City Substation, the City would need to acquire a portion of the Daly City Yard from PG&E. PG&E's storage and parking facilities would need to be relocated to accommodate the new City Substation.

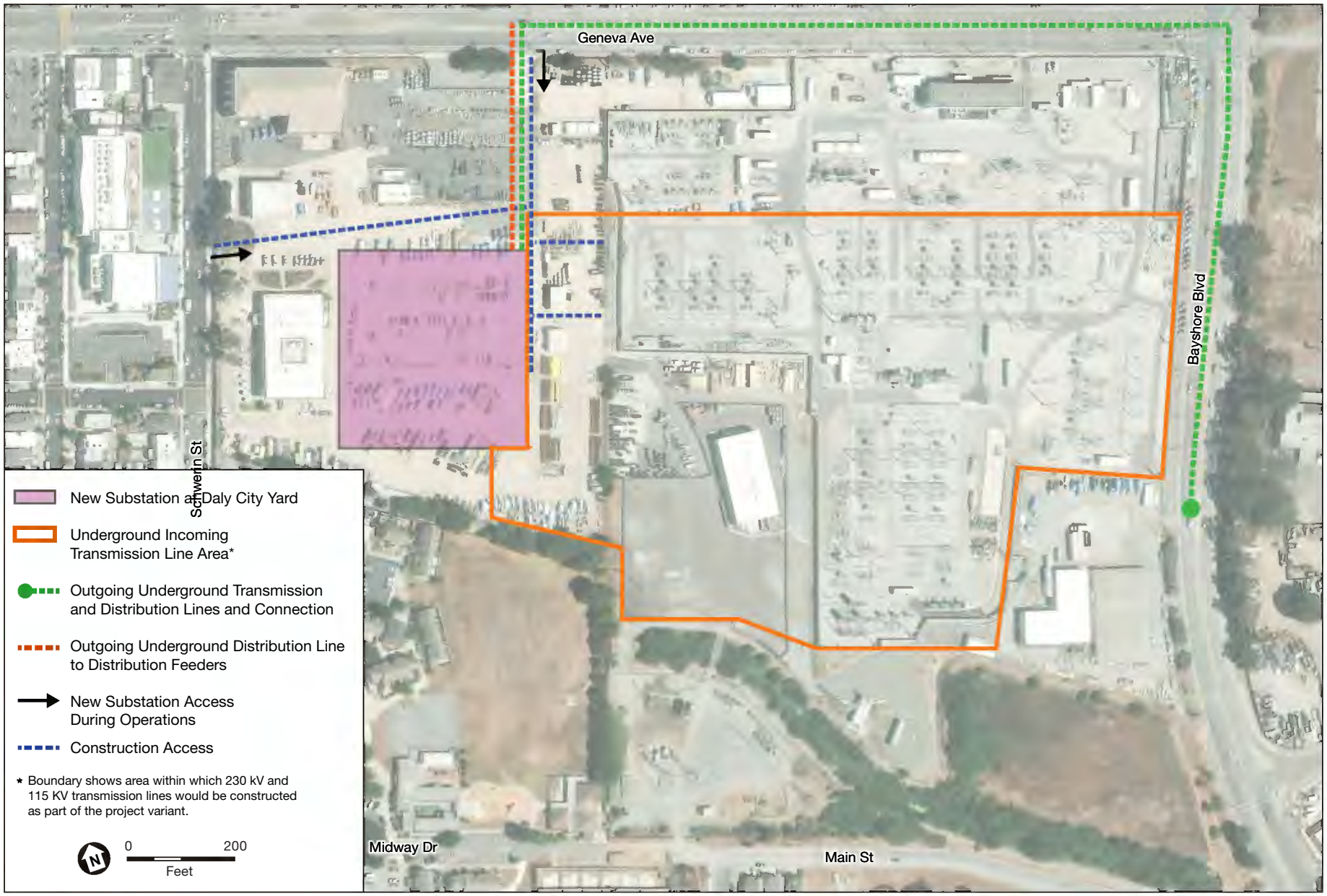
As part of the new City Substation, gas-insulated switchgear buildings would be constructed that would contain high-voltage components (e.g., circuit breakers and disconnect switches) within two main two- to three-story structures (with maximum height of 30 feet). These features would differ from the existing Martin Substation, which is an outdoor, air-insulated transmission and distribution substation. Six transformers would be located outdoors around the gas-insulated structures, separated by firewalls. New underground transmission lines would be constructed to connect the new substation to the PG&E Martin Substation to maintain interconnection with PG&E (within the area bounded by the orange line in Figure S-3) and to connect the new substation to the existing distribution system lines in Bayshore Boulevard (shown in Figure S-3 in green). Lighting would be installed around the new structure and transformers, and an 8-foot-tall fence would be constructed around the site for safety and security. The new City Substation would include parking spaces for City personnel.

S.3.4.1 PROJECT VARIANT CONSTRUCTION

The new City Substation would be constructed at Daly City Yard. The new City Substation could require pile supported foundations. Ground disturbance in Daly City Yard would require construction within areas subject to DTSC restrictions, same as the Martin Substation separation. In addition to the work at Daly City Yard, under the project variant, approximately 100 to 400 feet of the parking lane and adjacent sidewalk would be closed at any one time along Geneva Avenue between the new City Substation and Bayshore Boulevard and along Bayshore Boulevard during construction of three approximately 3,000-foot-long outgoing 230 kV and 115 kV cable trenches. Approximately 40 feet of construction would be completed each day. No demolition of existing structures would be required. Remaining construction activities for the project variant would be the same as described for the project.

S.3.4.2 PROJECT VARIANT OPERATION AND MAINTENANCE

Operation of the project variant would consist of the same activities described for the project in Section S.3.3 Operations and Maintenance; however, the project variant would also include SF6 (sulfur hexafluoride) gas storage and use. SF6 gas would be used as the insulating medium for the new equipment within the City Substation, for both insulation and fault interruption. The SF6 gas pressures in the equipment would be continuously monitored and the equipment would be topped off with SF6 if needed. Storage, use, and disposal of SF6 would comply with local, state, and federal laws and regulations.



SOURCE: Google Earth Aerial Imagery

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Figure S-3
New City Substation (Project Variant) at Daly City Yard

S.4 Summary of Project Impacts and Mitigation Measures

The initial study determined that for the following topics the project or project variant would have either no significant impacts or impacts that can be reduced to less than significant with mitigation: land use and planning; aesthetics; population and housing; cultural resources; tribal cultural resources; transportation and circulation, greenhouse gas emissions; wind; shadow; recreation; utilities and services systems; public services; biological resources; geology and soils; hydrology and water quality; hazards and hazardous materials; mineral resources; energy; wildfire; and agriculture and forestry resources. Discussion and analysis of impacts in these resource areas are presented in **Appendix A**.

Chapter 3 of this EIR presents detailed environmental impacts analyses for additional resource areas: noise and vibration and air quality. For each resource area, the impact analysis describes the environmental setting, identifies significance criteria used in the analysis, evaluates potential physical effects of the project or project variant on both a project and cumulative basis, and provides feasible mitigation measures that would reduce the severity of significant impacts.

Table S-1 (located at the end of this chapter) summarizes (1) impact description, (2) level of significance prior to mitigation measures (if applicable), (3) mitigation measures (if applicable), and (4) level of significance after mitigation (if applicable). The summary table includes all impacts and mitigation measures applicable to the project or project variant, with the EIR sections presented first, followed by the initial study sections.

This EIR determined that the project or project variant would result in significant and unavoidable noise and vibration impacts as follows:

- Generators would be used overnight during trenchless construction associated with the distribution express feeders and could exceed allowable nighttime noise levels when located within 65 feet of residences, a significant impact. Depending on the location, noise barriers or other methods to reduce noise identified in Mitigation Measure M-NO-1 (Construction Noise Control for Generator Operations) may not be sufficient to reduce noise levels at the nearest sensitive receptors. (Impacts NO-1, NO-2). This would also result in a considerable contribution to cumulative nighttime construction noise and therefore would have a significant cumulative noise impact. (Impact C-NO-1).
- Under the project or project variant, construction at Martin Substation or Daly City Yard would substantially increase noise levels above the 10 dBA over ambient standard for most construction phases, a significant impact, and Mitigation Measure M-NO-2 (Construction Noise Control for the Martin Substation and New City Substation) may not be able to achieve sufficient noise level reductions (Impact NO-2). This would also result in a considerable contribution to cumulative construction noise (a significant cumulative impact). Noise from construction of Martin Substation separation or the new City Substation (project variant) could still exceed thresholds and therefore have a significant cumulative noise impact. (Impact C-NO-1).
- Early morning (prior to 7 a.m.) activities at the operations and maintenance service yards could occasionally exceed the 45 dBA interior nighttime noise standard for residential uses within 400 feet and result in the potential for sleep disturbance, even with implementation of Mitigation Measure M-NO-3b (Operational Noise Analysis and Attenuation for Service Yards) (Impact NO-3).

The EIR also identified the following significant impacts that could be mitigated to a less-than-significant level with implementation of identified mitigation measures, summarized in Table S-1 below (p. S-14 et seq.).

- **Noise and Vibration.** Generators used for trenchless construction of the distribution express feeders could temporarily produce sound levels more than 10 dBA above ambient noise levels (Impact NO-2); typical HVAC equipment and exhaust fans, such as that proposed for the operations control center, could increase ambient noise by more than the 8 dBA over existing levels at potential operations control center locations (Impact NO-3); and construction of the project or project variant could result in vibration levels that could damage nearby buildings (Impact NO-4).
- **Air Quality.** Either the project or project variant would result in an exceedance of the NOx threshold in year 1 under both rail transport and truck transport scenarios and could generate fugitive dust, resulting in a significant impact (Impact AQ-2); construction of the project or project variant would generate emissions that could expose sensitive receptors to substantial pollutant concentrations of toxic air contaminants, resulting in a localized health risk (Impact AQ-4); and project or project variant diesel particulate matter and particulate matter of 2.5 microns in diameter or less ($PM_{2.5}$) emissions, combined with existing background health risks and diesel particulate matter and $PM_{2.5}$ emissions from cumulative sources, could result in a significant cumulative health risk impact (C-AQ-1).
- **Cultural Resources.** Construction activities and permanent structures (new buildings at Martin Substation, overhead equipment associated with local distribution system separation and system reinforcements) could adversely affect historic architectural resources (Impacts CR-1, C-CR-1), and excavation for all components could adversely affect archeological resources and human remains (Impacts CR-2, CR-3, and C-CR-2).
- **Tribal Cultural Resources.** Excavation for all project or project variant components could adversely affect archeological resources that may also be tribal cultural resources (Impacts TCR-1 and C-TCR-1).
- **Biological Resources.** Construction of the local distribution system separation and system reinforcements could result in adverse impacts on special-status species, wetlands, nesting birds, and bats (Impacts BI-1, and BI-3 through BI-5) and system reinforcements could conflict with the San Bruno Mountain Habitat Conservation Plan (Impact BI-7). Construction of the distribution express feeders and new City Substation (project variant) could adversely affect birds (Impact BI-4). Construction of the distribution express feeders and utility work at the operations control center could adversely affect bats (Impact BI-5). Construction could combine with cumulative projects to cause impacts on special-status species and wetlands (Impact C-BI-1).
- **Geology and Paleontological Resources.** Construction would involve excavation which could damage or destroy potential paleontological resources (Impact GE-5, C-GE-2).

Chapter 4 evaluates the growth-inducing impacts and significant irreversible changes of the project or project variant and determined that the project or project variant would not have a substantial growth-inducing impact. Construction activities associated with the project or project variant would result in an irretrievable and irreversible commitment of power supply and construction materials.

S.5 Alternatives to the Project

Chapter 5 presents the CEQA alternatives analysis to identify potentially feasible alternatives that could avoid or substantially lessen the significant impacts identified for the project while still meeting most of the project objectives. The four alternatives analyzed in this EIR are:

- **Alternative A: No Project** — Represents what would reasonably be expected to occur in the foreseeable future if the project is not approved. The City would not acquire PG&E electric assets in San Francisco or separate the grid. The City and PG&E would both continue to provide electric service within San Francisco. The City's service connections would continue to be subject to the physical constraints of PG&E's distribution grid and the rules and requirements imposed by PG&E through its Wholesale Distribution Tariff. Therefore, the City would continue to be required to install equipment pursuant to PG&E requirements in order to connect to PG&E's grid as new development is completed or existing customers in San Francisco move, remodel, or upgrade facilities.
- **Alternative B: Meter Transmission at Martin Substation** –Under Alternative B the City would acquire the 230 kV and 115 kV transmission lines into San Francisco from Martin Substation; the 230 kV and 115 kV transmission lines between substations in San Francisco; all transmission and distribution substations within San Francisco, including the future Egbert Switching Station; and the existing 115/12kV transformers at Martin Substation. The City would not acquire the 115 kV bus nor the 230/115 kV transformers at the Martin Substation. The City would install meters, transformers, a control house, and switchgear buildings at Martin Substation but would not complete other proposed separation work at Martin Substation. All other components would be the same as the proposed project.
- **Alternative C: Reduced Transmission Acquisition** - The City would acquire the 230 kV and 115 kV transmission lines between substations in San Francisco, the transmission and distribution substations within San Francisco, and the 115/12kV transformers at Martin Substation. The City would not acquire the 230 kV and 115 kV lines from Martin Substation into San Francisco; the 115 kV bus at Martin Substation; nor the 230/115 kV transformers at the Martin Substation. The City would not acquire the Egbert Switching Station. Instead of acquiring the 115 kV bus and 230/115 kV transformers at the Martin Substation, the City would install meters at five transmission substations in San Francisco (Potrero, Bayshore, Hunters Point, Embarcadero, and Larkin). With the exception of a control house and switchgear buildings, no other transmission separation work at the Martin Substation would be needed. All other components would be the same as the proposed project.
- **Alternative D: New Brisbane Baylands Substation** – The City would construct a new substation at a site on the Brisbane Baylands northeast of Martin Substation and install incoming and outgoing transmission lines between Martin Substation and the new Baylands Substation. The City would not build any new structures at Martin Substation. The distribution express feeders would connect to the new Baylands Substation. All other components would be the same as the proposed project.

The San Francisco Planning Department determined that these four alternatives are potentially feasible and adequately represent the range of alternatives required under CEQA. These alternatives would lessen some of the significant and unavoidable adverse impacts related to noise that were identified for the project or project variant, as well as meet most of the project objectives. A "no project alternative" is included as Alternative A, as required by CEQA, even though it would not meet the basic project objectives.

S.6 Environmentally Superior Alternative

Pursuant to CEQA Guidelines section 15126(e)(2), an EIR is required to identify the environmentally superior alternative from among the alternatives evaluated if the project has significant impacts that cannot be mitigated to a less-than-significant level. The environmentally superior alternative is the alternative that best avoids or lessens any significant effects of the project, even if the alternative would impede, to some degree, the attainment of the project objectives.

As discussed in greater detail in Chapter 5, Alternatives, Alternative B is the environmentally superior alternative among the project alternatives (other than Alternative A [No Project]). Alternatives B and C would have similar, reduced effects compared to the project or project variant. Compared to Alternative C, Alternative B requires less construction because fewer meters would be installed, and meter work would occur in fewer locations. Alternative B would meet or partially meet all project objectives. Alternative B would use existing facilities and avoid the construction of unnecessary and duplicative electric facilities. Alternative B would also minimize disruption to local communities. Alternative B would partially meet the remaining project objectives, related to expanding San Francisco's publicly owned electricity services, efficiently using public funds, providing operational control of San Francisco's electric grid, facilitating development of community-based goals and programs, cost-effectiveness, and establishing local accountability.

S.7 Areas of Known Controversy and Issues to be Resolved

Section 15123 of the CEQA Guidelines requires that an EIR identify each significant effect with proposed mitigation measures and alternatives that would reduce or avoid the effect; areas of controversy known to the lead agency, including issues raised by other agencies and the public; and issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

In accordance with sections 15063 and 15082 of the CEQA Guidelines, on June 28, 2023, the planning department sent a Notice of Preparation (NOP) of an Environmental Impact Report and Notice of Public Scoping Meetings to responsible and federal public agencies and interested parties. The planning department held two in-person scoping meetings: one on July 11, 2023, at the San Francisco Planning Department, and the other on July 15, 2023, at the Mission Blue Center in Brisbane. The planning department also held a virtual public scoping meeting on July 13, 2023, to receive oral comments on the scope of the EIR. The planning department made a video recording of the scoping meeting presentation available for viewing on the department's website. The 30-day scoping period ended on July 28, 2023. The NOP is included in **Appendix B** of this document.

As discussed in greater detail in Chapter 1, Introduction and Background, the City and PG&E have frequently disagreed about whether PG&E or the City is entitled to serve specific customers and whether PG&E's terms of service are reasonable. The following are areas of known controversy for the project:

- While the project proposes the acquisition of PG&E's electrical Assets needed to provide electric services to end-users in San Francisco, PG&E has rejected the City's two most recent offers of non-binding indication of interest to purchase the Assets and stated that the Assets are not for sale

- The Coalition of California Utility Employees has stated its members are concerned with projects that can result in serious environmental harm without providing countervailing economic benefits such as decent wages and benefits

Both PG&E and the Coalition of California Utility Employees appealed the January 2022 Preliminary Mitigated Negative Declaration for the project (refer to Section 1.5, Environmental Review Process, for additional information about the Preliminary Mitigated Negative Declaration). PG&E's comments received on the NOP for this EIR reiterate the appeal comments. Table 1-2 in Chapter 1, Introduction and Background, presents the public comments received on the NOP for this EIR, including PG&E's comments.

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
NOISE AND VIBRATION, EIR SECTION 3.2			
Impact NO-1: Construction of the project or project variant would generate a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	S	**Mitigation Measure M-NO-1: Construction Noise Control for Generator Operations.** *This measure applies to: Distribution Express Feeders (if trenchless construction method is used within 65 feet of a residence.)* Prior to construction, the SFPUC shall submit documentation to the Environmental Review Officer (ERO) or the ERO's designee, demonstrating with reasonable certainty that the nighttime operation of generators associated with dewatering of trenchless construction pits meets San Francisco Police Code section 2908 requirements (i.e., does not create noise exceeding the ambient noise level by 5 dBA at the nearest property plane). The dewatering approach shall be designed to meet a performance standard of no more than 5 dBA above ambient levels by implementing one or more of the following available measures: 1. Select "quiet" generators for dewatering of trenchless construction pits; and/or 2. Provide acoustical enclosures for generators.	SUM
Impact NO-2: Construction of the project or project variant would result in a substantial temporary increase in ambient noise.	S	**Mitigation Measure M-NO-1: Construction Noise Control for Generator Operations** (see Impact NO-1) **Mitigation Measure M-NO-2: Construction Noise Control for the Martin Substation and New City Substation.** *This measure applies to: Martin Substation Separation, New City Substation (Project Variant)* The SFPUC shall submit a project-specific construction noise control plan to the Environmental Review Officer (ERO) or the ERO's designee for approval prior to the start of construction for the Martin Substation separation and the new City Substation. The construction noise control plan shall apply to construction activities at the Martin Substation and the new City Substation. The construction noise control plan shall be prepared by a qualified acoustical engineer, with input from the construction contractor, and include noise control measures that meet a performance target of construction activities not resulting in a noise level greater than 90 dBA 1-hour L_{eq}, and 10 dBA above the ambient noise level at noise sensitive receptors (residences, hospitals, convalescent homes, schools, churches, hotels and motels). The SFPUC shall ensure that requirements for the development and implementation of the construction noise control plan are included in contract specifications.	SUM

[19] The SFPUC and/or or its designee could undertake project construction. The term "SFPUC" is used herein for brevity.

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		The construction noise control plan shall include, but not be limited to the following measures to reduce construction noise levels and meet a performance target of construction activities not resulting in a noise level greater than 90 dBA 1-hour L_{eq}, and 10 dBA above the ambient noise level at noise sensitive receptors: • Use construction equipment that is in good working order, and inspect mufflers for proper functionality; • Select "quiet" construction methods and equipment (e.g., improved mufflers, use of intake silencers, engine enclosures); • Use construction equipment with lower noise emission ratings whenever possible, particularly for air compressors; • Prohibit the idling of inactive construction equipment for more than five minutes; • Locate stationary noise sources (such as compressors) as far from nearby noise sensitive receptors as possible, and muffle such noise sources; • Avoid placing stationary noise-generating equipment (e.g., generators, compressors) within noise-sensitive buffer areas (as determined by the acoustical engineer) immediately adjacent to neighbors; • Enclose or shield stationary noise sources from neighboring noise-sensitive properties with noise barriers to the extent feasible; and • Install temporary barriers, barrier-backed sound curtains and/or acoustical panels around working powered impact equipment and, if necessary, around the project site perimeter, where needed. When temporary barrier units are joined together, the mating surfaces shall be flush with each other. Gaps between barrier units, and between the bottom edge of the barrier panels and the ground, shall be closed with material that completely closes the gaps, and dense enough to attenuate noise. The construction noise control plan shall include the following measures, with input from SFPUC Public Outreach, including notifying the public of construction activities, complaint procedures and monitoring of construction noise levels: • Designation of an on-site construction noise manager for the project;	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• Notification of neighboring noise sensitive receptors within 300 feet of the project construction area at least 30 days in advance of high-intensity noise-generating activities (e.g., pier drilling, pile driving, and other activities that may generate noise levels greater than 90 dBA at noise sensitive receptors or 100 dBA at commercial receptors) about the estimated duration of the activity; • A procedure for notifying the planning department of any noise complaints within one week of receiving a complaint; • A list of measures for responding to and tracking complaints pertaining to construction noise. Such measures may include the evaluation and implementation of additional noise controls at sensitive receptors; and • Conduct noise monitoring (measurements) at the beginning of major construction phases (e.g., demolition, grading, excavation) and during high-intensity construction activities to determine the effectiveness of noise attenuation measures and, if necessary, implement additional noise control measures. Noise monitoring locations shall be approved in the noise control plan by the planning department. The program shall be set up to alert the construction manager or other designated person(s) when noise levels exceed allowable limits (10 dBA above established ambient levels or 90 dBA). If noise levels are found to exceed applicable noise limits due to construction-related activities, corrective action shall be taken, such as moving specific construction activities if feasible, fixing faulty or poorly operating equipment, or installing stationary or portable barriers. The construction noise control plan shall include the following additional measures during pile-driving activities: • When pile driving is to occur within 600 feet of a noise-sensitive receptor, implement "quiet" pile-driving technology (such as pre-drilling of piles, sonic pile drivers, auger cast-in-place, or drilled-displacement, or the use of more than one pile driver to shorten the total pile-driving duration or other applicable methods [only if such measure is preferable to reduce impacts to sensitive receptors]), where feasible in consideration of geotechnical and structural requirements and conditions; and • Where the use of driven impact piles cannot be avoided due to geotechnical and structural requirements and conditions, properly fit impact pile driving equipment with an intake and exhaust muffler and a sound-attenuating shroud, as specified by the manufacturer.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact NO-3: Project or project variant operations would cause a substantial permanent increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project, in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	S	**Mitigation Measure M-NO-3a: Operational Noise Analysis and Attenuation for Stationary Noise Sources** *This measure applies to: Operations Control Center* Prior to construction at the operations control center, the SFPUC shall submit documentation to the Environmental Review Officer (ERO) or the ERO's designee, demonstrating with reasonable certainty that the proposed approach to the replacement or renovation of HVAC equipment meets the noise limits specified in section 2909 of the San Francisco Police Code (i.e., an 8 dB increase above the ambient noise level at the property plane for noise from commercial or industrial uses; and interior noise limits of 55 dBA and 45 dBA for daytime and nighttime hours inside any sleeping or living room in a nearby dwelling unit on a residential property assuming windows open, respectively). Acoustical treatments required to meet the San Francisco Police Code may include but are not limited to: • Enclosing noise-generating mechanical equipment; • Installing relatively quiet models of air handlers, exhaust fans, and other mechanical equipment; • Using mufflers or silencers on equipment exhaust fans; • Orienting or shielding equipment to protect noise sensitive receptors (residences, hospitals, convalescent homes, schools, churches, hotels and motels, and sensitive wildlife habitat) to the greatest extent feasible; • Increasing the distance between noise-generating equipment and noise-sensitive receptors; and/or • Placing barriers around the equipment to reduce noise. **Mitigation Measure M-NO-3b: Operational Noise Analysis and Attenuation for Service Yards.** *This measure applies to: Operations and Maintenance Service Yards, if service yard property is within 400 feet of residences and loading operations would occur before 7 a.m.* Prior to occupation and operation of new service yards, the SFPUC shall submit documentation to the Environmental Review Officer (ERO) or the ERO's designee, demonstrating with reasonable certainty that loading operations prior to 7 a.m. within 400 feet of residences can meet the noise limits specified in section 2909 of the San Francisco Police Code (i.e., an 8 dB increase above the ambient noise level at the property plane for noise from commercial or industrial uses; and interior noise limits of 55 dBA and 45 dBA for daytime and nighttime hours inside any sleeping or living room in a nearby dwelling unit on a residential property assuming windows open, respectively). Acoustical treatments required to meet the San Francisco Police Code may include but are not limited to: • Enclosing noise-generating stationary mechanical equipment;	SUM

Table S-1 Summary of Impacts and Mitigation Measures

<table>
<tr><th>Impact</th><th>Level of Significance prior to Mitigation</th><th>Mitigation Measure[19]</th><th>Level of Significance After Mitigation</th></tr>
<tr><td></td><td></td><td>• Orienting or shielding equipment to protect noise sensitive receptors (residences, hospitals, convalescent homes, schools, churches, hotels and motels) to the greatest extent feasible;
• Increasing the distance between noise-generating equipment and noise-sensitive receptors; and/or
• Placing barriers around the equipment or along the property boundary to reduce noise.</td><td></td></tr>
<tr><td>Impact NO-4: The project or project variant could generate excessive groundborne vibration or groundborne noise levels.</td><td>S</td><td>Mitigation Measure M-NO-4a: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction
This measure applies to: Martin Substation Separation; New City Substation (Project Variant); Distribution Express Feeders if and where trenchless methods are used; Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation; Operations Control Center; and Operations and Maintenance Service Yards
Prior to construction, the SFPUC shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the ERO or the ERO’s designee for approval if construction would occur within buffer distances specified below. The plan shall identify all feasible means to avoid damage to potentially affected buildings. The SFPUC shall ensure that the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in the construction contract specifications.
Buffer Distances: SFPUC construction contract specifications shall require contractors to avoid use of vibratory equipment within the following buffer distances from buildings, to the extent feasible:
<table>
<tr><th>Component</th><th>Equipment</th><th>Buffer from Buildings</th></tr>
<tr><td>Martin Substation separation</td><td>12-ton vibratory roller</td><td>8 feet</td></tr>
<tr><td>New City Substation (Project Variant)</td><td>12-ton vibratory roller</td><td>8 feet</td></tr>
<tr><td>New City Substation (Project Variant)</td><td>Impact pile driver</td><td>60 feet</td></tr>
<tr><td>Distribution Express Feeders at trenchless construction pits only</td><td>Sheet pile driver (i.e., vibratory hammer)</td><td>60 feet</td></tr>
<tr><td>Operations Control Center excavation</td><td>12-ton vibratory roller</td><td>8 feet</td></tr>
<tr><td>Operations and Maintenance Service Yards</td><td>Jackhammer</td><td>8 feet</td></tr>
</table></td><td>LSM</td></tr>
</table>

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		If the equipment buffers in the table above can be met, the remainder of this measure is not applicable. If the above vibratory equipment must be used within the vibration buffer distances above, the following additional measures shall be required. ***Pre-construction Survey.*** Prior to the start of any ground-disturbing activity, SFPUC shall undertake a pre-construction survey to identify the age and photo-document the existing condition of potentially affected buildings at and within the above vibration buffer distances and shall document existing damage, such as cracks and loose or damaged features (as allowed by property owners). The survey shall be done by a qualified professional (e.g., a licensed engineer or acoustical consultant). If nearby affected buildings are potentially historic, the pre-construction survey shall additionally include descriptions and photographs of all identified historic and potentially historic buildings by a qualified historic preservation professional including all façades, roofs, and details of the character-defining features that could be damaged during construction. The SFPUC shall submit the survey for review and approval prior to the start of vibration-generating construction activity. ***Vibration Management and Monitoring Plan.*** The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable: • Maximum Vibration Level. Based on the anticipated construction methods and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant, in coordination with a qualified historic preservation professional if applicable, shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices. Common criteria are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings (i.e., non-engineered timber and masonry buildings), a PPV of 0.3 inch per second for older residential structures (i.e., engineered concrete and masonry (no plaster), and a PPV of 0.5 inch per second for new residential structures and modern industrial/commercial buildings (reinforced concrete, steel or timber (no plaster)). • Buffer Distances. The plan shall identify buffer distances to be maintained based on vibration levels and site conditions between the operation of vibration-generating construction equipment and the potentially affected building and/or structure to avoid damage to the extent possible. • Vibration-generating Equipment. The plan shall identify all vibration-generating equipment to be used during construction at applicable locations and identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed to meet or exceed the established criterion based on soil conditions. Such methods may include one or more of the following:	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		– Use a smaller 8-ton roller, a vibratory roller with reduced vibration amplitude settings, or hand-held "jumping jack" compactor – Incorporate non vibratory shoring methods and/or "quiet" pile-driving technologies into project construction (such as pre-drilled shafts drilled shafts, hydraulic pile driving methods, sonic pile drivers, auger cast-in-place, variable speed vibratory, micro-piling, or drilled-displacement), as feasible; and/or as needed to meet established criteria. – Ensure appropriate excavation shoring methods to prevent the movement of adjacent structures. • Vibration Monitoring. The plan shall identify the method and equipment for vibration monitoring to ensure that construction vibration levels do not exceed the established criteria identified in the plan. – Should construction vibration levels be observed to meet or exceed the criteria established in the plan, the contractor(s) shall halt the vibration-generating construction activity causing the exceedance and put alternative construction techniques identified in the plan into practice. – If vibration has damaged nearby buildings and/or structures that are not historic, a qualified professional shall prepare a damage report documenting the features of the building and/or structure that has been damaged. – If vibration has damaged nearby buildings and/or structures that are historic, the historic preservation consultant or other qualified professional shall immediately notify the ERO or the ERO's designee and prepare a damage report documenting the features of the building and/or structure that has been damaged. • Repair Damage. The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their preconstruction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site and, for historical buildings, remediated in compliance with Secretary of the Interior's Standards for the Treatment of Historic Properties, in consultation with the qualified historic preservation professional and planning department preservation staff. ***Vibration Monitoring Results Report.*** After construction is complete, SFPUC shall submit to the ERO or the ERO's designee a final report documenting the monitoring records, building and/or structure condition summaries, descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		Mitigation Measure M-NO-4b: Paving Vibration Minimization *This measure applies to: Distribution Express Feeders, Local System Separation, System Reinforcements* SFPUC construction contract specifications shall require contractors to avoid use of 12-ton vibratory rollers within 8 feet of buildings, to the extent feasible. If 12-ton roller would be used within the vibration buffer distance of 8 feet, prior to construction, the SFPUC or its designee shall conduct a pre-construction assessment of all structures within 8 feet of the work area. If vibratory rollers are required within 8 feet of structures, a smaller 8-ton roller, or vibratory roller with reduced vibration amplitude settings, shall be required. Equipment or setting selection must be adequate to ensure that a peak particle velocity [PPV] of 0.25 inch per second is not met or exceeded. A post-construction condition assessment by a qualified structural engineer or other professional with similar qualifications (e.g., civil engineer, acoustical engineer) shall be required for all buildings where a 12-ton roller or larger would occur within the vibration buffer distance if damage is reported by the property owner. Any damage shall be reported to the ERO or the ERO's designee and any damage to building(s) and/or structures(s) shall be remediated to their pre-construction condition (as allowed by property owners) and, for historic buildings, remediated in compliance with Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic preservation professional and planning department preservation staff.	
Impact C-NO-1. Construction of the project or project variant, in combination with cumulative projects, would result in a substantial temporary increase in ambient noise levels at noise-sensitive receptors above levels existing without the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, or a substantial temporary increase in ambient noise.	S	**Mitigation Measure M-NO-2: Construction Noise Control for the Martin Substation and New City Substation** (see Impact NO-2)	SUM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact C-NO-2: The project or project variant, in combination with cumulative projects, would not cause a substantial permanent increase in ambient noise levels at noise-sensitive receptors above levels existing without the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	No mitigation required.	NA
Impact C-NO-3: The project or project variant, in combination with cumulative projects, would not generate excessive groundborne vibration or groundborne noise levels	LTS	No mitigation required.	NA
AIR QUALITY, EIR SECTION 3.3			
Impact AQ-1: The project or project variant would not conflict with or obstruct implementation of the 2017 Clean Air Plan.	LTS	No mitigation required.	NA
Impact AQ-2: Construction of the project or project variant could result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal, state, or regional ambient air quality standard.	S	**Mitigation Measure M-AQ-2a: Basic Best Management Practices for Construction-Related Fugitive Dust Emissions.** *This measure applies to: Martin Substation Separation, Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, New City Substation (Project Variant)* All construction activities occurring outside San Francisco and involving excavation and ground disturbance that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil shall implement the following fugitive dust control measures. • All exposed surfaces (e.g., unpaved parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered.	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • All excavation, grading, or demolition activities shall be suspended when average wind speeds exceed 20 mph. • All trucks and equipment, including their tires, shall be washed off prior to leaving the construction site. • Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel. • Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations **Mitigation Measure M-AQ-2b: Clean Construction Equipment.** *This measure applies to: All project components* ***A. Engine Requirements.*** 1. All off-road equipment shall have engines that meet the U.S. EPA or California Air Resources Board Tier 4 Final off-road emission standards. 2. Where access to alternative sources of power are available, portable diesel engines shall be prohibited. 3. Diesel engines, whether for off-road on on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The SFPUC shall post legible and visible signs in English, Spanish, and Chinese in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. If the majority of the SFPUC's construction staff speak a language other than these, then the signs shall be posted in that language as well.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		4. The SFPUC shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer's specifications. 5. Any other best available technology in the future may be included, provided that the SFPUC submits documentation to the planning department demonstrating that (1) the technology would result in emissions reductions and (2) it would not increase other pollutant emissions or result in other additional impacts, such as noise. This may include new alternative fuels or engine technology for off-road or other construction equipment (such as electric or hydrogen fuel cell equipment) that is not available as of 2024. ***B. Waivers.*** The environmental review officer (ERO) may waive the requirement of subsection (A)(2) regarding an alternative source of power if an alternative source is limited or infeasible at the project site. If the ERO grants the waiver, the SFPUC must submit documentation that the equipment used for onsite power generation meets the engine requirements of subsection (A)(1). The ERO may waive the equipment requirements of subsection (A)(1) if a particular piece of Tier 4 Final off-road equipment is technically not feasible, the equipment would not produce the desired emissions reduction because of expected operating modes, or a compelling emergency requires the use off-road equipment that is not Tier 4 compliant. In seeking an exception, the SFPUC shall demonstrate that the project shall use the cleanest piece of construction equipment available and feasible and submit documentation that average daily construction emissions of ROG, NOx, PM2.5 would not exceed 54 pounds per day, and PM10 emissions would not exceed 82 pounds per day. ***C. Construction Emissions Minimization Plan*** Before starting onsite construction activities, the SFPUC shall submit a Construction Emissions Minimization Plan (Plan) to the ERO for review and approval. The Plan shall state, in reasonable detail, how the SFPUC will meet the engine requirements of Section A. • The Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include, but is not limited to, equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For offroad equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• The SFPUC shall ensure that all applicable requirements of the Plan have been incorporated into the SFPUC's contract specifications. The Plan shall include a certification statement that the SFPUC's contractors agree to comply fully with the Plan. • The SFPUC shall make the Plan available to the public for review onsite during working hours. The SFPUC shall post at the construction site a legible and visible sign summarizing the Plan. The sign shall also state that the public may ask to inspect the Plan for the project at any time during working hours and shall explain how to request to inspect the Plan. The SFPUC shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. ***D. Monitoring*** • After start of construction activities, the SFPUC shall submit a final report to the ERO documenting compliance with the Plan. After completion of construction activities, the SFPUC shall submit to the ERO a final report summarizing construction activities, including the start and end dates, duration of each construction phase, and the specific information required in the Plan.	
Impact AQ-3: Operation of the project or project variant would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal, state, or regional ambient air quality standard.	LTS	No mitigation required.	NA
Impact AQ-4: The project or project variant could expose sensitive receptors to substantial pollutant concentrations.	S	**Mitigation Measure M-AQ-2b: Clean Construction Equipment** (see Impact AQ-2)	LSM
Impact AQ-5: The project or project variant would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact C-AQ-1: The project or project variant, in combination with cumulative projects, would contribute to the cumulative health risks in the area, but the project or project variant would not expose sensitive receptors to substantial air pollutant concentrations or result in a cumulatively considerable net increase in health risks and hazards.	S	**Mitigation Measure M-AQ-2b: Clean Construction Equipment** (see Impact AQ-2)	LSM
INITIAL STUDY SECTION E.1, LAND USE AND PLANNING			
Impact LU-1: The project or project variant would not physically divide an established community.	NI	No mitigation required.	NA
Impact LU-2: The project or project variant would not cause a significant physical environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.1, LAND USE AND PLANNING (CONT.)			
Impact C-LU-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to land use and planning.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.2, AESTHETICS			
Impact AE-1: The project or project variant would not have a substantial adverse effect on a scenic vista.	LTS	No mitigation required.	NA
Impact AE-2: The project or project variant would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.	LTS	No mitigation required.	NA
Impact AE-3: The project or project variant would not conflict with applicable zoning and other regulations governing scenic quality.	NI	No mitigation required.	NA
Impact AE-4: The project or project variant would not create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.	LTS	No mitigation required.	NA
Impact C-AE-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to aesthetics.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.3, POPULATION AND HOUSING			
Impact PH-1: The project or project variant would not induce substantial unplanned population growth, either directly or indirectly.	LTS	No mitigation required.	NA
Impact PH-2: The project or project variant would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere.	NI	No mitigation required.	NA
Impact C-PH-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to population and housing.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.4, CULTURAL RESOURCES			
Impact CR-1: The project or project variant could cause a substantial adverse change in the significance of a historic architectural resource.		**Mitigation Measure M-CR-1a: Martin Substation Historic Resources Setting Protection.** *This measure applies to: Martin Substation separation* Where the project includes placement of new, permanent, aboveground structures, those structures shall be located at a distance that minimizes impacts on the setting of adjacent historic resources. At a minimum, new buildings shall be set back at least 20 feet from any historic resource and at least 30 feet from Geneva Avenue. This measure applies to the Martin Substation separation where a new control building and two switchgear buildings would be installed. Other locations for new aboveground structures near historic resources, if proposed, would be subject to review and approval by San Francisco Planning Department preservation staff to ensure conformance with Secretary of the Interior's Standards regarding the setting of the historic resource.	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
	S	**Mitigation Measure M-CR-1b: Historic Resources Protection Program.** *This measure applies to: Martin Substation separation, New City Substation (Project Variant), Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation* To protect historic resources that are adjacent to construction activities (activities such as excavation, trenching, and new building construction), the SFPUC shall protect and avoid damage to onsite and adjacent historic resources. Contract specifications shall be reviewed and approved by San Francisco Planning Department preservation staff prior to the start of construction. Specifications shall include, but not be limited to, the following: • If aerial work would occur above the roofline of adjacent historic buildings and have the potential to cause building damage from falling objects, the roof of the adjacent structure shall be covered to avoid damage. • A buffer zone of 20 feet between historic resources and heavy equipment use and/or staging of equipment and materials shall be established and maintained, if feasible. • If a minimum buffer zone of 20 feet is not possible, barriers or construction monitoring shall be included to ensure no damage to historic resources occurs. • Any damage to historic resources incurred as a result of construction activities shall be immediately reported to the ERO or the ERO's designee, and any damage to the historic resource shall be repaired to match pre-construction conditions per the Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic resources professional and San Francisco Planning Department preservation staff. **Mitigation Measure M-CR-1c: Historic Resources Impact Minimization within Historic Resources and Historic Districts.** *This measure applies to: Local Distribution System Separation (Broderick-Terry Duel site); System Reinforcements (Balboa Terrace Historic District, Ingleside Terrace Historic District; Little Hollywood Historic District)* For project components that would occur within historic resources or historic districts that have distinctive features within the public right-of-way (unusual sidewalk and roadway elements including brick surfacing, brick gutters, gutters lined with former cemetery furniture [broken head and foot stones], granite curbs, cobblestones, railway and streetcar rails, sidewalk lights, street lamps, street furniture, monuments or plaques, and/or utility plates), and where these character-defining features appear to be 45 years or older, the SFPUC shall treat such features as potentially character-defining features of their setting. For those locations, historic materials shall be protected in place. Where	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		protection in place is not possible, materials shall be salvaged and reinstalled, or replaced in-kind to match the existing color, texture, material, and character of the feature. For project components that would occur within historic resources or historic districts that have character-defining features related to setting, placement of new poles and/or installation of new electrical or telecommunications equipment shall be in locations that follow established patterns. If maintenance of the current pattern of poles and equipment installation is not possible, locations for new poles, if proposed, would be subject to review and approval by San Francisco Planning Department preservation staff to ensure conformance with Secretary of the Interior's Standards regarding the setting of the historic resource. **Mitigation Measure M-CR-1d: Historic Resources Impact Minimization for Adaptive Reuse.** *This measure applies to: Operations Control Center* After selection of a proposed building for the operations control center, the SFPUC shall notify the ERO of the selected building. If required based upon ERO and preservation staff review, the SFPUC shall engage a qualified architectural historian to evaluate the historic significance of the operations control center building and provide the relevant historic resource documentation to the ERO. If the building is a historic resource, then the character-defining features of the historic resource shall be preserved or reconstructed consistent with Secretary of the Interior's Standards. The SFPUC shall submit proposed renovation plans to the ERO for review and approval prior to construction to ensure the work conforms to the Secretary of the Interior's Standards. **Mitigation Measure M-CR-1e: Historic Resources Impact Minimization for Service Yards Improvements.** *This measure applies to: Operations and Maintenance Service Yards within 20 feet of buildings* After selection of proposed service yard locations, the SFPUC shall engage a qualified architectural historian to evaluate the historic significance of buildings on surrounding parcels of the service yards' location. If historic resources are identified on adjacent parcels, then the SFPUC shall incorporate into contract specifications a requirement that the contractor(s) protect and avoid damage to adjacent historic resources. These contract specifications shall be reviewed and approved by the San Francisco Planning Department preservation staff prior to the start of construction. Specifications shall include the following: • If aerial work would occur above the roofline of adjacent historic buildings and would have the potential to cause building damage from falling objects, the roof of the adjacent structure shall be covered to avoid damage.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• A buffer zone of 20 feet between historic resources and heavy equipment use and/or staging of equipment and materials shall be established and maintained, if feasible. • If a minimum buffer zone of 20 feet is not possible, barriers or construction monitoring shall be included to ensure no damage to historic resources occurs. • Any damage to historic resources incurred as a result of construction activities shall be immediately reported to the ERO or the ERO's designee, and any damage to the historic resource shall be repaired to match pre-construction conditions per the Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic resources professional and San Francisco Planning Department preservation staff. **Mitigation Measure M-NO-4a: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction** (see Impact NO-4) **Mitigation Measure M-NO-4b: Paving Vibration Minimization** (see impact NO-4)	
Impact CR-2: The project or project variant could cause a substantial adverse change in the significance of an archeological resource.	S	**Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance.** *This measure applies to: All project components during ground disturbance* The SFPUC shall implement the following measures. • ***ALERT sheet***. The SFPUC shall distribute the planning department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils-disturbing activities within the project site. The "ALERT" sheet will provide information on cultural resources, including regulations and protocol in the event of an unanticipated discovery. Prior to any soils-disturbing activities being undertaken, each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, supervisory personnel, etc. The SFPUC shall provide the environmental review officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) confirming that all field personnel involved in soil-disturbing activities have received copies of the "ALERT" sheet. • ***Procedures Upon Discovery of a Suspected Archeological Resource***. The following measures shall be implemented in the event of a suspected archeological discovery during project soil-disturbing activities: • ***Discovery Stop Work and Environmental Review Officer Notification***. Should any indication of an archeological resource be encountered during any soils-disturbing activity of the project, the	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		SFPUC shall immediately notify the ERO and shall immediately suspend any soils-disturbing activities within 25 feet of the discovery and protect the find in place until the significance of the find has been evaluated and the ERO has determined whether and what additional measures are warranted, and these measures have been implemented, as detailed below. • ***Archeological Consultant Identification***. If the preliminary archeological review did not require archeological monitoring or testing, an archeological discovery during construction occurs prior to the identification of a project archeologist, and the ERO determines that the discovery may represent a significant archeological resource, then the SFPUC shall retain the services of an archeological consultant (hereinafter "project archeologist") either listed on the Qualified Archeological Consultant list maintained by the department or as otherwise approved by the ERO to identify, document, and evaluate the resource, under the direction of the ERO. The SFPUC shall ensure that the project archeologist or designee is empowered, for the remainder of soil-disturbing project activity, to halt soil disturbing activity in the vicinity of potential archeological finds, and that work remains halted until the discovery has been assessed and a treatment determination made, as detailed below. • ***Resource Evaluation and Treatment Determination***. If an archeological find is encountered during construction or archeological monitoring or testing, the project archeologist shall redirect soil-disturbing and heavy equipment activity in the vicinity away from the find. If in the case of pile driving activity (e.g., foundation, shoring, etc.), the project archeologist has cause to believe that the pile driving activity may affect an archeological resource, the SFPUC shall ensure that pile driving is halted until an appropriate evaluation of the resource has been made. The ERO may also require that the SFPUC immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions. • ***Initial documentation and assessment***. The project archeologist shall document the find and make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit through sampling or testing, as needed. The SFPUC shall make provisions to ensure that the project archeologist can safely enter the excavation, if feasible, and in compliance with a site-specific health and safety plan developed for archeological investigations. The SFPUC shall ensure that the find is protected until the ERO has been consulted and has determined appropriate subsequent treatment in consultation with the project archeologist, and the treatment has been implemented, as detailed below. The project archeologist shall make a preliminary assessment of the significance and physical integrity of the archeological resource and shall present the findings to the ERO. If, based on this information, the ERO determines that construction would result in impacts to a significant	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		resource, then the ERO shall consult with the SFPUC and other parties regarding the feasibility and effectiveness of preservation-in-place of the resource, as detailed below. • ***Native American Archeological Deposits and Tribal Notification***. All Native American archeological deposits shall be assumed to be significant unless determined otherwise in consultation with the ERO. If a Native American archeological deposit is encountered, soil disturbing work shall be halted as detailed above. In addition, the ERO shall notify any tribal representatives who, in response to the project tribal cultural resource notification, requested to be notified of discovery of Native American archeological resources in order to coordinate on the treatment of archeological and tribal cultural resources. Further, the project archeologist shall offer a Native American representative the opportunity to monitor any subsequent soil disturbing activity that could affect the find. • ***Submerged Paleosols***. Should a submerged paleosol[20] be identified, the project archeologist shall extract and process samples for dating, paleobotanical analysis, and other applicable special analyses pertinent to identification of possible cultural soils and for environmental reconstruction. • ***Archeological Site Records***. After assessment of any discovered resources is complete, the project archeologist shall prepare an archeological site record or primary record (Department of Parks and Recreation [DPR] 523 series) for each documented resource, unless the Planning Department determines that documenting the discovery in the final report is adequate. In addition, a primary record shall be prepared for any prehistoric isolate. Each such record shall be accompanied by a map and GIS location file. Records shall be submitted to the planning department for review as attachments to the archeological resources report (see below) and once approved by the ERO, to the Northwest Information Center. • ***Plans and Reports***. All archeological plans and reports identified herein and in the subsequent measures, shall be submitted by the project archeologist directly to the ERO for review and comment and shall be considered draft reports subject to revision until final approval by the ERO. The project archeologist may submit draft reports to the SFPUC simultaneously with submittal to ERO. • ***Limit on Construction Delays for Archeological Treatment***. Archeological testing and as applicable data recovery programs required to address archeological discoveries, pursuant to this measure, could suspend construction of the project for up to a maximum of four weeks. At	

[20] Paleosols represent landforms in the past that were stable and thus suitable for human habitation prior to subsequent sediment deposition. Paleosols have the potential to preserve archaeological resources if humans occupied or settled the area.

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section 15064.5 or Public Resources Code section 21083.2(g). • ***Preservation-in-Place Consideration***. Should an archeological resource that meets California Register significance criteria be discovered during soil disturbing activities including archeological testing, preservation-in-place (i.e., permanently protecting the resource from further disturbance and take actions, as needed, to preserve depositional and physical integrity) of the entire deposit or feature is the preferred treatment option. The ERO shall consult with the SFPUC and, for Native American archeological resources, with tribal representatives, if requested, to consider the feasibility of permanently preserving the resource in place. The ERO's determination of feasibility shall be based upon the ability to relocate or redesign proposed project activities to avoid the identified resource and preserve its historical significance. Preservation options that shall be considered for feasibility include redesign of the project to place open space over the resource location; foundation redesign to avoid the soil disturbance within the sensitive area; and a plan to expose and conserve the resource in place and include it in an on-site interpretive exhibit. If the ERO determines that preservation in place is feasible and effective, then the project archeologist, in consultation with the ERO, shall prepare a Cultural Resources Preservation Plan. For Native American archeological resources, the project archeologist shall also consult with the tribal representatives, and the Cultural Resources Preservation Plan shall take into consideration the cultural significance of the tribal cultural resource to the tribes. The SFPUC shall ensure that the approved plan is implemented and shall coordinate with the planning department to ensure that disturbance of the resource will not occur in future, such as establishing a preservation easement. If, based on this consultation, the ERO determines that preservation-in-place is infeasible or would be ineffective in preserving the significance of the resource, then archeological data recovery, public interpretation of the resource, and archeological testing or monitoring if necessary to further characterize or protect the resource during project activities shall be carried out, as detailed below. • ***Coordination with Descendant Communities***. On discovery of an archeological site associated with descendant Native Americans, Chinese, or other identified descendant cultural group, the project archeologist shall contact an appropriate representative of the descendant group and the ERO. The representative of the descendant group shall be offered the opportunity to monitor archeological field investigations of the site and to offer recommendations to the ERO regarding appropriate archeological treatment of the site and data recovered from the site, and,	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		if applicable, any interpretative treatment of the site. The project archeologist shall provide a copy of the Archeological Resources Report to the representative of the descendant group. • ***Compensation.*** Following the initial tribal consultation, the ERO, SFPUC and project archeologist, as appropriate, shall work with the tribal representative or other descendant or descendant community representatives to identify the scope of work for a representative to fulfill the requirements of this mitigation measure, which may include participation in archeological monitoring, preparation and review of deliverables (e.g., plans, interpretive materials, artwork). Tribal representatives or other descendant community representatives for archeological resources or tribal cultural resources, who complete tasks in the agreed upon scope of work project, shall be compensated for their work as identified in the agreed upon scope of work. • ***Archeological Data Recovery Program.*** The project archeologist shall prepare an archeological data recovery plan if all three of the following apply: (1) a potentially significant resource is discovered; (2) preservation-in-place is not feasible, as determined by the ERO after implementation of the Preservation-in-Place Consideration procedures; and (3) the ERO determines that the project impacts on the archeological resource will be reduced by archeological data recovery. When the ERO makes such a determination, the project archeologist, SFPUC, ERO and, for tribal cultural archeological resources, the tribal representative, if requested by a tribe, shall consult on the scope of the data recovery program. The project archeologist shall prepare a draft archeological data recovery plan and submit it to the ERO for review and approval. If the time needed for preparation and review of a comprehensive archeological data recovery plan would result in a significant construction delay, the scope of data recovery may instead be agreed upon in consultation between the project archeologist and the ERO and documented by the project archeologist in a memo to the ERO and the ADRP will be finalized during the data recovery and subsequent analysis. The archeological data recovery plan/memo shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan/memo will identify what scientific/historical research questions are applicable to the expected or discovered resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the property that could be adversely affected by the proposed project. • The archeological data recovery plan/memo shall include the following elements: – Field Methods and Procedures: Descriptions of proposed field strategies, procedures, and operations	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		– Cataloguing and Laboratory Analysis: Description of selected cataloguing system and artifact analysis procedures – Discard Policy: Description of and rationale for field and post-field discard and deaccession policies – Security Measures: Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities – Report of Data Recovery Results: Description of proposed report format and distribution of results – Public Interpretation: Description of potential types of interpretive products and locations of interpretive exhibits based on consultation with SFPUC – Curation: Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities • The project archeologist shall implement the archeological data recovery program upon approval of the archeological data recovery plan/memo by the ERO. • ***Coordination of Archeological Data Recovery Investigations***. In cases in which the same resource has been or is being affected by another project for which data recovery has been conducted, is in progress, or is planned, the following measures shall be implemented to maximize the scientific and interpretive value of the data recovered from both archeological investigations: – In cases where an investigation has not yet begun, project archeologists for each project impacting the same resource and the ERO, as applicable, shall consult on coordinating and collaborating on archeological research design, data recovery methods, analytical methods, reporting, curation and interpretation to ensure consistent data recovery and treatment of the resource. – In cases where archeological data recovery investigation is under way or has been completed for a project, the project archeologist for the subsequent project shall consult with the prior project archeologist, if available; review prior treatment plans, findings and reporting; and inspect and assess existing archeological collections/inventories from the site prior to preparation of the archeological treatment plan for the subsequent discovery, and shall incorporate prior findings in the final report for the subsequent investigation. The objectives of this coordination and review of prior methods and findings shall be to identify refined research questions; determine appropriate data recovery methods and analyses;	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		assess new findings relative to prior research findings; and integrate prior findings into subsequent reporting and interpretation. • ***Treatment of Human Remains and Funerary Objects***. If human remains or suspected human remains are encountered during construction, the contractor and SFPUC shall ensure that ground-disturbing work within 25 feet of the remains is halted immediately and shall arrange for the protection in place of the remains until appropriate treatment and disposition have been agreed upon and implemented in accordance with this measure. The treatment of any human remains and funerary objects discovered during any soil- disturbing activity shall comply with applicable state laws, including Health and Safety Code section 7050.5 and Public Resources Code section 5097.98. Upon determining that the remains are human, the project archeologist shall immediately notify the Medical Examiner of the City and County of San Francisco, the ERO, and the SFPUC of the find. In the event of the Medical Examiner's determination that the human remains are Native American remains, the Medical Examiner shall notify the California State Native American Heritage Commission, which will appoint a Most Likely Descendant (MLD). The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98(a)). • The landowner shall then make all reasonable efforts to develop a burial agreement (agreement) with the MLD, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). Per Public Resources Code section 5097.98(c)(1), the agreement shall address, as applicable and to the degree consistent with the wishes of the most likely descendant, the appropriate excavation, removal, recordation, scientific analysis, custodianship prior to reinternment or curation, and final disposition of the human remains and funerary objects. If the most likely descendant agrees to scientific analyses of the remains and/or funerary objects, then the project archeologist shall retain possession of the remains and funerary objects until completion of any such analyses, after which the remains and funerary objects shall be reinterred or curated as specified in the agreement. • If the landowner or designee and the MLD are not able to reach an agreement on the treatment of the remains and/or funerary objects, then the ERO, in consultation with the SFPUC shall ensure that the remains and/or funerary objects are stored securely and respectfully until they can be reinterred on the project site, with appropriate dignity, in a location not subject to further or future subsurface disturbance, in accordance with the provisions of state law. Treatment of	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		historic-period human remains and/or funerary objects discovered during any soil-disturbing activity shall be in accordance with protocols laid out in the research design in the project archeological monitoring plan, archeological testing plan, archeological data recovery plan, and other relevant agreements established between the SFPUC, medical examiner, and the ERO. The project archeologist shall retain custody of the remains and associated materials while any scientific study scoped in the treatment document is conducted and the remains shall then be curated or respectfully reinterred by arrangement on a case-by case-basis. • ***Cultural Resources Public Interpretation Plan and Land Acknowledgement***. If a significant archeological resource (i.e., a historical resource or unique archeological resources as defined by CEQA Guidelines section 15064.5) is identified and the ERO determines in consultation with Native American representatives for Native American archeological resources, that public interpretation is warranted, the project archeologist shall prepare a Cultural Resources Public Interpretation Plan. The Cultural Resources Public Interpretation Plan shall describe the interpretive products, locations or distribution of interpretive materials or displays, the proposed content and materials, the producers or artists of the displays or installation, and a long-term maintenance program. • If the resource to be interpreted is a tribal cultural resource, the department shall notify Native American tribal representatives that public interpretation is being planned. If requested by tribal representatives, the Cultural Resources Public Interpretation Plan shall be prepared in consultation with and developed with the participation of Native American tribal representatives. For public projects or projects that include dedicated public spaces, the interpretive materials may include an acknowledgement that the project is located upon traditional Ohlone lands. For interpretation of a tribal cultural resource, the interpretive program may include a combination of artwork, preferably by local Native American artists, educational panels or other informational displays, a plaque, or other interpretative elements including digital products that address Native American experience and the layers of history. As feasible, and where landscaping is proposed, the interpretive effort may include the use and the interpretation of native and traditional plants incorporated into the proposed landscaping. • The project archeologist shall submit the Cultural Resources Public Interpretation Plan and drafts of any interpretive materials that are subsequently prepared to the ERO for review and approval. The SFPUC shall ensure that the Cultural Resources Public Interpretation Plan is implemented prior to occupancy of the project. • ***Archeological Resources Report***. If significant archeological resources, as defined by CEQA Guidelines section 15064.5, are encountered, then the project archeologist shall submit a	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		confidential draft Archeological Resources Report to the ERO. This report shall evaluate the significance of any discovered archeological resource, describe the archeological and historical research methods employed in the archeological programs undertaken, the results and interpretation of analyses, and discuss curation arrangements. Once approved by the ERO, the project archeologist shall distribute the approved Archeological Resources Report as follows: copies that meet current information center requirements at the time the report is completed to the California Archeological Site Survey Northwest Information Center, and a copy of the transmittal of the approved Archeological Resources Report to the Northwest Information Center to the ERO; one bound hardcopy of the Archeological Resources Report, along with digital files that include an unlocked, searchable PDF version of the Archeological Resources Report, GIS shapefiles of the site and feature locations, any formal site recordation forms (CA DPR 523 series), and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources, via USB or other stable storage device, to the environmental planning division of the planning department; and, if a descendant group was consulted, a digital or hard copy of the Archeological Resources Report to the descendant group, depending on their preference. • ***Curation***. If archeological data recovery is undertaken, then the project archeologist and the SFPUC shall ensure that any significant archeological collections and paleoenvironmental samples of future research value shall be permanently curated at an established curatorial facility. The facility shall be selected in consultation with the ERO. Upon submittal of the collection for curation the SFPUC or archeologist shall provide a copy of the signed curatorial agreement to the ERO. **Mitigation Measure M-CR-2b: Archeological Testing Program.** *This measure applies to: Martin Substation Separation; New City Substation (Project Variant)* The project archeologist shall develop and implement an archeological testing program prior to construction at the Martin Substation and New City Substation in Daly City as specified herein, and shall conduct an archeological monitoring and/or data recovery program if required to address archeological discoveries during testing or the assessed potential for archeological discoveries during construction, pursuant to this measure and Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance. ***Qualified Archeologist Identification***. Prior to construction or as directed by the ERO, the SFPUC shall contact the department archeologist to obtain the names and contact information for qualified archeological consultants on the department's list or as otherwise approved by the ERO	

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		and shall retain a qualified archeologist (hereinafter "project archeologist") from this list of three to develop and implement the archeological testing program. ***Construction Crew Archeological Awareness***. Prior to any soils-disturbing activities being undertaken where monitoring is required, the project archeologist shall conduct a brief on-site archeological awareness training that describes the types of resources that might be encountered and how they might be recognized, and requirements and procedures for work stoppage, resource protection and notification in the event of a potential archeological discovery. The project archeologist also shall distribute an "Alert" wallet card, based on the department's "ALERT" sheet, that summarizes stop work requirements and provides necessary contact information for the project archeologist, SFPUC and the to all field personnel involved in soil disturbing activities, including machine operators, field crew, pile drivers, supervisory personnel, etc., have received. The project archeologist shall repeat the training at intervals during construction, as determined necessary by the project archaeologist or as directed by the ERO, including when new construction personnel start work and prior to periods of soil disturbing work when the project archeologist will not be on site. ***Tribal Cultural Resources Sensitivity Training***. In addition to and concurrently with the archeological awareness training, for sites at which the ERO has determined that there is the potential for the discovery of Native American archeological resources or if requested by a tribe pursuant to the department's tribal cultural resources notification process, the SFPUC shall ensure that a Native American representative is afforded the opportunity to provide a Native American cultural resources sensitivity training to all construction personnel. ***Archeological Testing Program***. The project archeologist shall develop and undertake an archeological testing program as specified herein to determine to the extent possible the presence or absence of archeological resources in areas of project soil disturbance and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required to address archeological discoveries during testing or the assessed potential for archeological discoveries during construction, pursuant to this measure. The SFPUC shall make provisions to ensure that the project archeologist can safely undertake the testing program or monitoring/data recovery program in compliance with a site-specific health and safety plan developed for archeological investigations. ***Archeological Testing Plan***. The project archeologist shall consult with the ERO reasonably prior to the commencement of any project-related soils disturbing activities to determine the appropriate scope of archeological testing. The archeological testing program shall be conducted in accordance with an approved Archeological Testing Plan, prepared by the project archeologist consistent with	

Table S-1 Summary of Impacts and Mitigation Measures

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		the approved scope of work. The Archeological Testing Plan shall be submitted first and directly to the ERO for review and comment and shall be considered a draft subject to revision until final approval by the ERO. Project-related soils disturbing activities shall not commence where testing is required until the testing plan has been approved and any testing scope to occur in advance of construction has been completed. The project archeologist shall implement the testing as specified in the approved Archeological Testing Plan prior to and/or during construction. The Archeological Testing Plan shall include the following: • *Project Description*: Description of all anticipated soil disturbing activities, with locations and depths of disturbance, including foundation and utility demolition, hazardous soils remediation, site grading, shoring excavations, piles or soil improvements, and foundation, elevator, utility and landscaping excavations, with project plans and profiles, as needed, to illustrate the locations of anticipated soil disturbance. • *Site Specific Environmental and Cultural Context*: Pre-contact and historic environmental and cultural setting of the project site as pertinent to potential Native American use and historic period development, any available information pertaining to past soil disturbance; soils information, such as stratigraphic and water table data from prior geotechnical testing. As appropriate based on the scale and scope of the project, the Archeological Testing Plan should include historic maps as a basis for predicting resource types that might be encountered and their potential locations. An overlay of the project site on the city's prehistoric sensitivity model mapping should be included, as should the locations of all known archeological sites within 0.25 mile of the project site. • *Brief Research Design*: Scientific/historical research questions applicable to the expected resource(s), what data classes potential resources may be expected to possess, and how the expected data classes would address the applicable research questions. • *Anticipated Resources or Resource Types*: Likely resources that might be encountered and at what locations and depths, based on known resources in the vicinity, the site's predevelopment setting and development history, and the anticipated depth and extent of project soil disturbances. • *Proposed Scope of Archeological Testing and Rationale*: Testing methods to be used (e.g., coring, mechanical trenching, manual excavation, or combination of methods); locations and depths of testing in relation to anticipated project soil disturbance; strata to be investigated; any uncertainties on stratigraphy that would affect locations or depths of tests and might require archeological monitoring of construction excavations subsequent to testing.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• *Resource Documentation and Significance Assessment Procedures*: ERO and Native American consultation requirements upon making a discovery; pre-data recovery assessment process, burial treatment procedures, and reporting and curation requirements, consistent with the specifications of Mitigation Measure M-CR-2a. ***Archeological Testing Results Memo***. Irrespective of whether archeological resources are discovered, the project archeologist shall submit a written summary of the findings to the ERO at the completion of the archeological testing program. The findings report/memo shall describe each resource, provide an initial assessment of the integrity and significance of encountered archeological deposits encountered during testing, and provide recommendations for subsequent treatment of any resources encountered. ***Resource Evaluation and Treatment Determination***. Upon discovery of a suspected archeological resource during archeological testing, Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations shall be implemented as specified in that measure. ***Additional Applicable Measures***. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in the Mitigation Measure M-CR-2a shall be implemented as specified in that measure: • Archeological Data Recovery Program • Treatment of Human Remains and Funerary Objects (as applicable) • Coordination of Archeological Data Recovery Investigations • Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable) • Archeological Resources Report • Curation **Mitigation Measure M-CR-2c: Archeological Monitoring Program.** *This measure applies to: Distribution Express Feeders (in the locations specified in measure)* The project archeologist shall develop and implement an archeological monitoring program as specified herein and, in the event of a discovery during monitoring, shall conduct an archeological testing and/or data recovery program if required by the ERO to address archeological discoveries or the assessed potential for archeological discoveries, pursuant to this measure and Mitigation Measure M-CR-2a. Archeological monitoring shall be completed for the distribution express feeders at the following locations: 1) Geneva Avenue between Bayshore Boulevard to Talbert Street; 2) Huron Avenue between Geneva Avenue and Mt. Vernon Avenue; 3) Geneva Avenue between	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		Esquina Drive and Parque Drive; 4) Huron Avenue near intersection of Moneta Way; and 5) Sickles Avenue near San Jose Avenue. ***Qualified Archeologist Identification***. Prior to construction or as directed by the environmental review officer (ERO), the SFPUC shall retain an archeological consultant ("project archeologist") to develop and implement an archeological monitoring program under the direction of the ERO. ***Construction Crew Archeological Awareness***. Prior to any soil-disturbing activity where monitoring is required, the project archeologist shall conduct a brief on-site archeological awareness training that describes the types of resources that might be encountered and how they might be recognized, and requirements and procedures for work stoppage, resource protection and notification in the event of a potential archeological discovery. The project archeologist also shall distribute an "Alert" wallet card (based on the department's "ALERT" sheet) to all field personnel (e.g., machine operators, field crew, pile drivers, supervisory personnel) involved in soil disturbing activities, which summarizes stop work requirements and provides information on how to contact the project archeologist and ERO. The project archeologist shall repeat the training at intervals during construction, as determined necessary by the project archaeologist or as directed by the ERO, including when new construction personnel start work and prior to periods of soil disturbing work when the project archeologist will not be on site. ***Tribal Cultural Resources Sensitivity Training***. In addition to the archeological awareness training, for sites at which the ERO has determined that there is the potential for the discovery of Native American archeological resources or if requested by a tribe pursuant to the department's tribal cultural resources notification process, the SFPUC shall ensure that a Native American representative is afforded the opportunity to provide a Native American cultural resources sensitivity training to all construction personnel. ***Archeological Monitoring Program***. Based on the results of information provided in the preliminary archeological review and additional historical research as needed, the project archeologist shall consult with the ERO prior to the commencement of any project-related soils disturbing activities to determine the appropriate scope of archeological monitoring, allowing for required document preparation and review time. The SFPUC shall make provisions to ensure that the project archeologist can safely monitor and in compliance with a site-specific health and safety plan developed for archeological investigations. The archeological monitoring program shall be set forth in an Archeological Monitoring Plan, as detailed below. • The project archeologist shall be present on the project site according to a schedule agreed upon by the project archeologist and the ERO until the ERO has, in consultation with the project archeologist, determined that project construction activities could have no effects on significant	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		archeological deposits. The project archeologist shall prepare a daily monitoring log documenting activities and locations monitored, soil disturbance depth, stratigraphy, and findings. • The project archeologist has the authority to temporarily stop soil disturbing construction activity in the vicinity of a suspected find to document the resource, collect samples as needed, and assess its significance. The SFPUC shall ensure that the find is protected in place in accordance with the archeologist's direction, and that it remains protected until the archeologist, after consultation with the ERO, notifies the SFPUC that assessment and any subsequent mitigation are complete. The SFPUC shall also ensure that the construction foreperson or other on-site delegee, is aware of the stop work and protection requirements. In the event of a discovery of a potentially significant archeological resources during monitoring or construction, the project archeologist shall conduct preliminary investigation of the discovery, including the collection of soil samples and artifactual/ ecofactual material, as needed to assess potential significance and integrity. Once this initial assessment has been made, the project archeologist shall consult with the ERO on the results of the assessment. If the resource is assessed as potentially significant, the SFPUC shall ensure that soil disturbance remains halted at the discovery location until appropriate treatment has been determined in consultation with the ERO and implemented, as detailed below. ***Archeological Monitoring Plan***. The archeological monitoring plan shall include the following provisions: • *Project Description*: Description of all anticipated soil disturbing activities (e.g., foundation and utility demolition, hazardous soils remediation, site grading, shoring excavations, piles or soil improvements, and foundation, elevator, utility, and landscaping excavations), with project plans and profiles, as needed, to illustrate the anticipated soil disturbance. • *Site Specific Environmental and Cultural Context*: Pre-contact and historic environmental and cultural setting of the project site as pertains to potential Native American use and historic period development; any available information pertaining to subsequent soil disturbance, current knowledge of soil stratigraphy. As appropriate based on the scale and scope of the project, the Archeological Monitoring Plan should include historic maps, as a basis for predicting resource types that might be encountered and their potential locations. An overlay of the project site on the city's prehistoric sensitivity model mapping should be included, as should the locations of all known archeological sites within 0.25 mile of the project site.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• *Anticipated Resources or Resource Types*: Likely resources that might be encountered and at what locations and depths, based on known resources in the vicinity, the site's predevelopment setting and development history, and the anticipated depth and extent of project soil disturbances. • *Proposed Scope of Archeological Monitoring*: Include soil-disturbing activities/ disturbance depths to be monitored and relevant measures or activities required pursuant to the site-specific health and safety plan developed for archeological investigations. • *Synopsis of Required Procedures*: For the assessment and treatment of discoveries, ERO and Native American consultation requirements; burial treatment procedures; and reporting and curation requirements, consistent with the specifications of Mitigation Measure M-CR-2a. ***Resource Evaluation and Treatment Determination***. Upon discovery of a suspected archeological resource during construction or archeological monitoring, Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations shall be implemented as specified in that measure. ***Additional Applicable Measures***. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in Mitigation Measure M-CR-2a shall be implemented as specified in that measure: • Archeological Data Recovery Program • Treatment of Human Remains and Funerary Objects (as applicable) • Coordination of Archeological Data Recovery Investigations • Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable) • Archeological Resources Report • Curation **Mitigation Measure M-CR-2d: Archeological Treatment Program.** *This measure applies to: Local Distribution System Separation, System Reinforcements, Operations Control Center, Operation and Maintenance Service Yards* The following mitigation measure shall be implemented for any program-level component located in an area for which the preliminary archeological review conducted by qualified San Francisco Planning Department archeological staff identifies the potential for significant archeological impacts. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Planning (EP) Archeologist. All scopes, plans, and reports prepared by the consultant as specified herein shall be submitted first and directly to the EP Archeologist for	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		review and comment and shall be considered draft reports subject to revision until final approval by the EP Archaeologist. ***Archeological Treatment Plan.*** The archeological treatment program shall be conducted in accordance with an approved Archeological Treatment Plan. Once program-level components are developed to a project level the SFPUC shall contract with an archeological consultant to prepare an Archeological Treatment Plan for these components. The archeological consultant must have experience in historic era and Native American archaeology in the Bay Area and California who meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61). The archeological consultant will be selected by SFPUC in consultation with the Environmental Planning Archeologist (EP Archeologist) in regard to qualifications. As part of the Archeological Treatment Plan, the archeological consultant shall determine locations that merit archeological monitoring or testing through a screening process. No screening is required for activities that do not entail ground disturbance. Ground disturbance includes, but is not limited to augering, trenching, and demolition of existing infrastructure that extends below the ground surface. If the project has ground disturbance, it will be subject to archeological screening. In conjunction with the submission of the project application, the SFPUC will provide the archeological consultant with a project description, relevant figures, and available geotechnical information. As part of the Archeological Treatment Plan the archeological consultant shall screen projects with the below criteria to determine if the project could impact potentially significant archeological resources: • If a records search has not been completed in the past five years, the archeological consultant shall conduct an updated record search at the Northwest Information Center for recorded archeological resources within the programmatic areas that will have ground disturbance. Results of the record search including resource shapefiles shall be shared with the EP Archeologist. The archeological consultant shall use the results to determine if the project would impact recorded archeological sites or within 50 feet of a recorded site. • Second, the archeological consultant will determine if the project would impact historic-period archeological resources within the public right-or-way dating to the mid-19th century (pre-1870) as identified in the Cultural Resource Review. If the project does not meet one or both the criteria, then inadvertent discovery procedures would apply to the project (consistent with the procedures laid out in Mitigation Measure M-CR-2a). If the project could impact a known archeological resource and/or a potential historic-period resource,	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		then archeological monitoring, in accordance with Mitigation Measure M-CR-2c, shall be conducted at locations where potentially significant archeological resources could be impacted by the project. If SFPUC and the EP Archeologist determine that testing is preferable or more feasible, then testing would be implemented in accordance with Mitigation Measure M-CR-2b. A Native American monitor will be present for all areas with Native American sensitivity. The scope of the Archeological Treatment Plan generally shall include the following elements, at minimum: • Results of the record search • Historical context for project location including historical maps and photographs • Discussion of property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project • Reference applicable scientific/ historical research questions in the Housing Element EIR Volume I (Section 4.2) • Project activities to be archeologically monitored or tested, intensity of monitoring or testing, and location of monitoring or testing; • Procedures for the documentation, data recovery, significance and integrity assessment, interpretation and reporting of the types of resources likely to be encountered following provisions in Mitigation Measure M-CR-2a. • Ground disturbing activities in archeologically sensitive areas, as identified through the above screening, shall not begin until the Archeological Treatment Plan has been finalized. ***Additional Applicable Measures***. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in the Mitigation Measure M-CR-2a shall be implemented as specified in that measure: • Archeological Data Recovery Program • Treatment of Human Remains and Funerary Objects (as applicable) • Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable) • Archeological Resources Report • Curation • Consultation with Descendant Communities	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact CR-3: The project or project variant could disturb human remains, including those interred outside of formal cemeteries.	S	**Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance** (see Impact CR-2)	LSM
Impact C-CR-1: The project or project variant, in combination with cumulative projects, could result in demolition and/or alteration of historical resources, as defined in CEQA Guidelines section 15064.5.	S	**Mitigation Measure M-CR-1c: Historic Resources Impact Minimization within Historic Resources and Historic Districts** (see Impact CR-1) **Mitigation Measure M-CR-1d: Historic Resources Impact Minimization for Adaptive Reuse** (see Impact CR-1) **Mitigation Measure M-CR-1e: Historic Resources Impact Minimization for Service Yards Improvements** (see Impact CR-1) **Mitigation Measure M-NO-4b: Paving Vibration Minimization** (see Impact NO-4)	LSM
Impact C-CR-2: The project or project variant, in combination with cumulative projects, could result in a significant cumulative impact related to archeological resources or human remains.	S	**Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance** (see Impact CR-2) **Mitigation Measure M-CR-2b: Archeological Testing Program** (see Impact CR-2) **Mitigation Measure M-CR-2c: Archeological Monitoring Program** (see Impact CR-2) **Mitigation Measure M-CR-2d: Archeological Treatment Program** (see Impact CR-2)	LSM
INITIAL STUDY SECTION E.5, TRIBAL CULTURAL RESOURCES			
Impact TCR-1: The project or project variant could result in a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant.	S	**Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance** (see Section E.4, Cultural Resources) **Mitigation Measure M-CR-2b: Archeological Testing Program** (see Section E.4, Cultural Resources) **Mitigation Measure M-CR-2c: Archeological Monitoring Program** (see Section E.4, Cultural Resources) **Mitigation Measure M-CR-2d: Archeological Treatment Program** (see Section E.4, Cultural Resources)	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		Mitigation Measure M-TCR-1: Public Interpretation Land Acknowledgement *This measure applies to: All project components* The SFPUC shall, in consultation with local Native American representatives, design and implement public interpretation acknowledging that this project is built on traditional Ohlone land. The public interpretive land acknowledgement program may include a land acknowledgement, information on local Native Americans, or artwork, preferably by local Native American artists, to be included as part of public outreach and education about the project, such as project notifications sent to the public or project websites. Prior to completion of project construction, the SFPUC shall prepare and implement an interpretation plan in consultation with affiliated local Native American representatives and the ERO to guide the acknowledgment program. The plan shall identify, as appropriate, the proposed location or distribution for the acknowledgement program to include project outreach materials such as project webpages or other online project education or notification outreach and the proposed content of the land acknowledgement public interpretation program. The detailed content, media, and other characteristics of such an interpretive program shall be coordinated and approved by the local Native American representatives and the ERO. The final components of the public interpretation program shall be distributed following the agreed upon schedule in the public interpretation land acknowledgement plan. Tribal representatives shall be compensated for their work as identified in the agreed upon scope of work.	
Impact C-TCR-1. The project or project variant, in combination with cumulative projects, could result in a significant cumulative impact on tribal cultural resources.	S	**Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance** (see Section E.4, Cultural Resources) **Mitigation Measure M-CR-2b: Archeological Testing Program** (see Section E.4, Cultural Resources) **Mitigation Measure M-CR-2c: Archeological Monitoring Program** (see Section E.4, Cultural Resources) **Mitigation Measure M-CR-2d: Archeological Treatment Program** (see Section E.4, Cultural Resources) **Mitigation Measure M-TCR-1: Public Interpretation Land Acknowledgement**	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.6, TRANSPORTATION AND CIRCULATION			
Impact TR-1: Construction of the project or project variant would require a substantially extended duration; however, the effects of which would not create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with emergency access or accessibility for people walking or bicycling; or substantially delay public transit.	LTS	No mitigation required.	NA
Impact TR-2: Operation of the project or project variant would not create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations or interfere with accessibility of people walking or bicycling to or from the project area and adjoining areas, or result in inadequate emergency access.	LTS	No mitigation required.	NA
Impact TR-3: Operation of the project or project variant would not substantially delay public transit.	LTS	No mitigation required.	NA
Impact TR-4: Operation of the project or project variant would not cause substantial additional VMT or substantially induce automobile travel.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact TR-5: Operation of the project or project variant would not result in a loading deficit	LTS	No mitigation required.	NA
Impact C-TR-1. Construction of the project or project variant, in combination with cumulative projects, would not result in significant construction-related transportation impacts.	LTS	No mitigation required.	NA
Impact C-TR-2. Operation of the project or project variant, in combination with cumulative projects, would not create potentially hazardous conditions; would not interfere with accessibility; would not substantially delay public transit; would not cause substantial additional VMT or substantially induce automobile travel; and would not result in significant loading impacts.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.9, GREENHOUSE GAS EMISSIONS			
Impact C-GG-1: The project or project variant, in combination with the cumulative projects, would not generate GHG emissions at levels that would result in a significant impact on the environment and would not conflict with a policy, plan, or regulation adopted for the purpose of reducing GHG emissions.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.10, WIND			
Impact WI-1: The project or project variant would not create wind hazards in publicly accessible areas of substantial pedestrian use.	LTS	No mitigation required.	NA
Impact C-WI-1: The project or project variant, combined with cumulative projects, would not result in significant cumulative impacts related to wind.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.11, SHADOW			
Impact SH-1: The project or project variant would not create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces.	LTS	No mitigation required.	NA
Impact C-SH-1: The project or project variant, combined with cumulative projects, would not result in significant cumulative impacts related to shadow.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.12, RECREATION			
Impact RE-1: The project or project variant would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact RE-2: The project or project variant would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	NI	No mitigation required.	NA
Impact C-RE-1: The project or project variant, combined with cumulative projects, would not result in significant cumulative impacts related to recreation.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.13, UTILITIES AND SERVICE SYSTEMS			
Impact UT-1: The project or project variant would not require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	LTS	No mitigation required.	NA
Impact UT-2: Construction and operation of the project or project variant would have sufficient water supplies available to serve the project or project variant and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact UT-3: The project or project variant would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project or project variant's projected demand in addition to the provider's existing commitments.	LTS	No mitigation required.	NA
Impact UT-4: The project or project variant would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, and would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	LTS	No mitigation required.	NA
Impact C-UT-1: The project or project variant, in combination with cumulative projects, would not result in significant cumulative impacts related to relocation or construction of new facilities or wastewater treatment capacity.	LTS	No mitigation required.	NA
Impact C-UT-2: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to solid waste facilities and regulations.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.14, PUBLIC SERVICES			
Impact PS-1: Construction and operation of the project or project variant would not result in an increase in demand for fire protection, police protection, schools, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities.	LTS	No mitigation required.	NA
Impact C-PS-1: The project or project variant, combined with cumulative projects, would not result in significant impacts associated with the provision of new or physically altered governmental facilities.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.15, BIOLOGICAL RESOURCES			
Impact BI-1: The project or project variant could have a substantial adverse effect, either directly or through habitat modifications, on northwestern pond turtle, saltmarsh common yellowthroat, mission blue butterfly, and callippe silverspot butterfly.	S	**Mitigation Measure M-BI-1a: Worker Environmental Awareness Program Training.** *This measure applies to: Local Distribution System Separation, System Reinforcements, Distribution Express Feeders, New City Substation (Project Variant)* A project-specific Worker Environmental Awareness Program (WEAP) training shall be developed by a qualified biologist and implemented by SFPUC for the project and attended by all construction personnel prior to beginning work onsite for the local distribution system separation and system reinforcements. The training could consist of a recorded presentation that could be reused for new personnel. The WEAP training shall generally include but not be limited to the following: • Applicable state and federal laws, environmental regulations, project permit conditions, and penalties for non-compliance;	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• Special-status animal species with potential to occur on or in the vicinity of the project areas, avoidance measures, and a protocol for encountering such species (or their host plants) including a communication chain; • Preconstruction surveys and biological monitoring requirements associated with certain work activities (e.g., vegetation, ground disturbance, tree trimming, etc.) or near certain locations (e.g., Impound Lake, San Bruno Mountain); • Known sensitive resource areas in the project vicinity that are to be avoided and/or protected (e.g., wetlands) as well as approved project work areas; and • Best Management Practices (e.g., silt fencing/species exclusion fencing, straw wattles) and their location in the project areas for erosion control and/or species exclusion **Mitigation Measure M-BI-1b: Avoidance and Minimization Measures for Northwestern Pond Turtle.** *This measure applies to: Local Distribution System Separation, System Reinforcements* The SFPUC shall ensure a biological monitor is present during construction activities requiring vegetation removal or ground disturbance within 50 feet of the Impound Lake shoreline associated with the local distribution system separation and system reinforcements. Also, the following measures shall be implemented: • Any erosion and sediment control materials used onsite shall be free of plastic monofilament material that could cause animal entanglement. • A qualified biologist shall survey the project areas within 48 hours before the start of initial ground-disturbing activities and shall be present during all vegetation clearing and ground-disturbing activities within 50 feet of the Impound Lake shoreline. • If northwestern pond turtles are found during construction, construction activity that poses a threat to the individual shall be halted in the vicinity as determined by the qualified biologist. If possible, the individual shall be allowed to move out of the work area of its own volition. Only a qualified biologist approved by regulatory agencies with authority over this species shall relocate turtles to the nearest suitable habitat should they not leave the work area of their own accord. Construction shall resume after the individual is out of harm's way, as determined by a biologist. • Excavations deeper than 6 inches that cannot be backfilled or covered at the end of the work day shall have a sloping escape ramp of earth or a wooden plank installed at a 3:1 rise to allow species to escape.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• Openings, such as pipes, where northwestern pond turtles might seek refuge shall be covered when not in use (e.g., if staged overnight). • All trash that may attract predators or hide northwestern pond turtles shall be properly contained, removed from the worksite, and disposed of at the end of each work day. Following site construction, the contractor shall remove all trash and construction debris from the work areas and revegetate any disturbed areas to preconstruction conditions, unless otherwise authorized by regulatory permits and authorizations issued for this work. **Mitigation Measure M-BI-1c: Special-Status Butterfly Protection Measures.** *This measure applies to: Local Distribution System Separation, System Reinforcements* The following measures shall apply to project construction activities for the local distribution system separation and system reinforcements within suitable grassland habitat for special-status butterflies within the Daly City easement adjacent to San Bruno Mountain State and County Park, undeveloped grasslands east of the park, and grasslands associated with Icehouse Hill. • ***Habitat Delineation Survey.*** A qualified biologist shall conduct preconstruction surveys of grassland habitat during the period of identification for mission blue butterfly host plants (*Lupinus albifrons var. collinus, Lupinus littoralis var. variicolor* [April – July]; *Lupinus formosus* [June-October]) and callippe silverspot butterfly host plants (*Viola pedunculata* [February – April]). i. Surveys shall occur during the blooming season prior to or overlapping the construction schedule for work at these locations to ensure potential host plants are identified and can be protected. Preconstruction surveys to confirm prior survey results or identify additional plants shall be conducted again within 7 days prior to project construction activities in these locations, as appropriate. ii. The surveys shall identify and delineate the boundaries of host plant populations for mission blue butterfly (*Lupinus albifrons var. collinus, Lupinus formosus* and *Lupinus littoralis var. variicolor*), and callippe silverspot butterfly (*Viola pedunculata*) within 100 feet of the disturbance footprint (i.e., access, staging, equipment, excavation, etc.). • ***Avoidance During Construction.*** A minimum 20-ft no disturbance buffer shall be established around host plant populations identified during preconstruction surveys, or unless otherwise permitted by applicable regulatory agencies. • ***Habitat Monitoring During Construction.*** All work occurring within 100 feet of host plant populations shall be monitored by a qualified biologist.	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		• ***Habitat Occupation Survey.*** If the SFPUC determines that ground disturbance must occur within 20 feet or less of habitat identified in the habitat delineation survey, and if the habitat delineation survey did not determine habitat occupancy, then a qualified biologist shall conduct habitat occupation surveys of host plant populations to evaluate whether mission blue and callippe silverspot butterflies actively occupy the host plant populations within the project area where work would occur. Surveys shall be appropriately timed (conducted between March 1 and June 30) to identify the presence of adults, larvae, eggs, and/or feeding damage on host plants which would indicate occupation. Documentation of survey results shall be prepared by the qualified biologist and maintained by the SFPUC. i. *No Occupied Habitat Present.* If the qualified biologist conclusively determines the absence of rare butterflies within the survey area, host plant removal shall be minimized and area restored to preconstruction conditions, including reseeding with butterfly host plants. SFPUC will confirm successful establishment of the host plants within 1-2 years of restoration. ii. *Occupied Habitat within 20 feet of Work.* If work would occur within 20 feet of occupied habitat but would not remove habitat, SFPUC shall implement avoidance and minimization measures including but not limited to: dust control during construction activity, scheduling construction to avoid flight season, and clearly demarcating the habitat to be avoided with flags and fencing. iii. *Occupied Habitat Within Work Area.* If the qualified biologist determines through surveys that the host plant population is occupied and cannot be avoided, or if the qualified biologists determines rare butterflies are otherwise presumed to be present due to known occupation of host plants adjacent to the project area(s), the SFPUC shall implement a Restoration Plan, described in greater detail below, and confer with the U.S. Fish and Wildlife Service if potential "take" of the species[21] cannot be avoided through further project modifications, seasonal construction timing, or pre-planting of host plants nearby prior to ground disturbance. Compensatory mitigation to offset project impacts on the protected butterflies from loss of host plants within an occupied population shall be satisfied through habitat enhancement activities described in a Restoration Plan, which may include seed salvage, host plant relocation, and/or plantings, implemented at a 1:1 ratio for the acreage of habitat impacted to acreage of habitat enhanced, or as determined in any consultation with the U.S. Fish and Wildlife Service. The following elements shall be incorporated into the Restoration Plan:	

[21] Section 3 of the federal Endangered Species Act defines the term 'take' as "…means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		1) Host plant relocation shall be conducted under the direction of a qualified restoration specialist or botanist, by a contractor experienced in plant salvage and restoration activities. The Restoration Plan shall describe site preparation specifications, a plant palette, planting procedures, development of reasonable success criteria, appropriate monitoring and reporting protocols, implementation timelines, and contingency measures in the event of restoration failure. 2) Host plants within the work area may either be relocated to nearby suitable grassland habitat that would remain undisturbed by project activities or temporarily retained off-site and replanted within the disturbance footprint. 3) Planting areas shall be monitored by a qualified biologist twice a year for a period of five years following planting or seeding to provide recommendations for site improvements such as changes to the watering schedule, reseeding, replanting, or control of weeds. If plantings experience 20 percent mortality or greater in any monitoring year, the SFPUC shall implement habitat enhancement activities, such as invasive species removal and/or seeding host plant species. Monitoring shall be deemed complete when at least 75 percent of the plantings or seeding areas show good or better plant vigor without the need for supplemental water or maintenance. **Mitigation Measure M-BI-1d: Control Measures for Spread of Invasive Plants.** *This measure applies to: Local Distribution System Separation, System Reinforcements* The following measures shall apply to construction of the local distribution system separation and system reinforcements within suitable grassland habitat for special-status butterflies within the Daly City easement adjacent to San Bruno Mountain State and County Park, undeveloped grasslands east of the park, and grasslands associated with Icehouse Hill. Construction best management practices shall be implemented in all construction areas to prevent the spread of invasive plants, seed, propagules, and pathogens through the following actions: • Avoid driving in or operating equipment in weed-infested areas and restrict travel to established roads and trails whenever possible. • Avoid leaving piles of exposed soil or construction materials in areas with the potential for invasive plants. Cover inactive earthen stockpiles with plastic or a comparable material. • Clean tools, equipment, and vehicles before transporting materials and before entering and leaving worksites (e.g., wheel washing stations at SFPUC yards or access points). Inspect vehicles and equipment for weed seeds and/or propagules stuck in tire treads or mud on the	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		vehicle to minimize the risk of carrying them to unaffected areas. Designate areas within active construction sites or the operations and maintenance yards for cleaning and inspections. **Mitigation Measure M-BI-4: Nesting Bird Protection Measures** (see Impact BI-4)	
Impact BI-2: The project or project variant would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	NI	No mitigation required.	NA
Impact BI-3: The project or project variant could have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means.	S	**Mitigation Measure M-BI-3a: Restoration of Freshwater Emergent Marsh Wetlands.** *This measure applies to: Local Distribution System Separation, System Reinforcements* Freshwater emergent marsh wetlands within Visitacion Creek Marsh or the two unnamed freshwater emergent wetlands east of Industrial Way that may be temporarily affected during construction to facilitate implementation of local distribution system separation and system reinforcements work shall be restored in-place to pre-project conditions. A Wetland Restoration and Mitigation Monitoring Plan shall be prepared for the affected areas, subject to approval by the appropriate regulatory agencies, and shall include, but not be limited to, the following: • A final grading plan for the affected freshwater emergent wetlands that would restore the topography of the affected areas to pre-project conditions. • A planting plan, composed of native freshwater emergent wetland plant species, consistent with the surrounding community of the affected area. • A weed control plan that prevents the spread of invasive non-native plant species on the project areas. • Performance criteria for the revegetated areas that establish success thresholds over a specific amount of time (typically five years) as determined by the regulatory agencies with jurisdiction over the affected areas. • A monitoring and reporting program under which progress of the revegetated areas shall be tracked to ensure survival of the mitigation plantings. The program shall document overall health and vigor of mitigation plantings throughout the monitoring period and provide	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		recommendations for adaptive management as needed to ensure the site is successful, according to the established performance criteria. An annual report documenting monitoring results and providing recommendations for improvement throughout the year shall be provided to the regulatory agencies. • A best management practices element describing erosion control measures to be installed around the affected areas following mitigation planting in order to avoid sediment runoff into the adjacent waters (as applicable). **Mitigation Measure M-BI-3b: Compensation for Permanent Fill of Wetlands and Waters.** *This measure applies to: Local Distribution System Separation, System Reinforcements* If impacts on wetlands and waters cannot be avoided, the SFPUC shall obtain the required permits and authorizations from the U.S. Army Corps of Engineers, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Wildlife, and San Francisco Bay Conservation and Development Commission for project impacts on aquatic resources regulated by these entities. The SFPUC shall provide adequate compensatory mitigation for permanent placement of fill associated with installation of new electrical system infrastructure in jurisdictional wetlands and waters. Compensatory mitigation shall achieve at least a 1:1 ratio of acreage impacted to acreage created/restored/enhanced, or greater, and as required by regulatory agencies with jurisdiction over the impacted aquatic resources, to ensure no net loss of wetlands and waters. Compensatory mitigation obligations from permanent project fill could be satisfied through onsite or offsite creation, restoration, or enhancement of waters, wetlands, and/or riparian habitat, or payment into an approved mitigation bank for in-kind habitat credits, or other compensatory actions that avoid a net loss of these aquatic resources and as determined in consultation with these regulatory agencies.	
Impact BI-4: The project or project variant could interfere substantially with the movement of native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	S	**Mitigation Measure M-BI-4: Nesting Bird Protection Measures.** *This measure applies to: Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; New City Substation (Project Variant)* Nesting birds and their nests shall be protected during construction of the local distribution system separation, system reinforcements, distribution express feeders, and new City Substation (project variant) through the implementation of the following measures:	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		a. To the extent feasible as determined by the SFPUC with their contractor, ground disturbance, vegetation removal, tree trimming, and other construction activities that may compromise breeding birds or the success of their nests shall be conducted from September 1 to January 31, which is outside of nesting season. b. If the SFPUC and their contractor determine construction activities must occur during bird nesting season (i.e., from February 1 to August 31), a qualified wildlife biologist shall conduct preconstruction nesting surveys within seven days prior to the start of construction. Surveys shall be performed for the individual project areas and suitable habitat within 250 feet of where work would occur or an appropriate distance as determined by the qualified biologist under the project or project variant to locate any active nests. c. If active nests are located during the preconstruction bird nesting surveys, a qualified biologist shall evaluate whether the schedule of construction activities could affect the active nests and shall apply the following measures: i. If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect and may revise their determination at any time during the nesting season. ii. If construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines it is no longer in use. Typically, these buffer distances are 250 feet for passerines and 500 feet for raptors; however, nest buffers may be increased or decreased by a qualified biologist based on factors such as the type of work occurring, line of sight from the nest to construction activities, and sensitivity of the bird species, so long as the buffer distance is sufficient to avoid impacts on the nesting bird. Removing or relocating active nests shall be coordinated with the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service, as appropriate, given the nests that are found on the site. iii. Any work that the SFPUC and their contractor determine must occur within established no-disturbance buffers around active nests and is deemed appropriate by the qualified biologist (e.g., vegetation removal, grading, work with hand tools, etc.) shall be monitored by a qualified biologist. If adverse effects in response to project work within the buffer are observed and could compromise the nest, work shall halt until the nest fledges. d. Any birds that begin nesting within the project areas and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels so exclusion zones around nests may be reduced or eliminated in these cases as	

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		determined by the qualified biologist. Work may proceed around these active nests as long as they and their occupants are not directly affected. Protective buffers shall be established around such nests at any time if project-related adverse effects on birds, nests, or nestlings are observed. **Mitigation Measure M-BI-1a: Worker Environmental Awareness Program Training** (see Impact BI-1)	
Impact BI-5: The project or project variant could have a substantial adverse effect on bat maternity colony roosts.	S	**Mitigation Measure M-BI-5: Avoidance and Minimization Measures for Bat Maternity Roosts.** *This measure applies to: Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; Operations Control Center* The following measures shall apply to project construction activities related to the distribution express feeders, local distribution system separation, system reinforcements, and the operations control center requiring tree trimming. A qualified biologist experienced in the identification of bats shall conduct a preconstruction survey and assessment of potential bat habitat in advance of any tree trimming to identify signs of an active maternity colony or active roost sites. Identified bat maternity colonies shall be avoided, if feasible, as determined by the SFPUC and their contractor. Should potential maternity colonies or active bat roosts be found in trees but cannot be avoided, the following measures shall be implemented under the supervision of a qualified biologist: a. Trees shall be trimmed or bat exclusion devices shall be installed when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15; outside of the bat maternity roosting season (approximately April 15 to August 15) if a maternity roost is present; and outside the months of winter torpor (approximately October 15 to February 28, or as determined by a qualified biologist experienced in the identification of special-status bats). b. If tree trimming is not feasible during the periods when bats are active, and bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of the tree trimming, a qualified biologist shall delineate a no-disturbance buffer around these roost sites until they are no longer in use as maternity or hibernation roosts or the young are capable of flight. c. Based on the professional opinion of a qualified biologist, buffer distances may be adjusted around roosts depending on the level of surrounding ambient activity (e.g., if the subject tree is adjacent to a busy road) or if an obstruction, such as a building, is within the line of sight between the roost and construction.	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		d. A biologist experienced in the identification of special-status bats shall be present during tree trimming (and removal, if needed) if bat roosts are present. Project activities shall disturb trees with roosts only when no rain is occurring or rain is not forecast to occur for three days and when daytime temperatures are at least 50 degrees Fahrenheit. e. Under the supervision of the qualified biologist, trees containing or suspected to contain roost sites shall be trimmed over two days. On the first day, branches and limbs not containing cavities or fissures in which bats could roost shall be cut using chainsaws. The following day, branches or limbs containing roost sites shall be trimmed with chainsaws, under the supervision of the biologist.	
Impact BI-6: The project or project variant would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LTS	No mitigation required.	NA
Impact BI-7: The project or project variant could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	S	**Mitigation Measure M-BI-1c: Special-Status Butterfly Protection Measures** (see Impact BI-1) **Mitigation Measure M-BI-1d: Control Measures for Spread of Invasive Plants** (see Impact BI-1)	LSM
Impact C-BI-1: The project or project variant, in combination with cumulative projects, could result in significant cumulative impacts on biological resources.	S	**Mitigation Measure M-BI-1c: Special-Status Butterfly Protection Measures** (see Impact BI-1) **Mitigation Measure M-BI-1d: Control Measures for Spread of Invasive Plants** (see Impact BI-1) **Mitigation Measure M-BI-3a: Restoration of Freshwater Emergent Marsh Wetlands** (see Impact BI-3) **Mitigation Measure M-BI-3b: Compensation for Permanent Fill of Wetlands and Waters** (see Impact BI-3) **Mitigation Measure M-BI-5: Avoidance and Minimization Measures for Bat Maternity Roosts** (see Impact BI-5)	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.16, GEOLOGY AND SOILS			
Impact GE-1: The project or project variant would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismically induced ground failure, including liquefaction, or landslides.	LTS	No mitigation required.	NA
Impact GE-2: The project or project variant would not result in substantial soil erosion or loss of topsoil.	LTS	No mitigation required.	NA
Impact GE-3: The project or project variant would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse by being located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project.	LTS	No mitigation required.	NA
Impact GE-4: The project or project variant would not create substantial direct or indirect risks to life or property by being located on expansive soils.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact GE-5: Construction of the project or project variant could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	S	**Mitigation Measure M-GE-5: Inadvertent Discovery of Paleontological Resources During Construction.** *This measure applies to: Martin Substation separation; Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; Operations Control Center (utility connections); and New City Substation (Project Variant)* ***Worker Awareness Training.*** Prior to commencing construction, and ongoing throughout ground disturbing activities (e.g., excavation, utility installation), the SFPUC and/or their designee shall engage a qualified professional (paleontologist, archeologist, or cultural resources specialist) to train all project construction workers regarding how to recognize paleontological resources and on the contents of the paleontological resources alert sheet, as provided by the Planning Department. The paleontological resources alert sheet shall be prominently displayed at the construction site during ground-disturbing activities for reference regarding potential paleontological resources. In addition, the qualified professional shall inform the contractor and construction personnel of the immediate stop work procedures and other procedures to be followed if bones or other potential fossils are unearthed at the project areas. Should new workers that will be involved in ground-disturbing construction activities begin employment after the initial training has occurred, the construction supervisor shall ensure that they receive the worker awareness training as described above. ***Paleontological Resource Discoveries.*** In the event of the discovery of an unanticipated paleontological resource during project construction, ground-disturbing activities shall temporarily be halted within 25 feet of the find until the discovery is examined by a qualified paleontologist as recommended by the Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology 2010) and best practices in mitigation paleontology (Murphey et al. 2019). The paleontologist shall consult the Environmental Review Officer (ERO). Work within the sensitive area shall resume only when deemed appropriate by the qualified paleontologist in consultation with the ERO. The qualified paleontologist shall determine 1) if the discovery is scientifically significant; 2) the necessity for involving other responsible or resource agencies and stakeholders, if required or determined applicable; and 3) methods for resource recovery. If a paleontological resource assessment results in a determination that the resource is not scientifically important, this conclusion shall be documented in a paleontological evaluation letter to demonstrate compliance with applicable statutory requirements (e.g., Federal Antiquities Act of 1906, CEQA Guidelines section 15064.5, Public Resources Code Chapter 17, section 5097.5, Paleontological Resources Preservation Act 2009). The paleontological evaluation letter shall be submitted to the ERO for review within 30 calendar days of the discovery. If in consultation with the ERO the qualified	LSM

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
		paleontologist determines that a paleontological resource is of scientific importance, the qualified paleontologist shall make a recommendation as to what action, if any, is warranted and prepare a paleontological mitigation program. The mitigation program shall include measures to fully document the resource of scientific importance. It shall include: 1) procedures for construction monitoring at the project areas; 2) fossil preparation and identification procedures; 3) curation of paleontological resources of scientific importance into an appropriate repository; and 4) preparation of a Paleontological Resources Report (report or paleontology report) at the conclusion of ground-disturbing activities. The qualified paleontologist shall submit the mitigation program to the ERO for review and approval within ten business days of the discovery. To avoid construction delays, fully exposed fossils will be immediately removed by the paleontologist to the extent feasible. Consistent with the Society of Vertebrate Paleontology 2010 guidelines, samples of the soil matrix where the discovery occurred may need to be removed from the project areas and processed elsewhere. Mitigation required by this measure could suspend construction within an appropriate buffer zone around a discovered paleontological resource or area for up to a maximum of four weeks. At the direction of the ERO and in coordination with the SFPUC, the suspension of construction may be extended beyond four weeks for a reasonable time required to implement appropriate mitigation only if such a suspension is the only feasible means to reduce potential effects on a significant paleontological resource to a less-than-significant level. Upon approval by the ERO, ground-disturbing activities in the project area shall resume and be monitored as determined by the qualified paleontologist for the duration of such activities. The paleontology report shall include dates of field work, results of monitoring, fossil identifications to the lowest possible taxonomic level, analysis of the fossil collection, a discussion of the scientific significance of the fossil collection, conclusions, locality forms, an itemized list of specimens, and a repository receipt from the curation facility. The SFPUC shall be responsible for the preparation and implementation of the mitigation program, in addition to any costs necessary to prepare and identify collected fossils, and for any curation fees charged by the paleontological repository. The paleontology report shall be submitted to the ERO for review within 30 business days from conclusion of ground-disturbing activities, or as negotiated following consultation with the ERO.	
Impact C-GE-1: The project or project variant, in combination with cumulative projects, would not result in significant cumulative geology and soils impacts.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact C-GE-2: The project or project variant, in combination with cumulative projects, could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	S	**Mitigation Measure M-GE-5: Inadvertent Discovery of Paleontological Resources During Construction** (see Impact GE-5)	LSM
INITIAL STUDY SECTION E.17, HYDROLOGY AND WATER QUALITY			
Impact HY-1: The project or project variant would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	LTS	No mitigation required.	NA
Impact HY-2: The project or project variant would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project or project variant may impede sustainable groundwater management of the basin.	LTS	No mitigation required.	NA
Impact HY-3: The project or project variant would not 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 that would result in substantial erosion, siltation, or flooding on or off site; that would create or contribute runoff water which would exceed the capacity of	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or that would impede or redirect flood flows.			
Impact HY-4: The project or project variant would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.	LTS	No mitigation required.	NA
Impact HY-5: The project or project variant would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	No mitigation required.	NA
Impact C-HY-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact on hydrology or water quality.	LTS	No mitigation required.	NA
INITIAL STUDY SECTION E.18, HAZARDS AND HAZARDOUS MATERIALS			
Impact HZ-1: The project or project variant would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
Impact HZ-2: The project or project variant would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	No mitigation required.	NA
Impact HZ-3: The project or project variant would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; however, it would not create a significant hazard to the public or the environment.	LTS	No mitigation required.	NA
Impact HZ-4: The project or project variant would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	No mitigation required.	NA
Impact HZ-5: The project or project variant would not expose workers or the public to excessive electric shock hazards.	LTS	No mitigation required.	NA
Impact C-HZ-1: The project or project variant, in combination with cumulative projects, would have a substantial cumulative impact related to hazards and hazardous materials.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.19, MINERAL RESOURCES			
The project or project variant would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	NI	No mitigation required.	NA
INITIAL STUDY SECTION E.20, ENERGY			
Impact EN-1: The project or project variant would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.	LTS	No mitigation required.	NA
Impact EN-2: The project or project variant would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	No mitigation required.	NA
Impact C-EN-1: The project or project variant, in combination with cumulative projects, would not result in significant cumulative impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	No mitigation required.	NA

Table S-1 Summary of Impacts and Mitigation Measures

Impact	Level of Significance prior to Mitigation	Mitigation Measure[19]	Level of Significance After Mitigation
INITIAL STUDY SECTION E.21, WILDFIRE			
NA	NA	NA	NA
INITIAL STUDY SECTION E.22, AGRICULTURE AND FORESTRY RESOURCES			
NA	NA	NA	NA

DEFINITIONS:

LTS = Less than Significant
NI = No Impact
NA = Not Applicable
S = Significant
LSM = Less than Significant with Mitigation
SUM = Significant and Unavoidable with Mitigation

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CHAPTER 1
INTRODUCTION AND BACKGROUND

1.1 Introduction

This environmental impact report (EIR) analyzes potential environmental effects associated with the proposed implementation of the Pacific Gas and Electric Company (PG&E) Power Asset Acquisition Project ("the project") by the City and County of San Francisco ("the City"), including (1) the City's purchase ("acquisition") of PG&E-owned electrical transmission and distribution assets ("Assets") located in San Francisco and San Mateo counties that are needed to provide electric service[1] to customers within San Francisco, and (2) other transactions and physical changes necessary for the City to own, operate, and maintain the electricity grid in San Francisco ("separation").

While a change in ownership itself would not entail physical changes to the environment requiring environmental review, as part of the project, some construction would be necessary to physically separate the acquired Assets from PG&E's electricity grid outside of San Francisco so there would be two separate systems generally divided along the San Francisco-San Mateo County border. After the acquisition and separation of PG&E's facilities, the San Francisco Public Utilities Commission (SFPUC) would be responsible for the continued operation and maintenance of the acquired facilities and the newly City-owned infrastructure.

The environmental review focuses on project components involving *changes to the physical environment* and evaluates potential environmental effects that would be anticipated as a result of those changes. This EIR analyzes certain components of the proposed acquisition programmatically; it also includes a project-level analysis of potential environmental effects of several components, as discussed further in Section 1.3, Type of EIR.

1.2 Purpose of this EIR

The San Francisco Planning Department ("the planning department"), serving as lead agency responsible for administering the environmental review on behalf of the City, has prepared this EIR in conformance with the provisions of the California Environmental Quality Act (CEQA) (California Public Resources Code section 21000 et seq.), the regulations implementing CEQA ("the CEQA Guidelines") (California Code of Regulations, title 14, section 15000 et seq.), and chapter 31 of the San Francisco Administrative Code. CEQA requires that before a governmental agency can approve or carry out a project that would result in potential significant effects on the environment, an EIR must be prepared to analyze the significant environmental effects, identify alternatives, and disclose possible ways to reduce or avoid the possible environmental damage.

The CEQA Guidelines help define the role and expectations of this EIR as follows:

- **Informational Document**. An EIR is an informational document that will inform public agency decision-makers and the public of the significant environmental effect(s) of a project, identify feasible ways to

[1] Broadly, electric service includes generation, transmission, distribution, and customer services. Generation service refers to sources (supplies) of electricity generated using electric generation facilities, such as power houses, solar arrays, cogeneration facilities, and wind turbines. Transmission (high-voltage electricity transport) and distribution (low-voltage electricity transport) services deliver electricity to customers. Customer service includes customer programs, billing services, affordability assistance, and similar services.

avoid or minimize significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information contained in the administrative record (CEQA Guidelines section 15121(a)).

- **Degree of Specificity**. An EIR for a proposed development project necessarily will be more detailed in the specific effects of the project than will an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy. An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow (CEQA Guidelines section 15146(b)).
- **Standards for Adequacy of an EIR**. An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (CEQA Guidelines section 15151).

CEQA Guidelines section 15382 defines a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." Therefore, in identifying the significant impacts of the project, this EIR concentrates on the project's substantial physical environmental effects and on mitigation measures to avoid or reduce those effects.

The planning department has prepared this EIR to provide the public and the *responsible and trustee agencies*[2] reviewing the project with information about the project's potential effects on the environment. This EIR describes the potential environmental impacts that could result from implementation of the project, identifies mitigation measures to lessen or eliminate significant adverse impacts where feasible, and evaluates feasible alternatives to the project. This EIR is intended as an informational document that in and of itself does not determine whether the project will be approved. The EIR aids the planning and decision-making process by disclosing the potential for significant and adverse environmental impacts that would result from project approval. In conformance with CEQA, this EIR provides objective information addressing the environmental consequences of the project and identifies the means of reducing or avoiding its significant impacts where feasible. The information contained in this EIR will be reviewed and considered by decision-makers prior to a decision to approve, disapprove, or modify the project.

1.3 Type of EIR

This EIR analyzes potential physical environmental impacts that may occur if the City proceeds with the project. This EIR evaluates proposed separation activities at a level of detail consistent with the best available information or specificity available at the time of EIR preparation.

[2] A "responsible agency" is a public agency other than the CEQA lead agency that has discretionary approval authority over a project (Public Resources Code section 21069). A "trustee agency" refers to any of the state agencies having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the state of California (Public Resources Code section 21070).

A program EIR is appropriate for a project that will involve a series of actions that are (1) related geographically, (2) logical parts in a chain of contemplated actions, (3) connected as part of a continuing program, or (4) carried out under the same authorizing statute or regulatory authority and have similar environmental impacts that can be mitigated in similar ways (CEQA Guidelines section 15168). CEQA Guidelines section 15168 notes that the use of a program-level analysis "ensure[s] consideration of cumulative impacts that might be slighted in a case-by-case analysis; avoid[s] duplicative reconsideration of basic policy considerations; allow[s] the lead agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and allow[s] reduction in paperwork." When a program EIR is completed, additional environmental review may be warranted in the future as project details are developed. The additional environmental review would analyze any impacts particular to a specific activity or project site that were not known and, therefore, could not have been evaluated as part of the earlier EIR.

In accordance with CEQA Guidelines sections 15063 and 15064, the planning department prepared an initial study to identify topics for which the project's effects would be less than significant and not require further analysis, and those topics that warrant more detailed environmental analysis in an EIR. The initial study is part of this EIR (**Appendix A**). Based on the findings of the initial study, this EIR is focused on air quality and noise and vibration.

1.4 Project Background

1.4.1 Purpose of the Project

The City's proposed acquisition of the PG&E electrical assets in San Francisco would allow the City to provide electric services to all end-users in San Francisco and reduce reliance on PG&E for electric service in San Francisco. Both are crucial steps toward local control of San Francisco's energy future. The SFPUC anticipates the project would (1) allow the City to provide Hetch Hetchy hydropower, and other clean power, to all customers in San Francisco; (2) improve the cost and efficiency of new electrical grid connections for critical City functions such as public safety, affordable housing production, transportation, utility infrastructure, and schools; and (3) allow the City to own and manage the City's electric system with transparency and accountability, consistent with a cost-based, not-for-profit business model that will prioritize affordable, cost-effective, reliable, safe, and timely service in San Francisco.

1.4.2 San Francisco Electric System Background and History

1.4.2.1 SAN FRANCISCO'S UNIQUELY INTERMESHED ELECTRIC GRID

PG&E and the City currently both provide electric service within San Francisco. PG&E does so pursuant to a franchise agreement with the City; the City does so under authority granted it in the State of California Constitution,[3] the Federal Raker Act of 1913,[4] and the San Francisco Charter.[5] The Raker Act granted the City the right to construct a water storage and conveyance system and a hydroelectric generation system in

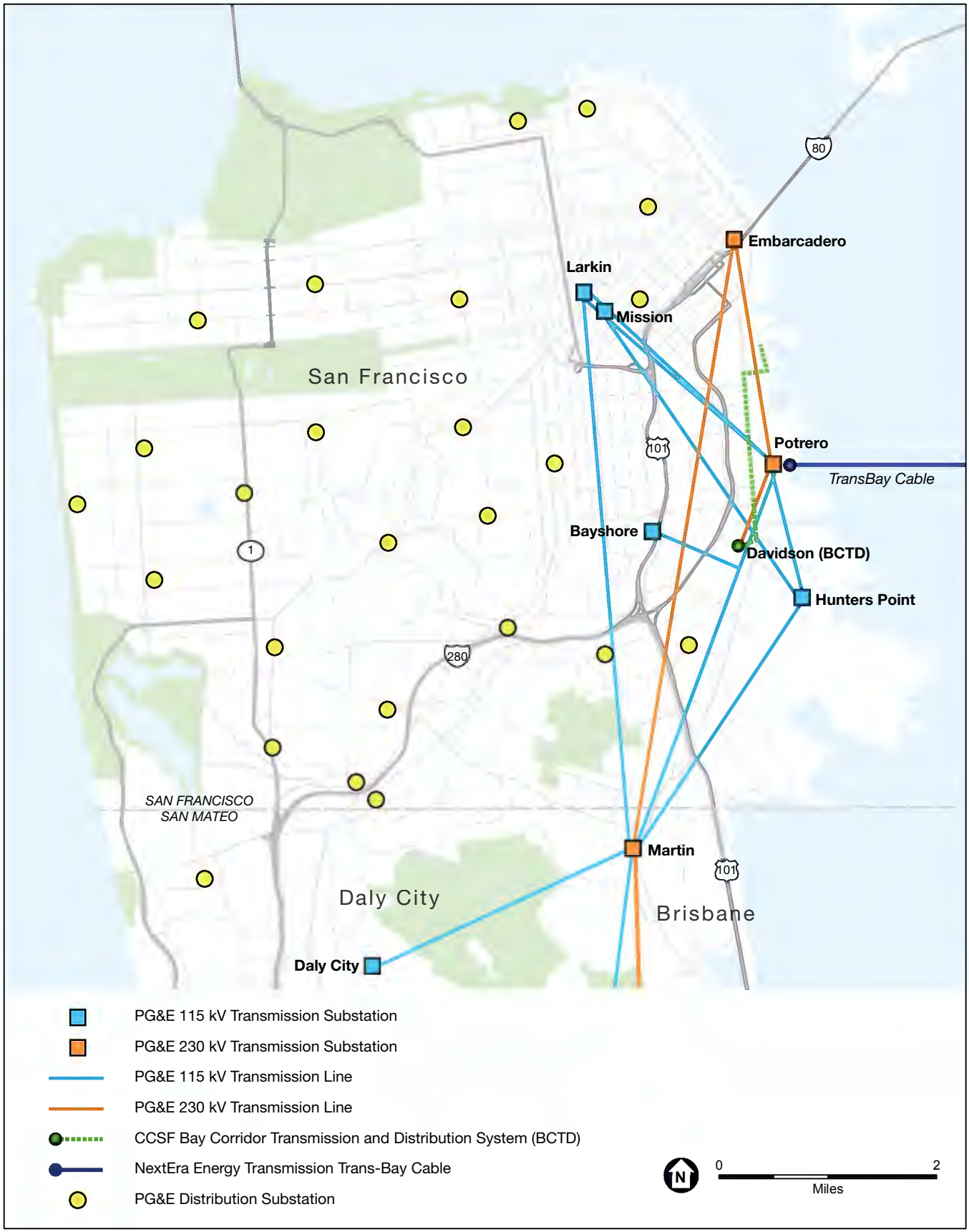
[3] State of California Constitution, article XI, § 9.
[4] Federal Raker Act of 1913, Pub. L. No 63-41, 38 Stat.242.
[5] San Francisco Charter §§ 4.112, 8B.120-127, 16.101.

Yosemite National Park and Stanislaus National Forest for the benefit of San Francisco and other municipalities. The water and power systems are part of the larger Hetch Hetchy Regional Water System and Hetch Hetchy Power System operated by the SFPUC. In adopting the Raker Act, Congress intended to provide San Francisco a source of reasonably priced power and "ensure competition in [San Francisco's] retail power market."[6] Since 1913, the City attempted several times to purchase PG&E's electric grid, portions of which have been in place since 1879, so the City could provide power throughout San Francisco.[7,8]

The electric grid in San Francisco is a combination of *transmission facilities*, *distribution facilities,*[9] and other support facilities. The existing transmission and distribution facilities are shown in **Figure 1-1**. For the most part, PG&E currently owns the vast majority of the San Francisco grid. The City owns electrical facilities in parts of San Francisco, including at Hunter's Point Shipyard and on Treasure Island. Facilities in or serving San Francisco include the following:

- **Transmission Facilities Serving San Francisco.** PG&E owns and operates 230 kilovolt (kV), 115 kV, and 60 kV transmission lines serving San Francisco, which are generally located on the eastern side of San Francisco and northern San Mateo County. Electricity customers in San Francisco are also currently served by the Trans Bay Cable LLC Trans Bay Cable from the east.[10] The transmission lines serving San Francisco connect to eight transmission substations: Martin Substation in Brisbane, Daly City Substation in Daly City, and six substations in San Francisco (Hunters Point, Bayshore, Potrero, Mission, Larkin, and Embarcadero). In addition, PG&E's Egbert Switching Station[11] is planned to provide additional transmission paths and reliability to the cities of San Francisco, Daly City, and Brisbane. The SFPUC's Bay Corridor Transmission and Distribution (Davidson) Substation is a high-voltage transmission and distribution system in the southeast portion of the city.
- **Distribution Facilities Serving San Francisco**. Distribution facilities are electrical equipment used to distribute electricity over shorter distances to customers, generally consisting of substations and aboveground or underground lines. Distribution facilities in San Francisco generally operate at 12 kV or lower voltages. Various types of distribution lines emanating from transmission and distribution substations, where voltage is stepped down to distribution levels by *transformers*,[12] connect to customers throughout San Francisco. PG&E owns most of the distribution facilities (substations and

[6] City and County of San Francisco v. Federal Energy Regulatory Commission 24 F. 4th 652, 665, available at p. 25 in this link: https://media.cadc.uscourts.gov/opinions/docs/2022/01/20-1313-1932113.pdf. This document and all other documents referenced in this EIR unless otherwise noted are available for review at https://tinyurl.com/pgepowerasseteir.
[7] Federal Energy Regulatory Commission, City and County of San Francisco v. Pacific Gas and Electric Company, FERC Docket EL15-3002, Direct Testimony of James J. Hoecker, Feb. 1, 2016, Exhibit SF-1, at pp 11-17 at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20160202-5258.
[8] PG&E, 150 Years of Energy: the History of PG&E Corporation. https://web.archive.org/web/20120629010809/http://www.pgecorp.com/150_non_flash/index.html.
[9] Electric transmission facilities transmit electricity over long distances on high-voltage lines (typically 115 kilovolt [kV] and above). Distribution facilities distribute electricity over shorter distances, on lower-voltage lines (typically 12 kV and below), to electricity consumers. Both transmission and distribution facilities also include substations and other facilities for safety and reliability and voltage support, and to step up or step down voltage levels as needed on the electric grid.
[10] California Public Utilities Commission, Egbert Switching Station (Martin Substation Extension) Project Draft Environmental Impact Report, prepared by Dudek, September 2019.
[11] An electric switching station is an electric substation that operates at a single voltage. The key purpose of a switching station is to increase power supply diversity, transmission system reliability and operational flexibility. Specifically, a switching station will establish the ability to "switch" between multiple power supply lines. Transmission lines are interconnected at the switching station through circuit breakers, which are operated to de-energize lines for maintenance work or to remove an electrical fault on a line. An electrical fault is a very high, abnormal flow of electricity, possibly from a short circuit or grounded line. These very high current flows must be interrupted quickly to avoid equipment damage and for safety.
[12] Transformers are passive electrical equipment that transfer electrical energy from one circuit to another circuit using electromagnetic force.



SOURCE: SFPUC

NOTE: Alignments are not to scale and are shown diagramatically only. Locations in San Francisco which do not contain PG&E electrical assets, such as Treasure Island and Yerba Buena Island, are not included in the project.

PG&E Asset Acquisition Project

Figure 1-1
Diagram of Existing Substations and Transmission Lines Serving San Francisco

lines). However, the City owns and operates some of the distribution facilities (e.g., BCTD substation and associated lines). Distribution substation ownership is as shown in Figure 1-1.

- **Other PG&E Facilities in San Francisco**. In addition to transmission and distribution facilities, other grid support facilities in or serving San Francisco, such as operations and maintenance service yards and switching stations, are owned and operated by PG&E. Operations and maintenance service yards house service vehicles and store equipment used to maintain the grid.

Since the early part of the 20th century, the City has owned and operated electric generation facilities, transmission facilities, and distribution facilities. Since 1945,[13] the City has purchased wholesale transmission and distribution services from PG&E pursuant to a series of bilateral agreements that have allowed the City to deliver its power supplies to individual customers scattered throughout San Francisco. These agreements reduced the need for the City to build its own comprehensive transmission and distribution facilities to serve customers in San Francisco. The last of these agreements expired on June 30, 2015. Since then, the City has purchased transmission and distribution services from PG&E through federally regulated, open access tariffs.[14] The overlap of San Francisco's publicly owned and PG&E's investor-owned power service over a common geographical service territory is unique because the City's and PG&E's transmission and distribution facilities and customers are intertwined. The City depends on PG&E's distribution infrastructure for electrical service connections for most of the City's customers throughout San Francisco. The City's service connections are subject to the physical constraints of PG&E's distribution grid and the rules and requirements imposed by PG&E through its open access tariff.

San Francisco voters and policy makers have established their preference that electric service be provided to City projects and new developments by the City's own utility, Hetch Hetchy Power, when feasible.[15] The SFPUC's 2016 Power Enterprise Business Plan identified strategic investment in distribution as an important initiative for the SFPUC to ensure ongoing access to distribution services for its customers, and to secure service for new Hetch Hetchy Power customers.[16] Hetch Hetchy Power has worked with customers, City departments, and developers, partnering to invest in distribution facilities and distributed energy resources.[17] Although these investments have furthered the goal of the City's independence from PG&E's grid, the City must still apply for wholesale distribution or transmission service from PG&E in order to serve the City's end-use customers. PG&E continues to be the monopoly distribution service provider.

In 2016, the SFPUC began serving customers through CleanPowerSF, the City's community choice aggregation program, which sources clean electricity supplies for customers in San Francisco that choose CleanPowerSF's electricity supplies as an alternative to PG&E-sourced supplies.[18] Together, the SFPUC's two public power

[13] Petition of the City and County or San Francisco for a Valuation of Certain Pacific Gas and Electric Company Property, page 5, paragraph 5, filed July 27, 2021, CPUC valuation proceeding docket P.21-07-012.
[14] Under federal law, PG&E and other utilities are required to provide access to their grids to electricity consumers and producers with rates and terms (tariffs) that are non-discriminatory, fair, and reasonable for all eligible users. This federal "open access" requirement is intended to benefit consumers by allowing for competition and protect grid users from anti-competitive behavior by monopoly grid owners.
[15] San Francisco Charter section 16.101: Acquisition of Public Utilities and San Francisco Administrative Code section 99: Public Power in New City Developments.
[16] San Francisco Public Utilities Commission, Power Enterprise Business Plan 2016. February 2016.
[17] Targeted investments have created some electric infrastructure in sections of the city such as Hunters Point Shipyard and the Bay Corridor Transmission and Distribution project. These projects are connected to the PG&E-owned grid. PG&E provides retail transmission and distribution service to all remaining San Francisco customers.
[18] State law requires that community choice aggregation customers continue to receive transmission and distribution service from investor-owned utilities. So, CleanPowerSF customers remain customers of PG&E and receive electricity bills from PG&E, with CleanPowerSF's supply charges shown as a line item on the PG&E bill. PG&E transfers those supply charges to the community choice aggregator. Community choice aggregation programs are publicly owned, but they cannot offer all of the benefits of full public power programs.

programs, Hetch Hetchy Power and CleanPowerSF, serve more than 75 percent of the electricity demand in San Francisco. Another approximately 15 percent of electricity demand in San Francisco is served by other private providers, and less than 10 percent of the electricity demand in San Francisco is sourced by PG&E. Nevertheless, PG&E owns, controls, and is responsible for 100 percent of the grid pathways within San Francisco that are needed to deliver electricity to all of San Francisco's electricity users.

Figure 1-2 is an illustration of the City's dependence on PG&E's distribution grid to deliver the City's electric supplies across San Francisco to electricity users, with PG&E in the middle. Shown on the left are the City's electricity supplies, with its customers on the far right. The City's supplies flow first onto PG&E-owned transmission lines that are managed by the not-for-profit California Independent System Operator (CAISO). PG&E has control of its distribution grid in San Francisco, shown in red.

1.4.2.2 CHALLENGES AND PROBLEMS WITH THE CURRENT ARRANGEMENT

Since 1945, PG&E's cooperation with the City to allow Hetch Hetchy Power to serve City facilities has been limited. The City and PG&E have frequently disagreed about whether PG&E or the City is entitled to serve specific customers and whether PG&E's terms of service are reasonable.

Federal law requires that grid owners like PG&E provide "open access" to their electric grids, confirming the City's right to connect to PG&E's grid at reasonable rates and under non-discriminatory terms of service, and prohibiting anti-competitive behavior by PG&E.[19] The City asserts that PG&E, however, has continued to obstruct City electric service by raising rates, delaying or denying service, and requiring the City to install large, expensive electric equipment to serve even its smallest customers.[20,21]

In some cases, the City has been forced to relinquish its customers to PG&E so that City projects could obtain the electricity needed to provide essential services, but at much higher PG&E retail rates.[22] The City has been and continues to be engaged in regulatory proceedings to demonstrate that PG&E refuses to allow interconnections and provide grid services under just and reasonable terms.[23] In 2022, a federal appeals court decided two cases in the City's favor, acknowledging the "potential anti-competitive effects" of PG&E's actions.[24] However, numerous disputes remain unresolved.[25]

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[19] Federal Power Act section 212(h) (16 USC 824k).

[20] San Francisco Chronicle, SF Complains PG&E is holding up major projects with unreasonable demands, March 27, 2018, https://www.sfchronicle.com/bayarea/article/SF-complains-PG-E-is-holding-up-major-projects-12786362.php; San Francisco Chronicle, Big Holdup for New Northern California Housing? PG&E, March 10, 2023, https://www.sfchronicle.com/politics/article/california-housing-projects-pge-17828169.php; San Francisco Blames PG&E for $41 million in expenses and delays to affordable housing projects, https://www.sfchronicle.com/sf/article/pge-affordable-housing-delays-17889772.php. https://sfstandard.com/2023/05/19/san-francisco-pge-blackouts-board-supervisors-residents-outage/, April 12, 2023.

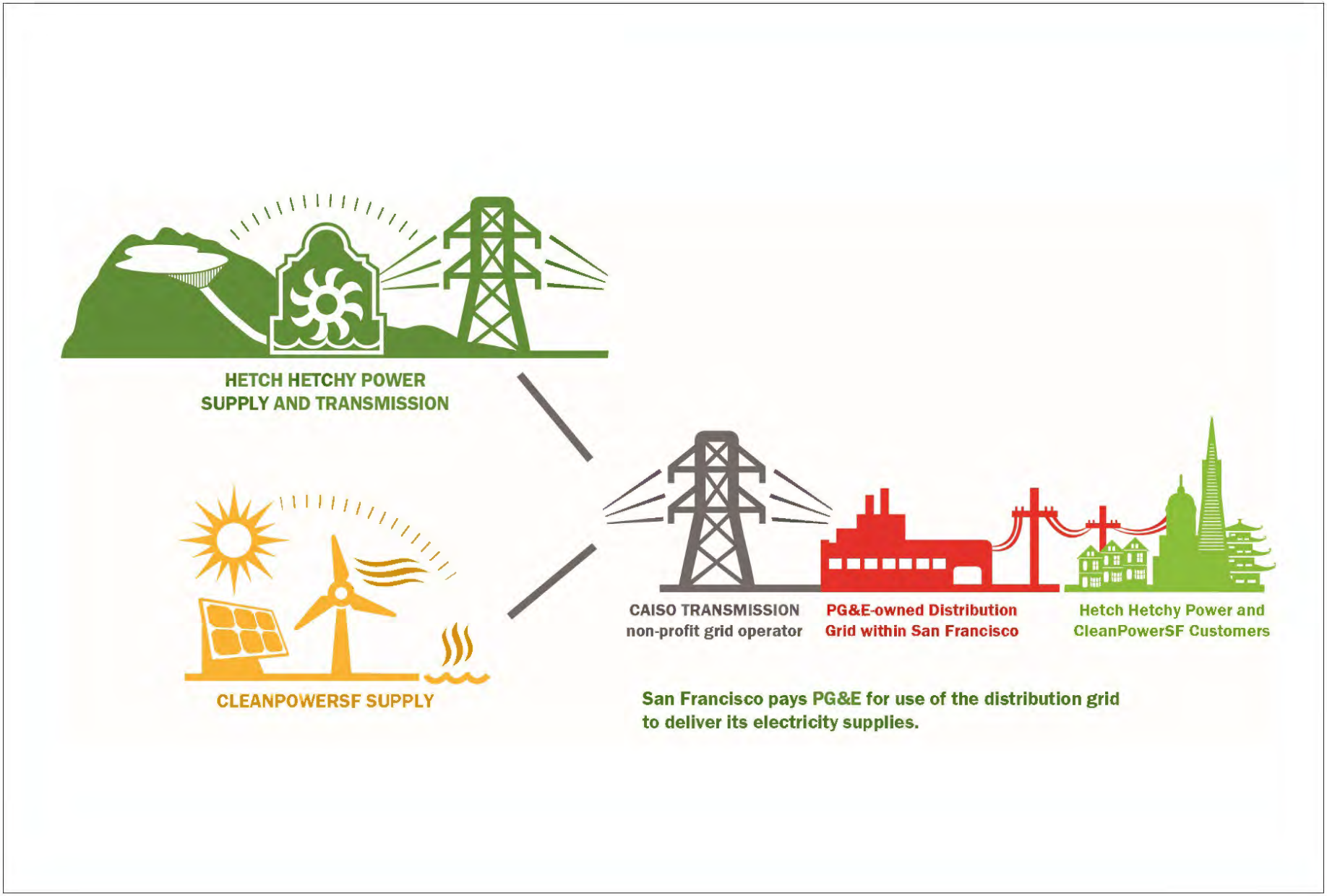
[21] PG&E's ongoing obstruction and its impacts are detailed in regular reports required by the Board of Supervisors. See, e.g., SFPUC Quarterly Report to the Board of Supervisors (8/19/2024), available online at: https://static1.squarespace.com/static/5db7630b5aa4a623608e05fa/t/66c422e4b5d7182b82281da1/1724130023552/August+2024+BoS+Quarterly+Report.pdf

[22] PG&E's ongoing obstruction and its impacts are detailed in regular reports required by the Board of Supervisors. See, e.g., SFPUC Quarterly Report to the Board of Supervisors (8/19/2024), available online at: https://static1.squarespace.com/static/5db7630b5aa4a623608e05fa/t/66c422e4b5d7182b82281da1/1724130023552/August+2024+BoS+Quarterly+Report.pdf.

[23] See, e.g., FERC Proceeding ER20-2878.

[24] City & Cty. of San Francisco v. FERC, 24 F.4th 652 (D.C. Cir. 2022) (San Francisco), p. 25, available online at https://media.cadc.uscourts.gov/opinions/docs/2022/01/20-1313-1932113.pdf.

[25] For example, FERC Docket ER17-2204 is a complaint initiated by the City regarding PG&E's refusal of service to an affordable housing project; FERC Docket EL19-38 is a complaint initiated by the City regarding PG&E's refusal of service for small, low-voltage (secondary) interconnections (such as neighborhood health clinics and police stations). **Appendix C** of this Draft EIR provides further details on these and additional examples.

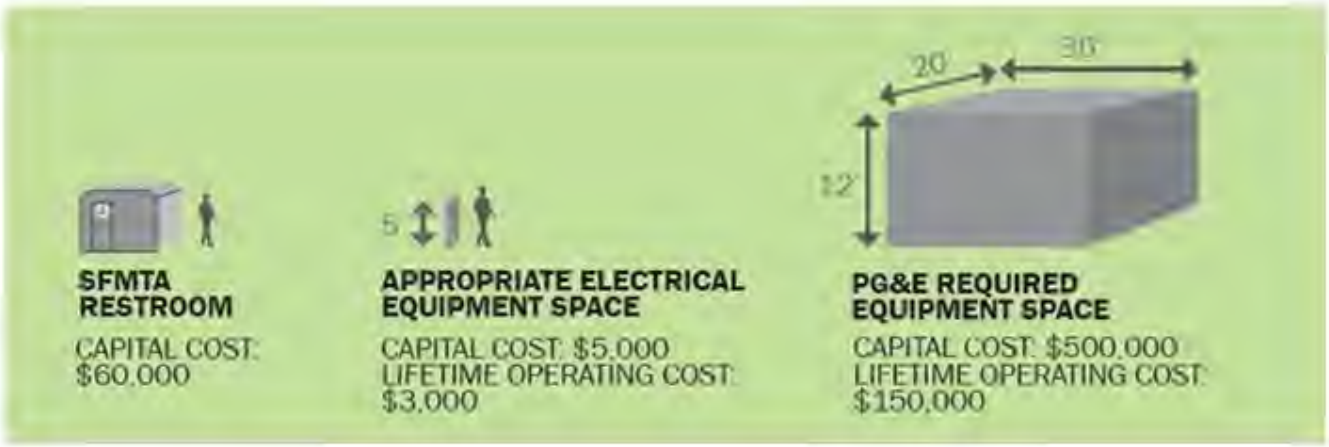


SOURCE: SFPUC

PG&E Asset Acquisition Project

Figure 1-2
Overview of San Francisco's Dependence on PG&E's Distribution Grid

Figure 1-3 shows an example of PG&E's requirements for a very small interconnection.[26] In this example, for a direct electric interconnection of a San Francisco Municipal Transportation Agency (SFMTA) restroom to PG&E's grid, appropriate electrical equipment would have been approximately 30 cubic feet and a total cost of $8,000. PG&E required equipment that was 7,200 cubic feet at an estimated total cost of $650,000 – all for operation of a small restroom, without any improvement in safety or reliability.



SOURCE: SFPUC

FIGURE 1-3
EXAMPLE OF PG&E'S REQUIREMENTS FOR NEW SFMTA BATHROOM THAT INCREASED BOTH SIZE AND COST OF ELECTRICAL EQUIPMENT CONNECTIONS

PG&E's control of the electric grid serving San Francisco has hampered the City's ability to carry out essential functions, such as providing affordable housing, upgrading and modernizing public schools and public hospitals, and achieving the City's climate action goals.[27] The City's reliance on PG&E limits the City's ability to ensure reliability, safety, timeliness, and reasonable costs for electric services provided across San Francisco.

In addition to City's challenges with PG&E as discussed above, the City has expressed concerns about PG&E's failure to meet its obligations to the City under the franchise agreement, as documented in biennial Franchise Compliance Reports submitted to the San Francisco Board of Supervisors.[28]

[26] Fracasa, Dominic, San Francisco Chronicle, "SF Complains PG&E is holding up major projects with unreasonable demands," https://www.sfchronicle.com/bayarea/article/SF-complains-PG-E-is-holding-up-major-projects-12786362.php, updated March 27, 2018.
[27] Some City functions are provided by agencies that are not City departments or agencies, such as the San Francisco Unified School District. The SFPUC provides electricity to these agencies, and they are covered by the San Francisco climate action plan prepared by San Francisco's Department of the Environment. The 2021 plan is available at: https://www.sfenvironment.org/files/2021_climate_action_plan.pdf.
[28] San Francisco Board of Supervisors, File No. 240833, Petitions and Communications received from July 25, 2024, through August 29, 2024, for reference by the President to Committee considering related matters, or to be ordered filed by Clerk on September 3, 2024. Franchise Compliance Reports for Audit Period CY 2021-2022, https://sfgov.legistar.com/View.ashx?M=F&ID=13271528&GUID=1F0B6967-D157-4A54-A420-117F4D6BE550 (see page 42-49), 2024.The City's franchise agreement with PG&E allows PG&E to operate and install equipment within San Francisco, including, for example, PG&E's obligations to remove or relocate its equipment as needed and at no cost, as required to meet the needs of City projects.

1.4.2.3 OPTIONS REPORT AND INITIAL OFFER TO PURCHASE PG&E'S ELECTRIC SYSTEM IN SAN FRANCISCO

As the result of these difficulties, former San Francisco Mayor London Breed asked the SFPUC to "prepare for the potential ramifications of PG&E's current instability by performing a detailed analysis of the current health of the electrical network and a robust feasibility study on the various potential outcomes…[and to] evaluate all options, including the possibility of acquiring or building electrical infrastructure assets."[29] In a March 14, 2019, letter from Mayor Breed and City Attorney Dennis Herrera to PG&E, the City informed PG&E that it was analyzing its options and may make a formal offer to acquire PG&E's electric distribution facilities as part of PG&E's plan to emerge from its bankruptcy in 2019.[30] The San Francisco Board of Supervisors also asked the SFPUC to report on options for improving electric service in San Francisco through acquisition, construction, or completion of the City's own electric system.[31]

The May 2019 Preliminary Report on Electric Service Options ("Options Report") identified and described three options the City could consider: Limited Independence, Targeted Investment for More Independence, or Acquisition of PG&E Assets for Full Independence.[32] The preliminary findings supported acquisition of PG&E electric assets serving San Francisco, finding that City ownership and operation of the electric grid to serve all customers in San Francisco would likely lead to long-term cost savings, timely and cost-efficient modernization of the electrical grid, and meeting the City's priorities on addressing climate change, affordability, safety, reliability, workforce development, and equity. Building on the findings from the Options Report, the City continued its analysis to evaluate the cost and feasibility of acquiring PG&E's assets as part of the bankruptcy process.

On September 6, 2019, the City submitted to PG&E a non-binding indication of interest to purchase PG&E's assets needed to provide electric services to end-users in San Francisco. The City renewed the offer in August 2020, after PG&E exited bankruptcy in June 2020. In both instances, PG&E rejected the City's offer, stating that its assets were not for sale and that the offer was too low. In July 2021, the City submitted a petition to the California Public Utilities Commission (CPUC), asking the CPUC to establish a fair and impartial value for PG&E's electric assets that serve San Francisco. That proceeding is underway.[33]

More broadly, there has been growing concern amongst many government and financial institutions regarding PG&E's near- and long-term ability to manage its system in a safe, responsible, and transparent manner, not just in San Francisco, but across PG&E's service territory. PG&E's bankruptcies and financial shortfalls are well-documented.[34,35,36] PG&E has been convicted of several felonies related to wildfires it has

[29] Mayor Breed, letter to SFPUC GM Kelly, CPUC valuation proceeding docket P.21-07-012, CCSF's Petition, Exhibit C, January 14, 2019.
[30] Mayor London N. Breed and City Attorney Dennis J. Herrera, letter to PG&E, CPUC valuation proceeding docket P.21-07-012, CCSF's Petition, Exhibit D, March 14, 2019.
[31] Board of Supervisors, Resolution No. 174-19, April 9, 2019: CPUC valuation proceeding docket P.21-07-012, CCSF's Petition, Exhibit E.
[32] SFPUC, Preliminary Report on Electric Service Options, https://www.sfpuc.gov/sites/default/files/about-us/policies-reports/PreliminaryReportElectricServiceOptions_13may2019.pdf, May 2019.
[33] CPUC valuation proceeding docket. 21-07-012.
[34] PG&E Corporation, Investors, Fixed Income webpage, https://investor.pgecorp.com/-PGE-Investors-Fixed-Income/Fixed-Income/ (Upon its emergence from bankruptcy in 2020, PG&E's corporate and issuer ratings have remained below investment grade (BB+ and lower, through January 1, 2025).
[35] PG&E Corporation, Investors, Chapter 11 webpage, https://investor.pgecorp.com/Chapter-11/default.aspx (Provides a chronology of events before, during and after PG&E's bankruptcy in 2019-2020).
[36] Wall Street Journal, PG&E Needs to Find Billions of Dollars for Wildfire Prevention, December 12, 2022, https://www.wsj.com/articles/pg-e-needs-to-find-billions-of-dollars-for-wildfire-prevention-11670853603. (Since it emerged from bankruptcy in 2020, PG&E continues to need significant funding for its wildfire hardening program and other costs).

caused, has a poor safety and reliability track record inside and outside of San Francisco,[37,38] and has increased its rates substantially, especially in recent years.[39,40] Across its service territory, PG&E has been unable to connect both new customers and new renewable generation to its grid in a timely way, slowing new housing and other needed services, as well as delaying state-wide growth in clean energy supplies.[41]

1.5 Environmental Review Process

This section discusses the environmental review of the project to date, and the future steps of the CEQA process.

1.5.1 Preliminary Mitigated Negative Declaration

The SFPUC submitted a public project application for the project to the planning department on September 19, 2019, initiating the environmental review process. The planning department prepared an initial study for the project and published a Preliminary Mitigated Negative Declaration (MND) on January 5, 2022. In accordance with CEQA Guidelines section 15072, the planning department sent a Notice of Availability of a Mitigated Negative Declaration to responsible agencies, trustee agencies, interested parties, and the county clerks of San Francisco and San Mateo counties. The notice was published in newspapers of general circulation in San Francisco and San Mateo counties; the notice was posted on the planning department's website; and multiple notices were posted on and near the project areas. The public review period extended to March 7, 2022.

During the Preliminary MND public review period, PG&E[42] and the Coalition of California Utility Employees[43] appealed the determination of no significant effect on the environment in the Preliminary MND. The appeal letters included numerous comments on the sufficiency of the project description, the level of environmental review, and specific environmental impact analyses. Subsequently, the planning department determined that a more robust environmental review was warranted and that an EIR should be prepared. In addition, in light of the appeal comments, the SFPUC conducted additional engineering evaluation and has modified its project description for this EIR. **Table 1-1** below compares the project evaluated in this EIR with the project described in the Preliminary MND.

[37] The Associated Press, National Public Radio (NPR), California's embattled utility leaves criminal probation, but more charges loom. Jan 24, 2022, https://www.npr.org/2022/01/24/1075267222/californias-embattled-utility-leaves-criminal-probation-but-more-charges-loom.
[38] Noah Bauslin, San Francisco Standard, PG&E Slammed Over Multiday Blackouts by San Francisco Officials, Residents, May 19, 2023, https://sfstandard.com/2023/05/19/san-francisco-pge-blackouts-board-supervisors-residents-outage/
[39] Kurtis Alexander, San Francisco Chronicle, PG&E proposes another rate hike in 2023 or early 2024 — 18% — to boost wildfire safety, June 30, 2021, https://www.sfchronicle.com/bayarea/article/PG-E-proposes-another-rate-hike-in-2023-to-boost-16285643.php.
[40] Sam Mauhay-Moore, SFGATE, The average PG&E bill may soon be going up a shocking $35 a month, February 3, 2023 available online at: https://www.sfgate.com/news/article/pge-utility-bill-increases-17747096.php.
[41] Da Lin, CBS News, PG&E accused of stalling new construction projects by not connecting power. March 1, 2024, https://www.cbsnews.com/sanfrancisco/news/pg-e-accused-of-stalling-new-construction-projects-by-not-connecting-power/.
[42] Cox Castle Nicholson, Case No. 2019-017272ENV – Appeal and Basis of Appeal of PG&E Power Asset Acquisition Project Preliminary Mitigated Negative Declaration and Related Appeal of Determination of No Significant Effect on the Environment, March 7, 2022.
[43] Adams Broadwell Joseph & Cardozo, Appeal of the Preliminary Mitigated Negative Declaration for the PG&E Power Asset Acquisition Project (Case No. 2019-017272ENV: SCH No. 2022010066), March 7, 2022.

Table 1-1 Comparison of EIR Project and Preliminary Mitigated Negative Declaration Project

Component or Location[44]	EIR Project	Preliminary Mitigated Negative Declaration Project
Martin Substation	Reconfiguration and partitioning of the existing PG&E Martin Substation into two interconnected utility systems.	Same as EIR project.
Distribution Express Feeders	Approximately 3.8 miles of duct banks or new underground distribution express feeders from the Martin Substation to Brotherhood Way/Arch Street, through the Visitacion Valley, McLaren Park, Excelsior, Outer Mission, and Oceanview/Merced/ Ingleside neighborhoods. The new distribution express feeders would not connect the existing Martin Substation with the existing Plymouth and Randolph substations.	Approximately 5 miles of duct banks from the Martin Substation to the intersection of Holloway Avenue, Beverly Street, and Lunado Way in San Francisco, through the same neighborhoods as the EIR project. As initially contemplated, the distribution express feeders would have been longer than in the EIR project to connect the existing Martin Substation with the existing Plymouth and Randolph substations.
Local Distribution System Separation	Reconfiguring and separating distribution lines on overhead poles and in underground vaults near the county border.	Same types of activities as the EIR project but likely in different locations.
Potrero Substation	Modification of fencing and ingress/egress at the Potrero Substation. No static synchronous compensator (STATCOM) units would be installed.	Three STATCOM units initially proposed at the Potrero Substation.
New City Substation (Project Variant)	As a variant of the proposed project, City construction of a new, gas-insulated substation at PG&E's adjacent Daly City Yard (the new City substation). All other components of the project variant would be the same as for the proposed project.	No project variant or any new facilities at the Daly City Yard.
Other Proposed Components	• System reinforcements • Operations control center • Operations and maintenance service yard; materials and equipment storage • Telecommunications equipment	None of these proposed project components. Other components included underground vaults at the Plymouth and Randolph substations, which are not part of the EIR project.

[44] Further description of these project components and technical definitions are provided in Chapter 2, Project Description.

1.5.2 Notice of Preparation of an EIR and Public Scoping Period

In accordance with sections 15063 and 15082 of the CEQA Guidelines, on June 28, 2023, the planning department sent a Notice of Preparation (NOP) of an Environmental Impact Report and Notice of Public Scoping Meetings to responsible and federal public agencies and interested parties to begin the formal CEQA scoping process for the project. **Appendix B** is the NOP. The NOP informed agencies and the public about the project and the planning department's decision to prepare an EIR and included a request for comments on environmental issues that should be addressed in the EIR. The planning department also distributed a public notice of the availability of the NOP and notice of public scoping meetings to additional public agencies and interested parties; these notices were posted on the planning department website and placed in the legal classified section of the *San Francisco Examiner* on June 28, 2023, and in the *San Mateo Daily Journal* on July 1, 2023.

The planning department held two in-person public scoping meetings: one on July 11, 2023, at the San Francisco Planning Department, and the other on July 15, 2023, at the Mission Blue Center in Brisbane. The planning department also held a virtual public scoping meeting on July 13, 2023, to receive oral comments on the scope of the EIR. The planning department made a video recording of the scoping meeting presentation available for viewing on the department's website. The 30-day scoping period ended on July 28, 2023. **Table 1-2** presents summaries of the comments received during the public scoping period, and indicates which initial study and/or EIR sections address comments pertaining to the project description or the scope and content of the environmental analysis.[45] The planning department has considered all comments made by the public and agencies in preparing the initial study and EIR for the project. Comments submitted on behalf of PG&E included a copy of its Preliminary MND appeal letter dated March 7, 2022, described in Section 1.5.1, Preliminary Mitigated Negative Declaration, above. Some of the MND appeal comments addressed aspects of project design or specific environmental impact analyses that have since been modified in this EIR; those comments are no longer relevant and are not included in the general summary in Table 1-2.

1.5.3 Agency Outreach and Consultation

On October 25, 2023, the planning department held a meeting to consult with CPUC staff regarding that agency's CEQA requirements related to any approval action for transfer of utility assets. The CPUC confirmed the planning department's role as the lead agency for CEQA review and the CPUC's need for completed CEQA review prior to its decision-making as a CEQA responsible agency, and indicated that its guidelines would not be applicable to this project because the CPUC is not the lead agency. However, to provide the most comprehensive review of potential environmental effects that could result from the project, the impact analyses consider CPUC-specific environmental concerns that are not on the City's environmental checklist[46] (related to biological resources; energy; hazards, hazardous materials, and public safety; recreation; transportation; and utilities and service systems), even though this is not legally required. The CPUC also identified environmental topics typically of particular public interest.

[45] ESA, *PG&E Power Asset Acquisition Project – CEQA Scoping Report*, prepared for San Francisco Planning Department, February 2025.
[46] The San Francisco Planning Department's environmental checklist is a modified version of the sample environmental checklist found in Appendix G of the CEQA Guidelines The CPUC-specific environmental analysis topics are identified in the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments* (2019) and consist of additional questions related to biological resources; energy; hazards, hazardous materials, and public safety; recreation; transportation; and utilities and service systems.

Table 1-2 Summary of Scoping Comments

Commenter	Summary of Comment	EIR or Initial Study Section(s)
AGENCIES		
City of Brisbane	The City of Brisbane has no comments at this time but looks forward to reviewing the Draft EIR when it is available.	• Not applicable
Bayshore Sanitary District	A Class 4 permit is required for any underground construction that could impact the sanitary district's underground assets.	• Chapter 2, Project Description
	The sanitary district provides sewer service to a portion of the project area including the Martin Service Station. Previous construction associated with the station resulted in contaminated groundwater, which the sanitary district permitted to be discharged to its collection system. PG&E obtained a permanent capacity entitlement to discharge contaminated groundwater.	• Chapter 2 and Appendix A, Section E.17, Hydrology and Water Quality, and Section E.18, Hazards and Hazardous Materials
ORGANIZATIONS		
Cox, Castle & Nicholson, LLP, on behalf of PG&E	The EIR should capture the "whole of the action" and the project description and environmental analyses should account for the extensive PG&E work that is necessary and foreseeable, to ensure that PG&E can continue delivering reliable electricity to the people in the region surrounding the City following the proposed acquisition and severance of the SFPUC's electric grid from PG&E's remaining grid.	• Chapter 2, Project Description
	Environmental review considerations necessary for legally sufficient review of the project by the CPUC should be included in the EIR.	• Chapter 1, Chapter 2, Chapter 3, Chapter 4, Chapter 5, and Appendix A
	The EIR should include complete and accurate assessments and analyses of the project's potential environmental impacts, including using meaningful thresholds of significance for topics such as biological resources, cultural resources, noise, vibration, and hazardous materials.	• Chapter 3 and Appendix A
	Enforceable, feasible, and clear mitigation measures that are not deferred should be incorporated into the project.	• Summary, Chapter 3, and Appendix A
	The City should conduct appropriate outreach and discussion with the various agencies with some form of jurisdiction over the project.	• Chapter 1, Introduction and Background
	Improvements necessary to undertake the project could include a new substation within San Francisco; a new switching station in Daly City or elsewhere in San Mateo County; several miles of additional transmission trenching work; and thousands of feet of additional distribution trenching work.	• Chapter 2, Project Description
	Separating San Francisco from PG&E's system could result in more frequent and longer-term service disruptions and a less robust system to recover from emergencies such as future earthquakes.	• Chapter 2, Project Description

Table 1-2 Summary of Scoping Comments

Commenter	Summary of Comment	EIR or Initial Study Section(s)
	The project would involve work within the Coastal Zone and could impact sensitive habitat for special status species.	• Appendix A, Plans and Policies, and Section E.15, Biological Resources
	The City is an improper lead agency for the project. The CPUC is the proper lead agency to undertake the CEQA review of the whole of the project and its total environmental impact. At a minimum, the City and CPUC should agree on the proper lead agency and/or the Office of Planning and Research should be consulted on the matter.	• Chapter 1, Introduction and Background
	Mandatory environmental review considerations necessary for legally sufficient environmental review of the project by the CPUC should be included in the City's analysis.	• Chapter 1, Chapter 3, and Appendix A
	The CPUC requires a reasonable range of alternatives in the proponent's environmental assessment, including sufficient information about each alternative.	• Chapter 5, Alternatives
	CPUC guidelines require that additional impact questions specific to the CPUC's purview and requirements be evaluated in addition to those included in CEQA Guidelines, Appendix G, related to biological resources, energy, hazards and hazardous materials, public safety, recreation, transportation, and utilities.	• Chapter 1, Chapter 2, Chapter 3, and Appendix A
	CPUC guidelines prohibit mitigation measures with conditional language "as practicable."	• Refer to mitigation measures, which are summarized in the Summary
	To accurately assess impacts and significance, a 30% design should be used. This would show locations and massings of project aboveground facilities at the substations as well as trench locations, widths, and depths; and identification of any potential utility conflicts (which could require a significant expansion or modification of the locations and excavation).	• Chapter 1 and Chapter 2
	The depth and location of trenching could result in conflicts with existing gas and electric utilities (likely leading to expanded impacts and substantial delays similar to that of the Van Ness Bus Rapid Transit Project, which inadequately studied subsurface infrastructure during project planning) and existing environmental hazards. Such conflicts could result in environmental impacts that require mitigation measures such as the use of hand tools or remedial action plans if hazardous substances are encountered.	• Chapter 2, and Appendix A, Section E.13, Utilities and Service Systems, and Section E.18, Hazards and Hazardous Materials
	Cumulative impacts assessments, including, but not limited to, noise, aesthetics, cultural resources, transportation and circulation (e.g., traffic), vibration, and geology and soils (e.g., paleontological), should evaluate whether a project impact is "cumulatively considerable."	• Chapter 3 and Appendix A

Table 1-2 Summary of Scoping Comments

Commenter	Summary of Comment	EIR or Initial Study Section(s)
	The EIR should disclose and assess any noise and air quality impacts related to the possibility for temporary power generation during the project.	• Chapter 2, Section 3.2, Noise, and Section 3.3, Air Quality
	The project may result in a significant environmental impact on California red-legged frog, Townsend's big eared bat, and western red bat.	• Appendix A, Section E.15, Biological Resources
	Cultural resources and tribal cultural resources in the project area should be assessed for impacts from the project.	• Appendix A, Section E.4, Cultural Resources, and Section E.5, Tribal Cultural Resources
INDIVIDUALS		
Barklee Sanders	Based on concerns about recurrent power outages on Treasure Island, requests that the City explore acquisition of the grid from Treasure Island Development Authority and provide power to Treasure Island as well.	• Chapter 2, Project Description; outside of the project scope

The planning department met with City of Brisbane planning staff and City of Daly City planning staff on December 12, 2024 and January 13, 2025, respectively. During these meetings with the local jurisdictions, the planning department provided an overview of the updated project, discussed local noise ordinance implementation and requirements for work in the public right-of-way, and previewed EIR alternatives.

1.5.4 Draft EIR

The CEQA Guidelines and San Francisco Administrative Code chapter 31 encourage public participation in the planning and environmental review processes. The planning department provides opportunities for the public to present comments and concerns regarding this EIR and its appendices, including the initial study (Appendix A), throughout the environmental review public comment period. These opportunities include a public review and comment period and a public hearing on the Draft EIR before the San Francisco Planning Commission.

The public review period for the Draft EIR is from March 19, 2025, through May 5, 2025. The planning commission will hold a public hearing on the Draft EIR during the 45-day public review and comment period to solicit public comments on the information presented in the Draft EIR. The public hearing will be held on April 17 at City Hall, Dr. Carlton B. Goodlett Place, Room 400, San Francisco, California, beginning at 12 p.m. or later (call 415.588.6422 the week of the hearing for a recorded message giving a more specific time). Members of the public are encouraged to participate. Additional information may be found on the planning department's website at www.sfplanning.org.

The Draft EIR is available for public review and comment for all-hours access at https://sfplanning.org/environmental-review-documents and during regular business hours at the San Francisco Permit Center located at 49 South Van Ness Avenue, second floor. A USB or paper copy of the Draft EIR will be mailed upon request. Referenced materials are also available online at https://tinyurl.com/pgepowerasseteir. Please contact the EIR coordinator, Julie Moore (call 628.652.7566 or email CPC.PGEPowerAssetsEIR@sfgov.org) for such requests.

Governmental agencies, interested organizations, and members of the public are invited to submit written comments on the Draft EIR during the public review period. Written comments may be submitted during the specified review period described above and on the cover of this EIR to:

San Francisco Planning Department
Attention: Julie Moore
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
or by email to:
CPC.PGEPowerAssetsEIR@sfgov.org

Members of the public are not required to provide personal identifying information when they communicate with the planning commission. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the planning department's website or in other public documents.

1.5.5 Final EIR

Following the close of the Draft EIR public review and comment period, the planning department will prepare and publish a document entitled "Responses to Comments on the Draft EIR." This document will contain a copy of all comments received on the Draft EIR, as well as the planning department's written responses to all substantive comments and any necessary revisions to the Draft EIR. Together, the Draft EIR and the response to comments document will constitute the Final EIR. Not less than 10 days prior to the planning commission hearing to consider certification of the Final EIR, the planning department will notify persons commenting on the Draft EIR and any board(s), commission(s), or department(s) that will carry out or approve the project of the availability of the Final EIR and hearing. During an advertised public meeting, the planning commission will consider the documents and, if they are found adequate, will certify the Final EIR. Certification of the Final EIR by the planning commission represents that the document (1) has been completed in compliance with CEQA, (2) was presented to the San Francisco Planning Commission and the commission reviewed and considered the information contained in the Final EIR, and (3) reflects the lead agency's independent judgment and analysis. Certification of the Final EIR is not an approval action, but it must be completed prior to project approval by any board(s), commission(s), or departments(s) that will carry out the project.

1.5.6 Project Approval and Adoption of the Mitigation Monitoring and Reporting Program

The SFPUC and all responsible or trustee agencies will review and consider the Final EIR in their deliberations on whether to approve, modify, or deny the project or aspects of the project. If the SFPUC and responsible agencies approve the project, they will adopt CEQA findings that identify the project-related impacts and the mitigation measures or alternatives that have been adopted to reduce significant impacts. A mitigation monitoring and reporting program (MMRP) must be adopted as part of the adoption of the CEQA findings. An MMRP lists the mitigation measures included in the project as identified in the Final EIR, entities responsible for carrying out the measures, timing of implementation of the measures, and associated reporting requirements. If significant and unavoidable impacts would occur even with implementation of all identified mitigation measures, then the SFPUC and all responsible or trustee agencies must adopt a statement of

overriding considerations documenting how the benefits of project implementation outweigh its significant and unavoidable impacts on the environment.

1.6 Organization of the EIR

Consistent with CEQA Guidelines sections 15120 to 15132, this EIR describes the project, required approvals, and existing land use plans and policies applicable to the project; identifies potential environmental impacts of the project, mitigation measures for those impacts that would be significant, and cumulative adverse impacts to which the project could make a substantial ("cumulatively considerable") contribution; discusses growth-inducing and significant unavoidable effects of the project; and evaluates alternatives to the project that could avoid or reduce significant impacts while still meeting most of the project's objectives.

This EIR is organized as follows:

- ***Summary*.** This chapter summarizes the project, identifies significant environmental impacts and mitigation measures, and describes the alternatives considered in this EIR, including the environmentally superior alternative. It also identifies areas of controversy and issues to be resolved.
- **Chapter 1, *Introduction and Background*.** This chapter describes the project background, the purpose and organization of the EIR, the environmental review process, and public outreach efforts, and summarizes public scoping comments.
- **Chapter 2, *Project Description*.** This chapter describes the project (including project overview and project objectives), summarizes project components, and provides information about project construction and operation. The chapter also lists permits and approvals necessary for the construction and operation of the project.
- **Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*.** This chapter is divided into sections by environmental resource topic. Each section describes the environmental and regulatory setting, the criteria used to determine impact significance, and the approach to the analysis for that resource topic. It then presents analyses of potential environmental impacts as well as the project-specific mitigation measures that have been developed to address significant and potentially significant impacts. Each section also includes an evaluation of cumulative impacts with respect to that resource topic. The environmental resource topics discussed in Chapter 3 are listed below. The environmental resource topics with less-than-significant impacts are discussed in the initial study in Appendix A. In Chapter 3, this EIR focuses on the following resource topics:
  - Noise and Vibration
  - Air Quality
- **Chapter 4, *Other CEQA Considerations*.** This chapter discusses growth-inducing effects, identifies the significant environmental effects that cannot be avoided if the project is implemented, and presents any areas of controversy left to be resolved.
- **Chapter 5, *Alternatives*.** This chapter analyzes alternatives to the project, including the required No Project Alternative; compares their impacts to those of the project; and identifies the environmentally superior alternative. This chapter also summarizes the alternatives that were considered but eliminated from further analysis.
- **Chapter 6, *Report Preparation*.** This chapter identifies the persons involved in preparation of this EIR.

- **Appendices.** The following appendices are included in this EIR:
  - Appendix A. Initial Study, which includes analysis of the following topics:
    - Land Use and Planning
    - Aesthetics
    - Population and Housing
    - Cultural Resources
    - Tribal Cultural Resources
    - Transportation and Circulation
    - Greenhouse Gas Emissions
    - Wind
    - Shadow
    - Recreation
    - Utilities and Service Systems
    - Public Services
    - Biological Resources
    - Geology and Soils
    - Hydrology and Water Quality
    - Hazards and Hazardous Materials
    - Mineral Resources
    - Energy
    - Agriculture and Forestry Resources
    - Wildfire
    - Mandatory Findings of Significance
  - Appendix B. Notice of Preparation of an Environmental Impact Report and Notice of Public Scoping Meeting
  - Appendix C. Federal Energy Regulatory Commission Proceedings
  - Appendix D. SFPUC Standard Construction Measures
  - Appendix E. Noise and Vibration Technical Memorandum and Noise Methods Memorandum
  - Appendix F. Air Quality Technical Memorandum and Health Risk Assessment
  - Appendix G. Transportation and Circulation Supporting Documentation
  - Appendix H. Biological Resources Technical Memorandum
  - Appendix I. Paleontological Resources Technical Memorandum
  - Appendix J. Hazards and Hazardous Materials Supporting Documentation
  - Appendix K. Electric and Magnetic Fields Information

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CHAPTER 2
PROJECT DESCRIPTION

2.1 Overview

The City and County of San Francisco ("City") proposes the Pacific Gas and Electric Company (PG&E) Power Asset Acquisition Project ("the project") which includes (1) the City's purchase ("acquisition") of PG&E-owned electrical transmission and distribution assets ("Assets") located in San Francisco and San Mateo counties that are needed to provide electric service[1] to customers within San Francisco, and (2) other transactions and physical changes necessary for the City to own, operate, and maintain the electricity grid in San Francisco ("separation").

The Assets include equipment, facilities, property, and records that the City would acquire, including the following:

- PG&E's distribution assets within San Francisco (distribution-level substations, metering, customer-serving distribution lines, and related facilities)
- PG&E's 115 *kilovolt*[2] (kV) and 230 kV transmission assets within San Francisco and portions in San Mateo County (substations, transmission lines, transformers, and related facilities needed for operations)
- Certain PG&E distribution lines in Brisbane emanating from the Martin Substation that serve customers in San Francisco[3]
- A portion of the Martin Substation facilities (located in Brisbane) or *interconnections*[4] needed to enable the San Francisco Public Utilities Commission (SFPUC) to operate the transmission and distribution system from Martin Substation into San Francisco
- Other systems and equipment, materials, records, operating and maintenance facilities, property, and other land-related agreements as necessary for safe and reliable operation, maintenance, repair, control, and protection of the acquired transmission and distribution system

After the City completes its acquisition of the Assets, the City would own, operate, and maintain the electricity grid in San Francisco, most of which is currently owned, operated, and maintained by PG&E. In addition, the City would acquire property rights as needed to operate and maintain the Assets and new City

[1] Broadly, electric service includes generation, transmission, distribution, and customer services. Generation service refers to sources (supplies) of electricity, generated using electric generation facilities, such as power houses, solar arrays, cogeneration facilities, and wind turbines. Transmission and distribution services deliver electricity from those sources to customers. Customer service includes customer programs, billing services, affordability assistance, and similar services.

[2] Kilovolt is a unit of electric potential and electromotive force. One kilovolt is equal to 1,000 volts.

[3] Existing distribution lines serving only customers in San Francisco would be acquired by the City. Distribution lines serving only PG&E customers outside of San Francisco would remain with PG&E. Finally, some of the distribution lines serve both customers in San Francisco and customers outside of San Francisco. These feeders would be separated at the border and new infrastructure would be built to ensure that each utility would have its own system and that all customers would continue to be served.

[4] Interconnection is defined as an electrical connection between multiple entities.

equipment, as needed, on public and private lands. The project would not include the purchase of PG&E's natural gas facilities; thus, PG&E would continue providing natural gas services to customers in San Francisco.[5]

As part of the project, some of the acquired Assets would be physically separated from PG&E's electricity grid outside of San Francisco so there would be two separate systems generally divided along the San Francisco-San Mateo County border. To separate these Assets, the City would modify portions of PG&E's existing transmission and distribution infrastructure, reconnect the terminals of some of the existing transmission lines at or near the Martin Substation, construct new overhead and underground distribution lines, and modify the existing Martin Substation (or, as variant of the project, construct a new substation, discussed in Section 2.7, New City Substation [Project Variant]). The transfer of ownership for the majority of the Assets is not part of the separation and would not require physical changes to the environment.

After the acquisition and separation of PG&E's facilities, the SFPUC would provide electric service to customers in San Francisco currently served by PG&E; PG&E would continue to provide electric service to its customers outside San Francisco. The SFPUC would be responsible for the continued operation and maintenance of the acquired facilities and the newly City-owned infrastructure. In addition to the physical separation of Assets around the county border, to operate and maintain the separated system other physical changes to the environment would occur. These changes include modifications to retain PG&E access to non-electrical facilities, system reinforcements, development of an operations control center, operations and maintenance service yards, and installation of telecommunications equipment.

This EIR project description details project components that would involve physical changes to the environment: new underground and overhead power distribution/transmission lines and system reinforcements,[6] mostly within public right-of-ways; new equipment in existing electrical substations; an operations center and service yard; and other related work.[7] The construction portion of the project (separation) is anticipated to take approximately three years after the acquisition. It is anticipated that the City and PG&E would coordinate on the implementation of the project.

Consistent with the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations, section 15124), this chapter describes the project, including its objectives, location, components, construction methods, construction schedule, operations details, and other general characteristics. The chapter also identifies the regulatory actions and approvals that may be required for project implementation.

[5] In addition, the interconnection between the transmission system in San Francisco and the Trans Bay Cable (TBC), and TBC operation, would not be physically changed as a result of the acquisition.

[6] As discussed in greater detail in Section 2.4.4, System Reinforcements Associated with Distribution System Separation, system reinforcements would consist of installing and replacing overhead and underground equipment on existing electrical lines near the county border to ensure, for both the City and PG&E systems, the reliability of the electrical system and the ability to restore power in the event of outages.

[7] As an example of related work, the City would acquire the PG&E Egbert Switching Station as part of the project. The Egbert Switching Station is a new transmission switching station planned to be constructed in San Francisco. The project was underway and is currently on hold. However, if the Egbert Switching Station is constructed, a revenue meter would be needed inside the switching station.

2.2 Objectives

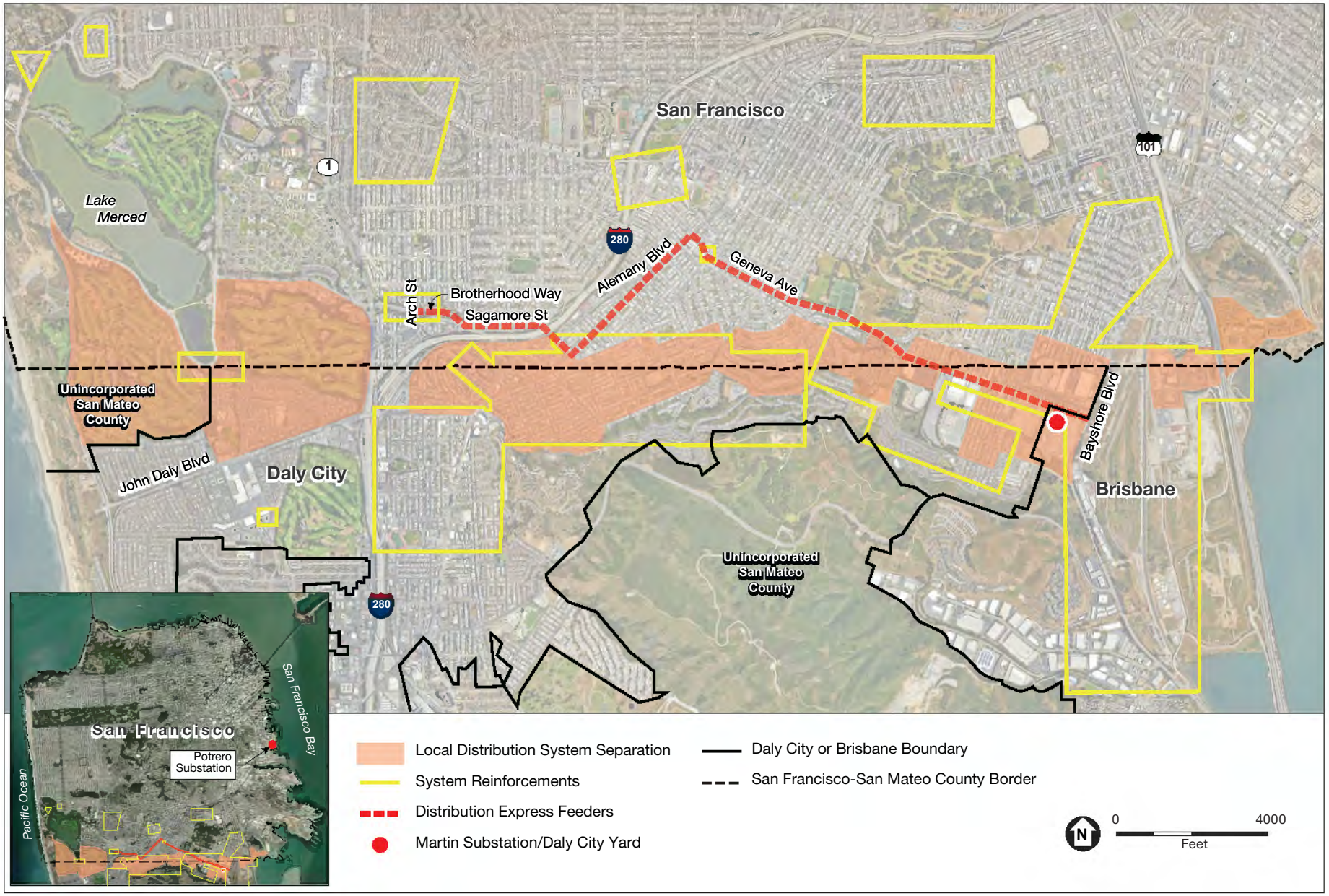
The SFPUC anticipates the project would (1) allow the City to provide and deliver Hetch Hetchy hydropower, and other clean power, to all customers in San Francisco; (2) improve the cost and efficiency of new electrical grid connections for critical City functions, such as public safety, affordable housing production, transportation, utility infrastructure, and schools; and (3) allow the City to own and manage the City's electric system with transparency and accountability, consistent with a cost-based, not-for-profit business model that will prioritize affordable, cost-effective, reliable, safe, and timely service in San Francisco. City officials have concluded this is an important and necessary step in reducing San Francisco's reliance on PG&E for electric service in San Francisco and a crucial step toward local control of San Francisco's energy future (refer to Chapter 1, Section 1.4, Project Background, for more detail).

Consistent with the City's underlying purpose in proposing the project, specific project objectives are to:

1. **Expand San Francisco's publicly owned, not-for-profit electricity services** to meet the electricity needs of all electric customers in San Francisco.
2. **Use public funds efficiently and prudently to maintain and improve** San Francisco's existing electricity infrastructure over the long term.
3. **Use existing electric facilities** that are already serving customers in San Francisco and avoid, where feasible, the construction of unnecessary and duplicative electric facilities.
4. **Provide the City with operational control of San Francisco's electric grid** to allow the City to provide safe, reliable, sustainable, and affordable electricity service for all of San Francisco.
5. **Facilitate the development of community-based electric service goals and provide programs** that are based on community input, support the City's climate action goals, and promote equity and racial justice.
6. **Provide cost-effective, timely, and reliable interconnections** to San Francisco's electric grid for all electricity users in San Francisco.
7. **Establish local accountability** for the long-term performance and affordability of San Francisco's electricity infrastructure.
8. **Minimize disruption** to local communities.

2.3 Location

The location of the project includes all areas of San Francisco and San Mateo counties where the City would acquire PG&E's electric transmission and distribution Assets. The project location does not include areas (such as Treasure Island) that do not contain PG&E electrical Assets, nor does it include the San Francisco International Airport. The locations of project activities that could result in physical environmental effects evaluated in this EIR include areas where new construction or modifications to existing PG&E electrical Assets would occur. These activities would primarily be located in the southern portions of San Francisco and the northern parts of Brisbane and Daly City, along the San Francisco-San Mateo County border, referred to as the project areas (see **Figure 2-1**). The project areas are a mix of residential, commercial, industrial, and public uses, and include PG&E's Martin Substation in Brisbane and PG&E's Daly City Yard (west of and adjacent to the Martin Substation) in Daly City.



SOURCE: Google Earth Aerial Imagery

PG&E Asset Acquisition Project

Note: The project includes purchase of PG&E's transmission and distribution assets needed for the city to provide reliable electric service to customers in San Francisco, including some assets in San Mateo County. Physical changes would occur at existing PG&E substations, along the distribution express feeders alignment, and at some locations within the areas shaded or outlined in yellow. The project also includes an operations control center and operation and maintenance service yards in southeastern San Francisco.

Figure 2-1
Project Areas Overview

Parcels in the project areas where physical changes are proposed are zoned as follows:

- **San Francisco:** Public (P); Residential, House (RH-1, RH-1(D), RH-2); Residential, Commercial (RC-3); Residential, Mixed (RM-2); Community Business (C-2); Neighborhood Commercial (NCD, NCT, NC-S, NC-1, NC-5); Public (P); and Industrial (M-1 and M-2).
- **Daly City:** Commercial (C-1, C-2); Residential (R-1, R-1A, R-2, R-3); Open Space (OS); Unzoned (U); Planned Development (PD); Pre-Planned development (Pre-PD); Unzoned (U); Interim (ID); and Industrial (M).
- **Brisbane:** Commercial (HC, C-1, NCRO-1 SCRO-1); Residential (PAOZ-1, PAOZ-2, TC-1); Commercial/Public Utilities District (C/P-U); Manufacturing (M-1); Open Space (OSD), Planned Development (PD); and Marsh Lagoon Bayfront District (MLB). The Martin Substation is zoned C/P-U.
- **San Mateo County:** Resource Management-Coastal Zone (RM-CZ/CD) and Residential Estates District/Residential Density District 9 (R-E/S-9).

2.4 Project Components

The project includes the acquisition of PG&E's transmission and distribution Assets needed for the City to provide safe and reliable electric service to customers in San Francisco. This section provides detailed descriptions of the proposed project components summarized in **Table 2-1**. The detailed descriptions of each component follow Table 2-1. The project does not include the acquisition of PG&E's natural gas facilities.

Consistent with CEQA Guidelines sections 15124 and 15151, this chapter's description of the project includes information necessary to evaluate and review the environmental impacts of the project and provide decision-makers with information that enables them to make a decision that intelligently takes account of environmental consequences. The project description is not required to supply extensive detail beyond that needed for evaluation and review of environmental impacts. The environmental review focuses on project components involving *changes to the physical environment* and evaluates potential environmental effects that would be anticipated as a result of those changes.

This EIR analyzes some project components at a "project level" and others at a "program level" based upon the level of information available at this time. A program EIR is appropriate for a project that will involve a series of actions that are (1) related geographically, (2) logical parts in a chain of contemplated actions, (3) connected as part of a continuing program, or (4) carried out under the same authorizing statute or regulatory authority and have similar environmental impacts that can be mitigated in similar ways (CEQA Guidelines section 15168). When a program EIR is completed, additional environmental review may be warranted in the future as project details are developed. The later environmental review would analyze any impacts particular to a specific activity or project location that were not known and, therefore, could not have been evaluated as part of the initial EIR. The Martin Substation separation, distribution express feeders, modifications to retain PG&E access to non-electrical facilities, and a new City Substation (analyzed in this EIR as a project variant) are evaluated at a project level of detail in accordance with CEQA Guidelines section 15161. The local distribution system separation, system reinforcements, operations control center, operations and maintenance service yards, and remaining project components are evaluated in the EIR at a program level. Table 2-1 presents the level of environmental review for the project components.

Table 2-1 Project Components and Level of Environmental Review Overview

Project Component and Level of Environmental Review	Component Purpose	Component Description	Location
Martin Substation Separation[8] *Project-Level Review*	Enable the City to transmit electricity to customers in San Francisco from PG&E's transmission lines in San Mateo County. Once separated, the substation would also be used to step down transmission voltages to distribution service voltages to serve customers in San Francisco.	Reconfigure and partition the existing PG&E Martin Substation into two interconnected utility systems—one serving San Francisco and one serving PG&E's remaining customers in San Mateo County.	Existing PG&E Martin Substation, at the intersection of Geneva Avenue and Bayshore Boulevard in Brisbane.
Distribution Express Feeders[9] *Project-Level Review*	Distribute electricity from the Martin Substation to areas in San Francisco that are currently supplied by distribution lines originating from PG&E's existing Daly City Substation, a substation located in San Mateo County. The existing distribution lines from Daly City would be disconnected at the border after completion.	Install approximately 3.8 miles of *duct banks*[10] for new underground distribution express feeders from the Martin Substation, consisting of approximately 0.3 mile of duct banks in Brisbane, approximately 0.5 mile in Daly City, and approximately 3 miles in San Francisco.	Geneva Avenue in Brisbane and Daly City. Geneva Avenue, Alemany Boulevard, Huron Avenue, Sickles Avenue, Sagamore Street, and Brotherhood Way in San Francisco.
Local Distribution System Separation *Program-Level Review*	Connect customers in San Francisco to the City's electrical system and San Mateo County customers to PG&E.	Reconfigure and separate overhead and underground distribution lines around the county border, including approximately 3.9 miles of underground work.	Approximately 70 work areas within the project areas generally along the San Francisco-San Mateo County border.
System Reinforcements *Program-Level Review*	Ensure electrical system reliability and ability to restore power in the event of outages for both the City and PG&E systems after the separation.	Install and replace overhead and underground equipment to maintain service reliability on existing lines, including approximately 4.2 miles of underground work.	Approximately 25 work areas within the project areas on both sides of the San Francisco-San Mateo County border.

[8] As a variant of the project, instead of the Martin Substation separation, a new, gas-insulated substation (the new City Substation) would be built at PG&E's Daly City Yard, as described in Section 2.7, New City Substation (Project Variant). The components of the project variant would be the same as those of the proposed project except that (1) the variant would include construction of the new City Substation instead of the separation work at the existing Martin Substation, (2) the distribution express feeders would originate from the new City Substation, and (3) the City would also install new incoming transmission lines from the Martin Substation to the new City Substation and outgoing distribution and transmission lines from the new City Substation to the existing distribution and transmission system. This Draft EIR evaluates the new City Substation at a project level of detail.

[9] Generally, electrical distribution express feeders are lines that deliver electricity to electrical loads (i.e., customers). Distribution express feeders are lines used to serve loads farther away from the substation by bypassing other customers.

[10] A duct bank is defined as two or more ducts or conduits (polyvinyl chloride [PVC], high-density polyethylene [HDPE], or equivalent), to house electrical cables, typically installed underground in a trench and protected with concrete or other material.

Table 2-1 Project Components and Level of Environmental Review Overview

Project Component and Level of Environmental Review	Component Purpose	Component Description	Location
Modifications to Retain PG&E Access to Non-Electrical Facilities *Project-Level Review*	Provide continued access for PG&E's operation of non-electrical facilities where such facilities would be located adjacent to electric facilities to be acquired by the City.	Modify fencing and ingress/egress, at certain sites with non-electrical facilities.	Martin Substation (on Geneva Avenue between Schwerin Street and Bayshore Boulevard in Brisbane). Potrero Substation (on Illinois Street between Humboldt and 23rd Street).
Operations Control Center *Program-Level Review*	Provide an office facility needed for dispatchers and operators. Centralize data on transmission and distribution systems status and security.	Modify interior of an existing building, upgrade utilities, and install fencing and a new standby diesel generator.	An existing commercial or office building in the southeastern part of San Francisco.
Operations and Maintenance Service Yards; Materials and Equipment Storage *Program-Level Review*	Securely store equipment, trucks, spare materials and other supplies for operations and maintenance of the power grid in San Francisco, including vehicle parking spaces and containment for hazardous materials, such as transformer oils. In addition, provide offices for workers in an existing building.	Modify existing yards (e.g., fencing).	Existing maintenance and storage properties, vacant parcels, or space at acquired substations in southeastern San Francisco.
Telecommunications Equipment *Program-Level Review*	Provide a network to enable prompt and reliable exchange of information for the safe and secure operation, control, and protection of power system equipment.	Install equipment at substations (e.g., remote terminal units) inside control room (no excavation). Install fiber optic cables between substations and other telecommunication aggregation points underground within existing or new duct banks. Install other telecommunications equipment (e.g., wireless mesh *SMART*[11] devices) mounted in underground vaults or on existing poles (no excavation).	Existing or proposed substations, control centers, underground duct banks, and mounted on poles throughout San Francisco and south of the border within the project boundaries.

[11] SMART is defined as Self-Monitoring, Analysis and Reporting Technology; it allows users to connect a device to the internet.

System separation would consist of the following components, which are described in greater detail in this section:

- **Martin Substation Separation (*Project-Level Review*).** This component would consist of reconfiguring the existing PG&E-owned Martin Substation, located at the corner of Bayshore Boulevard and Geneva Avenue in Brisbane. These changes could include adding or relocating cable terminations, circuit breakers, cable trenches, revenue meters, and transformer locations within the existing substation fence. The Martin Substation is the location of PG&E's incoming transmission lines from San Mateo County, which supply electricity to San Francisco. The substation also reduces voltage from transmission to distribution service voltage levels, for distribution feeders, which serve customers in San Francisco.
- **Distribution Express Feeders *(Project-Level Review)*.** This component would involve constructing new underground distribution express feeders from the separated Martin Substation to connect to the existing distribution system grid in the southwestern part of San Francisco.[12] The proposed distribution express feeders would be installed underground in a duct bank. The proposed duct bank for the distribution express feeders would be approximately 3.8 miles long, extending through parts of southern San Francisco, northern Daly City, and Brisbane.
- **Local Distribution System Separation *(Program-Level Review)*.** This component would involve reconfiguring and separating distribution lines on overhead poles and in underground vaults near the county border. The local distribution system separation would include installation of new overhead lines or underground lines in duct banks along with equipment to facilitate both the separation and reconnection of feeder segments. Specific locations and equipment would be determined based on the location of existing feeders, site conditions, and *load flow analysis*.[13]
- **System Reinforcements Associated with Separation of the Distribution System *(Program-Level Review).*** This component would implement reinforcements to ensure that, after separation, the independent City and PG&E electrical systems along the county border comply with all applicable requirements and standards for safety, functionality, and reliability. These improvements consist of changes to overhead and underground lines, equipment, and control software (e.g., *FLISR*[14]) to locate abnormal system conditions, isolate electrical faults, and restore customer service. Specific locations and equipment would be determined based on the location of existing feeders, site conditions, and load flow analysis.
- **Modifications to Retain PG&E Access to Non-Electrical Facilities (*Project-Level Review*).** The City would not acquire PG&E's non-electrical facilities (e.g., natural gas) serving San Francisco. At the Potrero Substation and the Martin Substation, PG&E-owned natural gas and electrical equipment are located on the same site. The City would acquire the electrical equipment at these sites, and would make site modifications, such as fencing and driveway additions or improvements, where necessary to allow PG&E continued access to its non-electrical facilities. Fencing and other access modifications at the Martin Substation would be included in the Martin Substation work.
- **Other Separation Components *(Program-Level Review)*.** The project also includes an operations control center, operations and maintenance service yards, materials and equipment storage, and

[12] Areas in the west and southwest parts of San Francisco are currently supplied by distribution feeders originating from PG&E's existing Daly City Substation in San Mateo County that would be disconnected at the boundary with the acquisition.
[13] A load flow analysis is a computerized system model used to evaluate the steady state performance of a power system under various possible operating conditions and equipment configurations. A load flow analysis can identify the optimum operating conditions for system components to meet demand without overloading facilities, and conduct maintenance without compromising system reliability.
[14] FLISR stands for fault location, isolation, and service restoration. FLISR is an automated system implemented to improve system reliability.

telecommunications equipment. Specific locations and equipment for the operations control center and operations and maintenance service yards would be determined based on the location of existing and available facilities and site conditions.

This EIR evaluates proposed system separation activities based on the best available information; however, uncertainty remains regarding the exact locations of the local distribution system separation, system reinforcements, and other separation components. For this reason, the local distribution system separation, system reinforcements, and other separation components are evaluated at a "program level" of review.

Proposed electrical improvements would be consistent with applicable codes and guidelines, including the National Electric Code, California Public Utilities Commission (CPUC) General Order 95, and CPUC General Order 128. Consistent with CPUC Decision 06-01-042, which requires utilities to incorporate "low-cost" or "no-cost" measures for managing electromagnetic field levels from electrical facilities, the City has prepared a field management plan, which is included in **Appendix K** along with an informational discussion of electromagnetic fields associated with electric utility facilities and human health and safety.

2.4.1 Martin Substation Separation *(Project-Level Review)*

The Martin Substation is an outdoor, *air-insulated substation*[15] interconnected to PG&E's transmission and distribution system that serves San Francisco and San Mateo counties. Transmission lines from the south, in San Mateo County, as well as a substantial portion of the transmission system in San Francisco, are connected to PG&E's Martin Substation at several voltage levels: 230 kV, 115 kV, and 60 kV. Step-down transformers (which reduce the input voltage to a lower voltage) are connected within the Martin Substation, including 230/115 kV transformers, a 115/60 kV transformer, and multiple 115/12 kV transformers. These transformers convert system voltage from 230 kV to 115 kV, from 115 kV to 60 kV, and from 115 kV to 12 kV, respectively. The 115/12 kV transformers located at the Martin Substation supply the distribution system, and 12/4 kV transformers are used to further step down the voltage to 4 kV for some lines. The Martin Substation distribution system supplies 12 kV and 4 kV distribution lines that serve the surrounding area, including parts of southern San Francisco and communities in San Mateo County, including Daly City and Brisbane.

Typical transmission systems consist of an electrical "grid" in which multiple utilities are electrically interconnected with one another for reliable operation of the overall system. The project would reconfigure the existing Martin Substation transmission and distribution infrastructure to create separate City-owned and PG&E-owned systems. The City would own and operate the two 230 kV and six 115 kV transmission lines that exit the Martin Substation and cross into San Francisco. The City would also own and operate the 12 kV distribution lines listed in **Table 2-2** that exit the Martin Substation and enter San Francisco. The City would not own or operate any 4 kV distribution lines that exit the Martin Substation. The City would install new electrical circuits and equipment within the Martin Substation. Although operated separately and independently, the City- and PG&E-owned transmission systems would remain interconnected at the Martin Substation to support reliable operation of the overall transmission grid. As is common with interconnected utilities, the City and PG&E would be expected to coordinate for the reliable operation of the transmission system, including at the Martin Substation.

[15] An air insulated substation (AIS), commonly known as an outdoor substation, has all bus-bars, switchgear components, and other switchyard equipment installed outside.

Table 2-2 Martin Substation Separation Components

Component[16]	Purpose	Quantity	Excavation for Each Foundation or Trench	
			Maximum Excavation Width and Length (Feet)	Maximum Excavation Depth (Feet)
Transformers (115/12 kV and 115/60 kV)	Reduce voltage to levels safe for grid distribution	3[17]	Width: 44 Length: 44	7
115 kV circuit breakers	Electrical devices designed to automatically open a circuit to prevent damage to components, overheating, and fires	12	Width: 15 Length: 15	7
115 kV control house	Enclosure to house equipment that requires climate control	1	Width: 40 Length: 70	4
Revenue meter and foundations (six meters, each meter includes three phases, one foundation per phase)	Meter to measure electricity use	18	Width: 4 Length 4	6
115 kV and 12 kV underground duct banks with cables	Connect new equipment to City and PG&E's grids	1	Width: 5 Length: 3,500	6
Vaults for cable splicing	Connect new equipment to City and PG&E's grids	9	Width: 11 Length: 19	15
12 kV switchgear buildings[18]	Control, protect, and isolate electrical equipment	2	Width: 20 Length: 50	4
Fence	Separate the two utility systems	1	n/a	n/a

n/a = not applicable

Figure 2-2 shows the approximate boundaries of the Martin Substation project site where new, City-owned facilities would be located. The Martin Substation project site in Figure 2-2 is larger than the final City-owned substation because it includes areas for construction work and staging. Precise locations of the new equipment would be determined upon detailed design, but the total space needed for the new equipment is anticipated to be accommodated within the 975,000-square-foot bounded area shown in pink in Figure 2-2.

Aboveground and underground components required at the Martin Substation for City and PG&E systems to function independently are listed in Table 2-2, and include transformers, circuit breakers, metering devices, one control house with associated equipment, two buildings housing switchgear, and underground duct banks

[16] The City would establish independent bus sections on existing equipment in the Martin Substation; however, this would not require construction of new components.
[17] Three transformer foundations are proposed as part of the project. The project would relocate one existing transformer at the Martin Substation to a new foundation and would install two new transformers on new foundations.
[18] A switchgear is composed of electrical disconnect switches, fuses, or circuit breakers. It is used to control, protect, and isolate electrical equipment.

SOURCE: Google Earth Aerial Imagery

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Figure 2-2
Martin Substation Project Site and Construction Staging Area

and vaults. To fully separate at the Martin Substation, the SFPUC and PG&E would also need independent 115 kV bus sections on the existing *transmission bus*.[19] The maximum excavation footprints and depths for each piece of equipment are also listed in Table 2-2.

Transformers are electrical devices that transfer energy and change voltage from one electric circuit to another. The project includes one relocated transformer that reduces the voltage from 115 kV to 60 kV, with a rating of 40 megavolt-amperes, and two new transformers that reduce voltage from 115 kV to 12 kV, each with a power rating of 30 megavolt-amperes.[20] Transformers and the associated oil containment would be approximately 44 feet wide by 44 feet long by 20 feet high, located on top of concrete pads. Fire walls, which would be at least 25 feet high and 16 inches thick, would be installed around each transformer. Transformer cooling fans would operate approximately five hours per day between May 1 and October 31.

Circuit breakers (including bus tie breakers) are electrical devices designed to automatically open a circuit to prevent damage to components, overheating, and fires in the event of an overload or short circuit. Circuit breakers can also be used to transfer a line from one bus to another. Twelve 115 kV circuit breakers would be installed. The breakers are outdoor equipment that would be approximately 8 feet high and located on concrete pads.

A *control house* would be constructed as a pre-engineered or prefabricated concrete or metal building. The building would be equipped with an air conditioning unit for cooling and exterior lighting for safety. It would contain communication and meter interfaces, protective devices *(*or *relays),*[21] and controls for the circuit breakers, switches, and transformers. The dimensions of the structure would be approximately 30 feet wide by 60 feet long by 20 feet high, with typical commercial air conditioning units installed in the wall or on the roof of the building. Relays would be installed inside the control building and programmed to coordinate the circuit breakers' responses to short circuit events.

Revenue grade meters would be added to monitor the flow of electricity between the City and PG&E at the Martin Substation. Six revenue meters would be installed at City- and PG&E-operated interconnection points – two sets of 230 kV meters and four sets of 115 kV meters. These meters would be installed outside in line with the substation bus; the meter interface would be located inside the control house. The measuring devices for the revenue grade meters would be installed on pedestals at various locations near the 115 kV and 230 kV transmission bus and would require concrete footings.

Two *12 kV switchgear* buildings would also be installed at the Martin Substation. The buildings would be equipped with air conditioning units for cooling and exterior lighting for safety. The dimensions of the structures would be approximately 20 feet wide by 50 feet long by 12 feet high, with typical commercial air conditioning units installed in the wall or on the roof of the building. Switchgears would be installed in each building.

[19] A transmission bus at a substation is a node or common connection where multiple transmission lines and transformers are connected with circuit breakers. For reliability and operational flexibility, there are multiple buses at a substation, which are also segmented into sections that are interconnected with circuit breakers.
[20] As part of the project, one existing transformer at the Martin Substation would be relocated to a new foundation and two new transformers would be installed on new foundations.
[21] Relays are equipment that sense high current events and send signals to circuit breakers to open to interrupt a fault (high current), preventing damage to major equipment.

Figure 2-3 shows examples of the types of aboveground infrastructure at an electrical substation that are proposed for the Martin Substation project site. **Figure 2-4** illustrates the Martin Substation separation concept.

The City would also install approximately 3,500 feet of underground lines within the Martin Substation to connect the new equipment to the City's grid. Underground lines would be housed in duct banks and vaults. Excavation to access existing duct banks for reconnection, as well as construction of new underground duct banks and vaults to connect the equipment, within the Martin Substation project site would be necessary to separate the PG&E and City systems. **Figure 2-5** illustrates typical underground duct banks and vaults.

An up to 8-foot-tall fence would be installed around the partitioned Martin Substation project site to separate the two utility systems. Additional security and access improvements may be constructed to supplement or replace the existing perimeter fencing surrounding the Martin Substation. The City-operated portion of Martin Substation would include parking spaces for City personnel.

No interim facilities would be needed to facilitate the reconfiguration work because it is anticipated that existing electrical redundancy at the Martin Substation would be sufficient to accommodate existing operations during construction.

2.4.2 Distribution Express Feeders (*Project-Level Review*)

Some of San Francisco's southwestern neighborhoods are supplied by distribution feeders from PG&E's Daly City Substation. These distribution feeders would be disconnected near the county boundary as part of the project.

To supply electricity to these neighborhoods, the project includes construction of approximately 3.8 miles of new distribution express feeders from the Martin Substation, in Brisbane, to the existing distribution system near the intersection of Brotherhood Way and Arch Street in San Francisco. The new distribution express feeders would be installed in an underground duct bank within streets, sidewalks, and other publicly owned land located adjacent to residential, commercial, industrial, and public areas (e.g., parks). Approximately 0.3 mile of the duct bank alignment would be located in Brisbane, approximately 0.5 mile would be in Daly City, and approximately 3 miles would be in San Francisco. The new distribution express feeders would connect with the existing distribution grid in the southwest area of San Francisco to supply this area from the Martin Substation. The proposed alignment is shown in Figure 2-1 and details are provided in **Table 2-3**.

Table 2-3 Distribution Express Feeder Alignment

No.	Segment	Start	End	Approximate Distance (Miles)
1	Geneva Boulevard	Martin Substation in Brisbane	Alemany Boulevard in San Francisco	2.0
2	Alemany Boulevard / Huron Avenue	Geneva Avenue	Sickles Avenue	0.8
3	Sickles Avenue	Huron Avenue	Plymouth Avenue	0.2
4	Sagamore Street	Sickles Avenue	Brotherhood Way	0.4
5	Brotherhood Way	Orizaba Avenue	Arch Street	0.4
			Approximate Total Distance (miles)	***3.8***

SOURCE: Google Earth Street View, 2023

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Figure 2-3
Examples of Aboveground Infrastructure at an Electrical Substation

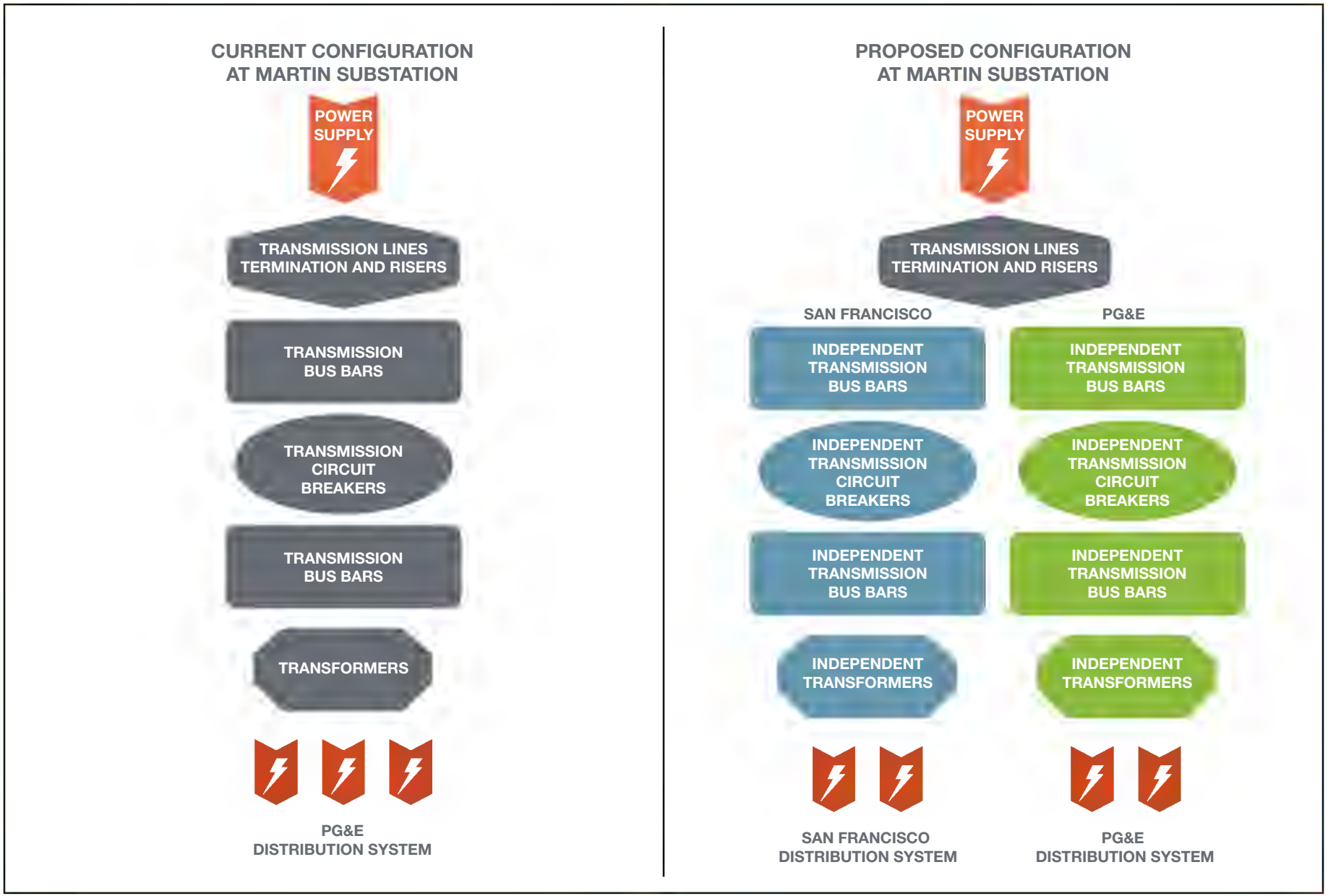

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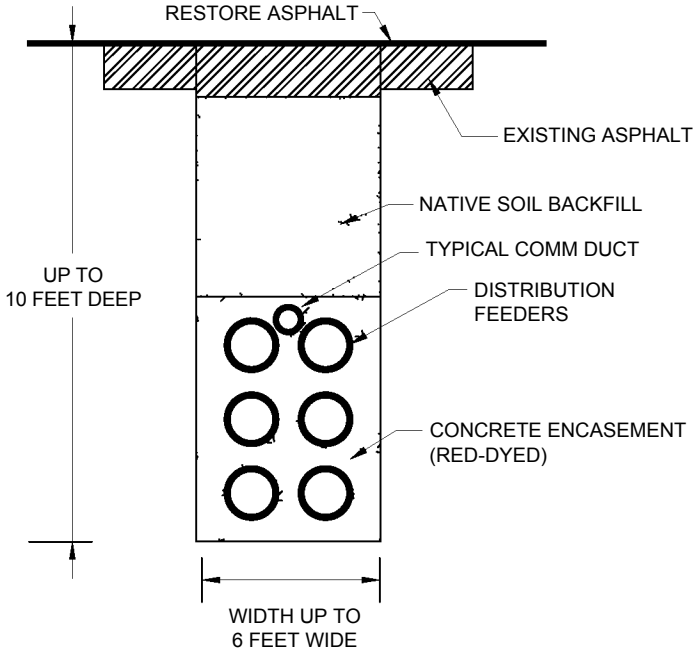
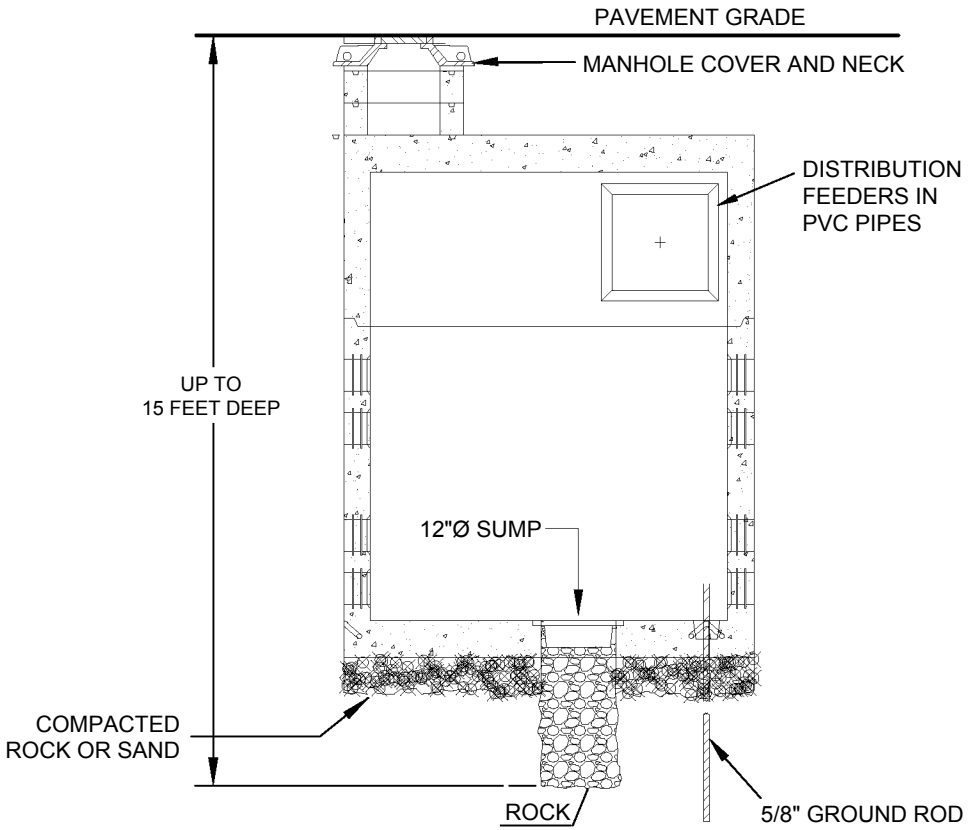
Figure 2-4
Diagram Illustrating Existing and Proposed Conceptual Electrical Equipment Configuration at Martin Substation



Typical Duct Bank



Typical Vault (Manhole)

SOURCE: Worley, 2023

PG&E Asset Acquisition Project

Figure 2-5
Typical Duct Bank and Vault Diagrams

For most of the alignment, the typical duct bank size would be approximately 4.5 feet wide and 3 feet tall and would contain up to nine 6-inch-diameter *conduits* that house the cables.[22] The typical trench to accommodate this duct bank size would range from approximately 5 to 6 feet wide and 8 to 10 feet deep. This trench would also accommodate two 4-inch-diameter conduits for fiber optic communication cables. Fiber optic cables would be used for electrical distribution system communications. Where other subsurface utilities are present along the alignment, the duct bank would be installed in accordance with standard minimum spacing requirements. In certain work areas along the distribution express feeders alignment the duct bank could be narrower, wider, shallower, or deeper to avoid conflicts with existing below-grade infrastructure, with a maximum width of 6 feet and depth of 10 feet.

After the conduits are installed, the duct bank would be encased in red-dyed concrete and topped with native soil backfill after the concrete has cured (hardened), and the ground surface would be restored with asphalt and/or concrete.

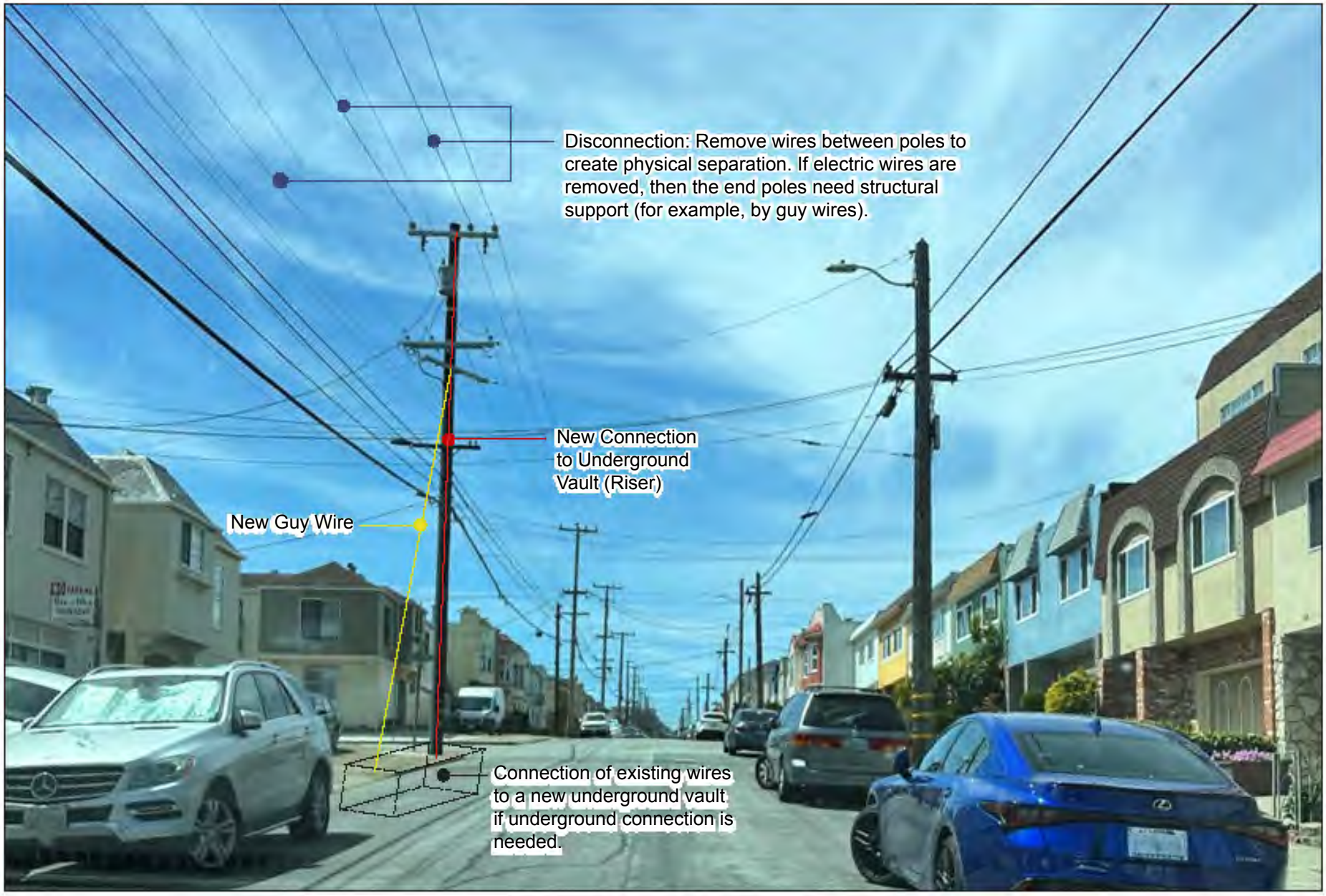
Below-grade concrete vaults (with surface-mounted lids) would need to be installed along the new distribution express feeder alignment (at intervals of approximately every 400 feet) to facilitate cable and communication line pulling, cable splicing and electrical equipment installation. Approximately 50 vaults would be installed in line with the duct bank. The vaults would be approximately 9 feet wide by 17 feet long by 6 feet high and would be installed in trenches approximately 11 feet wide by 19 feet long by up to 15 feet deep. Generally, the electrical vaults would be located beneath either the roadway or sidewalk.

2.4.3 Local Distribution System Separation *(Program-Level Review)*

The border between San Francisco and San Mateo counties is not located along a single street. At various locations, some blocks are located within both counties, and the customers on these blocks are generally served by the nearest distribution line (i.e., customers in San Francisco are supplied from distribution lines from San Mateo County and vice versa).

The local electrical distribution systems would be separated by reconfiguring existing 12 kV and 4 kV distribution lines at various work areas within the project areas along the San Francisco-San Mateo County border. Existing overhead and below-ground distribution lines would be separated near the border and, where needed, reconnected to the appropriate utility. In certain work areas, short segments of new distribution lines would be constructed to facilitate such connections (representative examples are shown in **Figure 2-6**). Depending on the existing distribution system arrangement in the vicinity, the new distribution line segments would be either connected by overhead wires on new or existing poles or connected by underground cables enclosed in new or existing duct banks and vaults. New duct banks and vaults would be installed within City streets and sidewalks. **Table 2-4** summarizes the types of local distribution system separation work to be performed at various work areas near the border. The local distribution system separation would also include work to ensure disconnected lines are modified, or transitioned (e.g., through increasing voltage), to connect to the voltage of the nearby distribution grid. Separation work at a given location would involve one or more types of activities and would not necessarily include all the possible listed types of activities.

[22] Conduits are plastic (high-density polyethylene [HDPE]) tubes to protect the cables.



SOURCE: ESA

PG&E Asset Acquisition Project

Figure 2-6
Typical Overhead Wire Disconnections

Table 2-4 Local Distribution System Separation Activities

Activity Type	Activity Subtype	Activity Description
Existing Line Segment Disconnections	Overhead Disconnections	• Remove existing overhead lines between existing poles and terminate the existing lines segments at nearest available pole • Add supporting structures as needed (e.g., guy wires) • Remove existing poles and equipment if no longer needed. Poles would remain if they are jointly used by other utilities (e.g., telecommunications)
	Underground Disconnections	• Remove existing underground lines within existing conduits and terminate the existing line segments at the nearest underground vault • If there are no nearby underground vaults, construct a new vault • Abandon in-place or remove unused underground conduits, vaults, and/or equipment, depending on site conditions
Segment Line Reconnection to Appropriate Utility	Overhead Reconnections	• Install new poles or replace existing poles (and attachments, as needed) and extend new lines from the nearest available tie-in point on the existing distribution system and reestablish a connection to the separated line segments
	Underground Reconnections	• Trench and install new underground conduits and vaults • Extend new underground lines from the nearest available tie-in point, on the existing distribution system or the new distribution express feeders, and reestablish a connection to the separated line segment
	Overhead/ Underground Transitions	• Install (or extend) overhead lines and risers[23] on an existing or new pole and install (or extend) underground lines and associated equipment to provide a transition between overhead and underground systems by connecting the overhead and underground lines
Electrical Equipment Additions or Replacements	On or Within Existing Structures	• Install electrical equipment on or in existing structures, such as poles, cross-arms, duct banks, and vaults, provided such facilities are available, in serviceable condition, and appropriately sized
	New or Upgraded Structures or Equipment	• If sufficient structures, such as poles, cross-arms, duct banks, and vaults, are not available, install or construct new or upgraded structures • Upgrade existing equipment (e.g., transformers) to support additional or reconfigured loads • Relocate existing equipment or install new equipment (e.g. revenue meters, transformers) relative to the border for the appropriate utility owner
Transitions to Connect 4 kV and 12 kV Segments	--	• Install and replace poles, overhead equipment, and underground equipment (poles, line insulators, transformers, lines, and related accessories) to change service voltage on existing lines to match available local supply lines

[23] An electrical riser is an electrical connection attached to the side of a pole, and a pole supporting a riser is called a riser pole. The riser provides a connection between overhead conductors and underground conductors.

The local distribution system separation work can be grouped into three major areas: the Southwest, Central, and Southeast border areas, as shown by the colored areas in **Figure 2-7**. The local distribution system separation areas shown in Figure 2-7 illustrate approximate locations within which work would occur. Within these general areas, work would be completed within or near public road right-of-ways or on existing equipment. **Table 2-5** summarizes characteristics of each border area, such as geographical boundaries, neighborhoods, and proposed separation work. Table 2-5 also includes the relevant local distribution system separation activity types from Table 2-4 that would occur in each border area. Up to approximately 4 linear miles of underground work and approximately 0.75 mile of overhead work would occur in the local distribution system separation border areas.

While the locations and types of work described in the following subsections are based on the best information available to the City at this time, precise work areas within the project areas and types of construction activity among those listed in Table 2-4 would be selected based on specific site conditions. Specific work areas within the project areas and equipment would be determined based on the location of existing feeders, present site conditions, and load flow analysis. Site conditions that could influence the type of equipment installed include whether the affected neighborhood has existing overhead or underground equipment, whether there are conflicting utilities that preclude undergrounding, and whether there is conflicting sidewalk furniture (e.g., benches) or fencing that precludes installation of a pole. Distribution line modifications would be verified using a load flow analysis, site surveys, and designs to confirm circuit load capacities and distribution line routes.

2.4.3.1 SOUTHWEST BORDER AREA

The Southwest Border Area is roughly bounded by Skyline Boulevard, Brotherhood Way, Mission Street, and John Daly Boulevard. The area is primarily served by distribution lines from the Daly City Substation. Multiple distribution feeders cross the border into San Francisco in several locations and circle back into San Mateo County. The border area encompasses the Lakeshore and Ocean View/Outer Mission districts (labeled 1 and 2, respectively, in Figure 2-7).[24]

The Lakeshore district includes two golf courses (The Olympic Club and San Francisco Golf Club) and a residential neighborhood. The area is primarily served by 4 kV and 12 kV overhead lines, with some customers served through underground lines. Separation work in the Lakeshore district would primarily include disconnection of existing distribution lines that cross the border. Additionally, as The Olympic Club and San Francisco Golf Club span the San Francisco-San Mateo County border, reconnection work would be needed to connect each site to the appropriate utility. Reconnection work would include construction of new infrastructure such as overhead lines and poles, or underground duct banks and cables, depending on the site conditions. For new line segments, work may include new overhead/underground transitions. Temporary closure of portions of the golf courses may be required during construction.[25] Construction at the golf courses would proceed at a rate of 40 feet per day, same as in other locations. Similar to project work in other locations, golf course areas temporarily disturbed during construction would be restored to preconstruction conditions once work is complete.

[24] "District" is used in this chapter to identify portions of a San Francisco neighborhoods where local distribution system separation work would occur. Each district is numbered in Figure 2-7.

[25] The SFPUC would coordinate with the golf clubs to schedule and secure access for project activities. The SFPUC would avoid construction during the PGA Championship, for example, which is scheduled to take place at The Olympic Club in 2028.

Table 2-5 Local Distribution System Separation Activities by Border Area

Border Area	Estimated Installation Locations Requiring Ground Disturbance	District (Number in Figure 2-7)	Geographical Boundary	Generalized Zoning	Service Source	General Distribution Line Type	Service Voltage	Local Distribution System Separation Activities From Table 2-4
Southwest	• Overhead Work Areas: 1-2 • Average Length of Overhead Work at Each Location: 300 feet • Underground Work Areas: 14 • Average Length of Underground Work at Each Location: 400 feet	Lakeshore (1)	• Skyline Boulevard to the west • I-280/Highway 1 to the east	• Residential • Commercial • Public • Open Space	San Mateo County	Overhead, Underground	4 kV, 12 kV	• Underground Reconnections. Extend underground segments to connect to appropriate single utility • Construct overhead/underground transitions • Create transitions to connect 4 kV and 12 kV segments
		Ocean View/ Outer Mission (2)	• I-280/Highway 1 to the north and west • John Daly Boulevard to the south • Mission Street and Sickles Avenue to the east	• Residential • Commercial • Public	San Francisco, San Mateo County	Overhead	4 kV, 12 kV	• Overhead/Underground Reconnections. Extend overhead and construct new underground segments to connect to appropriate utility • Connect separated segments in San Francisco to new distribution express feeders • Construct overhead/underground transitions • Create transitions to connect 4 kV and 12 kV segments
Central	• Overhead Work Areas: 5 • Average Length of Overhead Work at Each Location: 300 feet • Underground Work Areas: 15 • Average Length of Underground Work at Each Location: 400 feet	Crocker-Amazon/ Crocker (3)	• Mission Street to the north • San Bruno Mountain State and County Park to the south • Wellington Avenue to the west • Mission Hills district to the east	• Residential • Commercial • Open Space • Public	San Francisco, San Mateo County	Overhead	4 kV, 12 kV	• Overhead/Underground Reconnections. Extend overhead and construct new underground segments to connect to appropriate utility • Connect separated segments in San Francisco to new distribution express feeders • Construct overhead/underground transitions • Create transitions to connect 4 kV and 12 kV segments • No work to be performed on lines originating from San Mateo County substation, which remain in San Mateo County and serve San Mateo County loads only. The lines would remain PG&E-owned.
		Crocker-Amazon/ Mission Hills (3)	• Brunswick Street to the north • Frankfort Street to the south • Lowell Street to the west • Pope Street to the east		San Francisco, San Mateo County	Overhead	4 kV, 12 kV	• Overhead Reconnections. Extend overhead segments to connect to appropriate utility • Create transitions to connect 4 kV and 12 kV segments
		Crocker-Amazon/ Southern Hills (3)	• Munich Street/Rolph Street to the north • South Hill Boulevard/Bellevue Avenue to the south • Pope Street to the west • Robinson Drive to the east		San Mateo County	Overhead	4 kV, 12 kV	• Overhead/Underground Reconnections. Extend overhead and construct new underground segments to connect to appropriate utility • Construct new underground segments to connect to new distribution express feeders • Construct overhead/underground transitions • Create transitions to connect 4 kV and 12 kV segments • Reconductor lines between backyards or residential parcels[26] • No work required on some disconnected sections in San Mateo County, which would continue to be PG&E-owned

[26] The SFPUC anticipates up to 10 residential properties in the Central Border Area would be affected, although the City would endeavor to avoid work in the backyards to the extent possible. If needed, however, the City would obtain necessary access from property owners.

Table 2-5 Local Distribution System Separation Activities by Border Area

Border Area	Estimated Installation Locations Requiring Ground Disturbance	District (Number in Figure 2-7)	Geographical Boundary	Generalized Zoning	Service Source	General Distribution Line Type	Service Voltage	Local Distribution System Separation Activities From Table 2-4
		Saddleback Community (3)	• Geneva Avenue to the north • Robinson Drive to the west • Carter Street to the east		San Mateo County	Overhead, Underground	12 kV	• Underground Reconnections. Construct new underground segments to connect to new distribution express feeders • No work proposed for distribution lines that enter San Francisco from San Mateo County and reenter San Mateo County without serving San Francisco loads
Southeast	• Overhead Work Areas: 6 • Average Length of Overhead Work at Each Location: 300 feet • Underground Work Areas: 12 • Average Length of Underground Work at Each Location: 400 feet	Visitacion Valley/ Sunnydale (4)	• Velasco Avenue to the north • Geneva Avenue to the south • Carter Street to the west • Schwerin Street to the east	• Commercial • Residential • Industrial • Production, Distribution and Repair • Public Utility • Mixed Use • Public	San Mateo County	Overhead, Underground	4 kV, 12 kV	• Overhead/Underground Reconnections. Extend overhead and construct new underground segments to connect to appropriate utility • Construct overhead/underground transitions • Create transitions to connect 4 kV and 12 kV segments • Electrical Equipment Additions or Replacements. Upgrade and install equipment to accommodate larger or additional connected loads • No work required for distribution lines supplying to San Francisco loads only
		Bayshore Heights (4)	(Located in San Mateo County only) • Geneva Avenue to the north • Martin Street to the south • Rio Verde Street to the west • Schwerin Street to the east		San Mateo County	Overhead	4 kV, 12 kV	• Underground Reconnections. Construct new underground segments to connect to appropriate utility • Create transitions to connect 4 kV and 12 kV segments • Electrical Equipment Additions or Replacements. Upgrade and install equipment to accommodate larger/additional loads served by the utility
		Visitacion Valley (4)	• Sunnydale Avenue to the north • Midway Drive/Main Street to the south • Schwerin Street to the west • Bayshore Boulevard to the east		San Mateo County	Overhead, Underground	4 kV, 12 kV	• Overhead/Underground Reconnections. Extend overhead and construct new underground segments to connect to appropriate utility • Construct overhead/underground transitions • Create transitions to connect 4 kV and 12 kV segments • Electrical Equipment Additions or Replacements. Upgrade equipment to accommodate larger or additional connected loads served by utility
		Visitacion Valley (east) (5)	• Visitacion Avenue to the north • Beatty Road near the south • Tunnel Avenue to the west • U.S. 101 to the east	• Commercial • Production, Distribution and Repair • Public	San Mateo County	Overhead, Underground	12 kV	• Overhead/Underground Reconnections. Extend overhead and construct new underground segments to connect to appropriate utility • Construct overhead/underground transitions • Relocate revenue meters at recycle facility to the appropriate side of the border, so facility is served by a single utility and maintains dual supply for emergency purposes
		Bayview/ Hunters Point/ Candlestick Point (6)	• Diamond Cove Terrace to the north • Harney Way to the south • Jamestown Avenue to the east • U.S. 101 to the west	• Commercial • Industrial • Residential • Public	San Mateo County	Overhead, Underground	12 kV	• Overhead/Underground Reconnections. Extend overhead and construct new underground segments to connect to appropriate utility • Construct overhead/underground transitions

SOURCE: Google Earth Aerial Imagery

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Figure 2-7
Local Distribution System Separation

The Ocean View/Outer Mission district primarily consists of residential neighborhoods with streets crossing the border at various locations. The area is mainly served by 4 kV and 12 kV overhead distribution feeders from substations in San Francisco and Daly City.

Separation in the Ocean View/Outer Mission district would include existing line segment disconnections at work areas where the lines cross the border. Separated line segments serving customers on either side of the border would need to be reconnected to either the PG&E or the City electrical system. As this district is primarily served by overhead lines, the work would include overhead reconnections. Depending on the site conditions, work could include new underground line segments and overhead/underground transitions. Such connections may be required to serve customers from the new distribution express feeders described in Section 2.4.2, Distribution Express Feeders.

As parts of the district are served by either 4 kV or 12 kV primary distribution voltages, reconnection work for such line segments may require modifying the existing service voltage on existing lines to maintain service to customers. Work to change the distribution service voltage from 4 kV to 12 kV includes installation and replacement of poles, line insulators, transformers, lines, and related accessories.

2.4.3.2 CENTRAL BORDER AREA

The Central Border Area is roughly bounded by Mission Street to the north, San Bruno Mountain State and County Park to the south, Wellington Avenue to the west, and Carter Street to the east. The area consists of the Crocker-Amazon/Mission Hills and Crocker-Amazon/Southern Hills districts, and the Saddleback Community (collectively labeled 3 in Figure 2-7). The districts are primarily residential, including parks and schools, with streets crossing the border at various locations.

The Central Border Area is served by substations in San Francisco and in San Mateo County that provide 4 kV and 12 kV service. Most of the area is served by overhead distribution lines, with small neighborhoods served by underground distribution lines. Some distribution lines from San Francisco serve San Mateo County loads and vice versa. Distribution lines originating from San Francisco also cross the border to serve San Mateo County loads and cross back into San Francisco to serve San Francisco loads, and vice versa.

Separation at the county border would require construction of overhead reconnections to connect to either PG&E's or the City's nearby electrical system. As the area contains both 4 kV and 12 kV distribution lines, lines may also need to be modified from 4 kV to 12 kV to be compatible to connect to nearby 12 kV power. New line segments may be required to connect loads to the new distribution express feeders, consisting of both overhead and underground reconnections. In addition, new utility poles, risers, line insulators, transformers, lines, and related accessories would be needed. Underground segments may also be constructed depending on site conditions.

Where the border crosses over backyards of private properties (in the Crocker-Amazon/Southern Hills neighborhoods), infrastructure may need to be upgraded and service drops for houses may need to be rearranged to reconnect the customers to the appropriate utility system.

The project would not modify distribution lines that cross the county border but do not serve loads in San Francisco and immediately turn back into San Mateo County.

2.4.3.3 SOUTHEAST BORDER AREA

The Southeast Border Area is approximately bounded by Visitacion Avenue and Diamond Cove to the north, Martin Street on the south, Carter Street to the west, and Jamestown Avenue to the east. The Sunnydale, Bayshore Heights, Visitacion Valley, Bayview/Hunters Point, and Candlestick Point districts are located in this border area. The area includes mixed-use neighborhoods – residential, commercial, and industrial. Large industrial facilities in the area include the San Francisco Municipal Transportation Agency (SFMTA) yard, storage facilities, the Martin Substation, and Recology San Francisco.

The Martin Substation is the source of PG&E's distribution feeders, which supply electricity to San Francisco and to parts of San Mateo County. The distribution feeders from the substation are both overhead and underground at 4 kV and 12 kV. The project does not include City acquisition of any PG&E 4 kV distribution feeders originating at the Martin Substation. The distribution feeders from the Martin Substation that the City would acquire do not serve any PG&E customers between the Martin Substation and the point where they enter San Francisco. Most of these feeders do not serve any load outside of San Francisco; however, two of these feeders cross back into San Mateo County where they serve customers in San Mateo.

The City would acquire the distribution feeders serving customers in San Francisco at the Martin Substation and may connect some of them to the proposed new underground distribution express feeders. Disconnected overhead segments would be transitioned to underground and connected to nearby underground distribution feeders. Infrastructure, such as utility poles, risers, insulators, and vaults, may be required for the transition. In addition to the distribution line work, equipment may need to be upgraded in several areas to accommodate larger or additional connected loads. For any property located in both San Francisco and San Mateo counties, work would be needed to ensure that the site is connected to the appropriate utility system, and revenue meters would be located on the appropriate side of the border if necessary. If not installed on poles, revenue meters would be housed at ground level within metal structures up to 8 feet tall, 5 feet long, and 4 feet wide.

2.4.4 System Reinforcements Associated with Distribution System Separation *(Program-Level Review)*

In addition to the local distribution system separation, which would result in the City and PG&E serving their respective customers, system reinforcements would be implemented for both grids to maintain the same level of reliability and the ability to isolate lines if a fault occurs (e.g., a line is short-circuited) and restore power on existing distribution lines and sections in the event of outages.

Distribution feeders are segmented by switching devices, which allow for flexibility in the network configuration. The feeder sections, or segments, can be connected to or disconnected from other feeder sections by opening or closing the switches. This provides service reliability as it allows configurations of feeders to be changed to maintain or restore power for a planned or unplanned outage of distribution facilities. This switching can be performed manually, under the direction of system operators, or automatically, with FLISR software and specialized equipment.

The separation of the distribution systems between PG&E and the City would result in a reconnection from a different source for some feeders along the southern boundary of San Francisco. System reinforcements are needed so that service reliability is maintained after the separation of the systems. This work would also provide continued reliability in the event of future disruption of power supply on these feeders.

The types of physical activities for system reinforcement work would be similar to activities described in Table 2-4.[27] Activities would include:

- Connecting circuit sections through installation of new overhead wires or underground cables
- Adding, replacing, or upgrading manual and SCADA[28] electrical equipment such as fuses, switches, and sectionalizers and reclosers to maintain system safety and reliability
- Terminating line segments
- Upgrading transformers and insulators
- Installing new poles and duct banks

Generally, work activities (such as trenching and installation of underground components or installation of overhead equipment and related work) would be similar to the activities needed for the local distribution system separation because the reinforcement work would also be primarily located within public road right-of-ways or on existing electric equipment (i.e., poles and lines), would involve use of similar construction equipment, and would be similar to routine utility operations and maintenance activities. However, system reinforcements serve a different purpose and would include, in some cases, different equipment to be installed in different work areas.

The specific types and amount of work for system reinforcements are shown in **Table 2-6**.

The project proposes approximately 22,100 feet (4.2 miles) of new underground duct banks along the border area, in and around San Francisco, Brisbane, Daly City, and unincorporated San Mateo County, to ensure reliability for customers in San Francisco and San Mateo County. In addition, about 11,270 feet of new overhead wires would be strung on nearly 50 new 30-foot-high wood poles (other poles could be reused). Table 2-6 shows the number of vaults, devices, and transformers located underground or mounted on poles for each utility.

Table 2-6 System Reinforcements

Component	Total Approximate Length for Linear Components	Approximate Number of Units for Unit Components[29]	Maximum Excavation Width and Length (Feet)	Maximum Excavation Depth (Feet)
Underground Trenches for Duct Banks	4.2 miles (22,100 feet)	n/a	6 x 22,100	10
Underground Devices	n/a	45	19 x 11 (each)	15
Overhead Wires	2.1 miles (11,300 feet)	n/a	n/a	n/a
Foundations for Wood Poles	n/a	50	3 x 3	10
Overhead Transformers	n/a	100	n/a	n/a
Overhead Devices	n/a	10	n/a	n/a

NOTES: n/a = not applicable

[27] The system reinforcements work is based, in part, on information provided by PG&E in Exhibit B of its appeal letter dated March 7, 2022 on the PG&E Power Asset Acquisition Project Preliminary Mitigated Negative Declaration (Planning Department Case No. 2019-017272ENV). This exhibit describes impacts on PG&E's distribution system from the City's acquisition and necessary actions needed to ensure reliability.
[28] SCADA stands for "supervisory control and data acquisition."
[29] The entry for some unit components is "not applicable" because total length has been provided for these linear components in the previous column. Similarly, the entry for total approximate length is "not applicable" for unit components.

The reinforcement work would be dispersed throughout the border region within the identified polygons shown in **Figure 2-8**. The system reinforcement areas shown in Figure 2-8 illustrate approximate locations within which work would occur. Within these general areas, work would be completed within or near public road right-of-ways or on existing equipment. **Table 2-7** summarizes each work area. The general work areas and type of work are based on the best information available to the City at this time; the specific work areas, and types of equipment, would be determined based on the location of existing feeders, site conditions, and load flow analysis.

2.4.5 Modifications to Retain PG&E Access to Non-Electrical Facilities *(Project-Level Review)*

The City would not acquire PG&E's non-electrical facilities (e.g., natural gas) serving San Francisco. At the Potrero Substation and the Martin Substation, PG&E-owned natural gas equipment and electrical equipment are located on the same site. The City would acquire the electrical equipment at these sites, and would make site modifications, such as fencing and driveway additions or improvements, where necessary to allow PG&E continued access to its non-electrical facilities. Fencing and other access modifications at the Martin Substation would be included in the Martin Substation work.

2.4.6 Other Separation Components (*Program-Level Review*)

Other project components consist of the following, described in greater detail in this section:

- **Operations Control Center.** The project includes interior modifications to an existing building in San Francisco, along with exterior work including utility upgrades, fencing, and installation of a new standby diesel generator.
- **Operations and Maintenance Service Yards; Materials and Equipment Storage.** The project includes modifications, such as fencing, to City-owned or City-acquired commercial or industrial properties or space at acquired substations in San Francisco.
- **Telecommunications Equipment.** The project includes installation of telecommunications equipment at substations and fiber optic cables between substations and other work areas. The telecommunications equipment would be underground or mounted on power poles.

2.4.6.1 OPERATIONS CONTROL CENTER

The City would modify an existing building[30] within the southeastern part of San Francisco to house a centralized operations control center. The operations control center would occupy approximately 20,000 square feet of space and allow grid operators to monitor the flow of electricity and manage outages in the electrical system, coordinate operations with other utilities, forecast demand, and monitor and ensure the overall security of the system. The control center would be equipped with electronic devices (e.g., computers, large wall displays, communication systems infrastructure); typical office furnishings; a dual distribution supply for redundancy; and one 300-kilowatt standby diesel generator for added reliability. Establishing a control center would require interior modifications of one or more floors of the selected building and exterior improvements including excavation around the building to upgrade utility connections and new

[30] The SFPUC anticipates that sufficient space would be available in a single existing building but has not identified a specific building.

SOURCE: Google Earth Aerial Imagery

Note: System reinforcement areas shown approximate work areas. System reinforcements along the San Francisco Bay shoreline, Brisbane Lagoon, and near Lake Merced would be completed within or near public road right-of-ways or on existing equipment. No work would be conducted in water.

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Figure 2-8
System Reinforcements

Table 2-7 System Reinforcements by Area

Polygon Number	Area Description	Size (Acres)	Number of Work Locations	Total Maximum Length Underground Work (Feet)	Range of Length of Underground Work per Work Area (Feet)	Range of Length of Overhead Work per Work Area (Feet)
1	San Francisco, Daly City	800	8	6,930	150 to 5,280	1,400 to 2,900
2	Daly City[31]	5	1	0	0	0
3	San Francisco, Daly City	27	1	340	250 to 300	0
4	San Francisco[31]	10	1	0	0	0
5	San Francisco	22	1	160	160	0
6	San Francisco	3	1	20	20	0
7	San Francisco[31]	140	2	0	0	300 to 400
8	San Francisco[31]	54	1	0	0	1,000
9	San Francisco, Daly City, Brisbane	1,300	6	15,500	140 to 7,800	200
10	San Francisco[31]	135	1	0	0	0
11	San Francisco[31]	11	1	0	0	2,900

fencing or access improvements (e.g., gate installation and security improvements). The control center would use fiber optics to communicate with the substations and field personnel. New communications duct banks may be built to provide the necessary network capability. Consistent with generally accepted industry standards and *North American Electric Reliability Corporation (NERC) Reliability Standards*,[32] the control center would be weather-secured and have physical security measures as well as cyber security in place.

Approximately 35 workers, divided among three shifts, would staff the operations control center. The diesel generator would be operated for up to 50 hours per year as part of annual maintenance, in addition to operating during emergencies. Up to 15 parking spaces would be included at the operations control center.

2.4.6.2 OPERATIONS AND MAINTENANCE SERVICE YARDS; MATERIALS AND EQUIPMENT STORAGE

The City would secure 150,000 to 200,000 square feet of maintenance and storage facilities to house equipment, trucks, and parking, and to provide offices for workers in an existing building. The City would use one or more City-owned or -controlled properties in the southeastern part of San Francisco, other acquired commercial or industrial properties in the southeastern part of San Francisco, or space at acquired substations. Modifications such as fencing would be needed to securely store equipment and material in the storage yards. Up to 183 net new staff could work at the operations and maintenance service yards between

[31] Anticipated work would be on existing structures.

[32] NERC is the not-for-profit North American Electric Reliability Organization (ERO) for North America, subject to oversight by the Federal Energy Regulatory Commission (FERC). NERC Reliability Standards are an American National Standards Institute (ANSI)-accredited process defining the reliability requirements for planning and operating the North American bulk power system. The phrase “good utility practice” is commonly used to describe generally accepted industry standards.

6 a.m. and 4 p.m. daily. Occasionally, maintenance tasks or emergency system repairs would be needed outside of normal business hours in the operations and maintenance service yards. Crews would be dispatched from the operations and maintenance service yards. As needed, equipment (such as replacement poles) would be loaded into service vehicles using forklifts prior to dispatch from the operations and maintenance service yards. Transformer oils, propane tanks, and uninterruptible power supply batteries would be stored at the operations and maintenance service yards.

2.4.6.3 TELECOMMUNICATIONS EQUIPMENT

A network to enable prompt and reliable exchange of information for the safe and secure operation, control, and protection of power system equipment would be provided by installing telecommunications equipment, where necessary. The City would acquire existing communication, control, and protection equipment at the substations. To the extent the City needs to install telecommunications equipment, this would consist of (1) new equipment at substations (e.g., remote terminal units, power line carrier equipment, telecommunication switches, routers, wireless mesh equipment); (2) fiber optic cables between substations and other telecommunication aggregation points underground within duct banks; and (3) other telecommunications equipment (e.g., wireless mesh SMART devices) mounted on poles. Telecommunications equipment would be installed on the same equipment that is built or modified as part of other project components (i.e., in existing duct banks, conduits within proposed duct banks, mounted on existing or proposed poles, or inside the substation control rooms). Therefore, no additional excavation would be required to install telecommunications equipment.

2.5 Construction

This section describes project construction activities and phasing, schedule, access, and staging. Construction of the project components would proceed as described below.

2.5.1 Construction Activities

2.5.1.1 MARTIN SUBSTATION SEPARATION (*PROJECT-LEVEL REVIEW*)

To fully separate at the Martin Substation, the City and PG&E would need independent 115 kV transmission bus sections, described in Section 2.4.1, Martin Substation Separation, and shown in Figure 2-4. Separation of the Martin Substation would require relocation and/or installation of transmission lines and transformers so the City and PG&E electric systems would be fed by their respective bus sections. The termini of five 115 kV transmission lines at the Martin Substation and three transformers and other associated electrical equipment are expected to be relocated or installed within the Martin Substation project site shown in Figure 2-2. The construction process would differ for transmission lines and transformers as discussed below.

Each of the five 115 kV transmission line terminal relocations (labeled as lines A through E in **Table 2-8**) would typically require a new section of underground line in the substation (installed in a duct bank). Several existing PG&E transmission lines that would be relocated have connections to an overhead bus at the Martin Substation, and underground reconnections for these would be needed as well. The typical construction sequence with approximate timelines is shown in Table 2-8.

Table 2-8 Martin Substation Separation Construction Activities

Separation Component	Activity	Typical Duration (Weeks) and Type				
		Site Excavation	Concrete Foundation	Backfill and Grading	Placement of Facilities	Equipment and Gate Installation
YEAR 1						
Install new control house	Excavate and lay foundation (including 30-day foundation curing time); place prefabricated control house; install cable trench and wall penetrations	2	4	--	1	3
Relocate line A into City Yard to spare position on transmission bus	Add new breaker in spare position on existing transmission bus; install a new splicing enclosure or use existing splicing enclosure; construct trench; pull new cable in new conduit; splice and reconnect cable; adjust relaying as required; testing and commissioning	4	--	1	--	9
Relocate transformer	Demolish small steel support structures and pour a new transformer foundation (including 30-day foundation curing time); relocate transformer to new pad; construct trench to existing cable manhole; connect to transformer from bus; connect transformer and splice into existing cable; adjust relaying as required; testing and commissioning	3	6	1	--	8
Relocate line B	Add new breaker in spare position; install a new splicing enclosure or use and existing splicing enclosure; construct trench; splice and reconnect cable; adjust relaying as required	4	--	1	--	5

Table 2-8 Martin Substation Separation Construction Activities

Separation Component	Activity	Typical Duration (Weeks) and Type				
		Site Excavation	Concrete Foundation	Backfill and Grading	Placement of Facilities	Equipment and Gate Installation
YEAR 2						
Relocate line B	Testing and commissioning	--	--	--	--	2
Relocate line C	Install a new splicing enclosure or use an existing splicing enclosure; construct trench; pull new cable in conduit; splice and reconnect cable; adjust relaying as required; testing and commissioning	4	--	1	--	7
Relocate line D	Add new breaker in spare position; install a new splicing enclosure or use an existing slicing enclosure; construct trench; pull new cable in new conduit; splice and reconnect cable; adjust relaying as required; testing and commissioning	4	--	1	--	9
Relocate line E	Install a new splicing enclosure or use an existing slicing enclosure; construct trench; pull new cable in conduit; splice and reconnect cable; adjust relaying as required; testing and commissioning	4	--	1	--	6
Install six revenue meters at SFPUC interconnection points with PG&E and add first new transformer *Could proceed concurrently with other work*	Install six new foundations for six meter sets; install metal pedestals for new meter sets at six locations; install two sets of 230 kV meters and four sets of 115 kV meters; testing and commissioning Demolish old structure and pour a new foundation; construct trench from transformer to new breaker position, from transformer to switchgear, and from switchgear to existing cable manhole; install new 12 kV switchgear in prefabricated building with foundation (including 30-day foundation curing time)	3	13	1	--	6

Table 2-8 Martin Substation Separation Construction Activities

Separation Component	Activity	Typical Duration (Weeks) and Type				
		Site Excavation	Concrete Foundation	Backfill and Grading	Placement of Facilities	Equipment and Gate Installation
YEAR 3						
Add first new transformer (continued)	Connect transformer from bus; connect transformer to switchgear and install cable from switchgear to existing feeder cables; adjust relaying as required; testing and commissioning	--	3	--	--	6
Add second new transformer	Demolish old structure and pour a new foundation for the transformer (including 30-day foundation curing time); construct trench from transformer to new breaker position, from transformer to switchgear, and from switchgear to existing cable manhole; install new cable to new switchgear in prefabricated building with foundation; connect transformer from bus; connect low side of transformer to switchgear and install cable from switchgear to existing feeder cables; adjust relaying as required; testing and commissioning	3	6	1	--	10
	Year 1 Summary	13	10	3	1	25
	Year 2 Summary[33]	15	9	4	--	24
	Year 3 Summary	3	9	1	--	16

[33] Assumes installation of revenue meters and first new transformer during year 2 would occur concurrently with other activities, and therefore the duration of concrete foundation in year 2 would be 9 weeks, not 13 weeks, and the duration of equipment and gate installation in year 2 would be 24 weeks, not 30 weeks (the sums of concrete foundation and equipment and gate installation weeks shown in the table, respectively).

Where spare connection points on the existing 115 kV buses are used, relocation of one transmission line would result in an available position for the next line relocation, as suggested by Table 2-8 and illustrated in **Figure 2-9**. Thus, some work would be expected to be sequential as relocations would be completed as each position becomes accessible. However, some tasks could be completed concurrently (e.g., reconnection work while new foundation pads are curing).

Construction of the new control house described in Section 2.4.1, Martin Substation Separation, would involve excavation, pouring concrete for the foundation, placement of the prefabricated structure, trenching, and installation and connection of cables and other utilities to install the pre-engineered/fabricated control house building. The Martin Substation separation would require construction within areas subject to California Department of Toxic Substances Control (DTSC) restrictions due to hazardous substances in soil and groundwater. Land use covenants, an operations and maintenance agreement, and a soil management plan currently restrict operations and maintenance activities at the entire Martin Service Station property and prohibit certain types of land uses (e.g., residential, hospital, school, daycare center). Construction and operation of the Martin Substation separation would require compliance with the existing restrictions or other restrictions as required by DTSC, including obtaining DTSC approval of a soil management plan and a health and safety plan prior to any excavation.

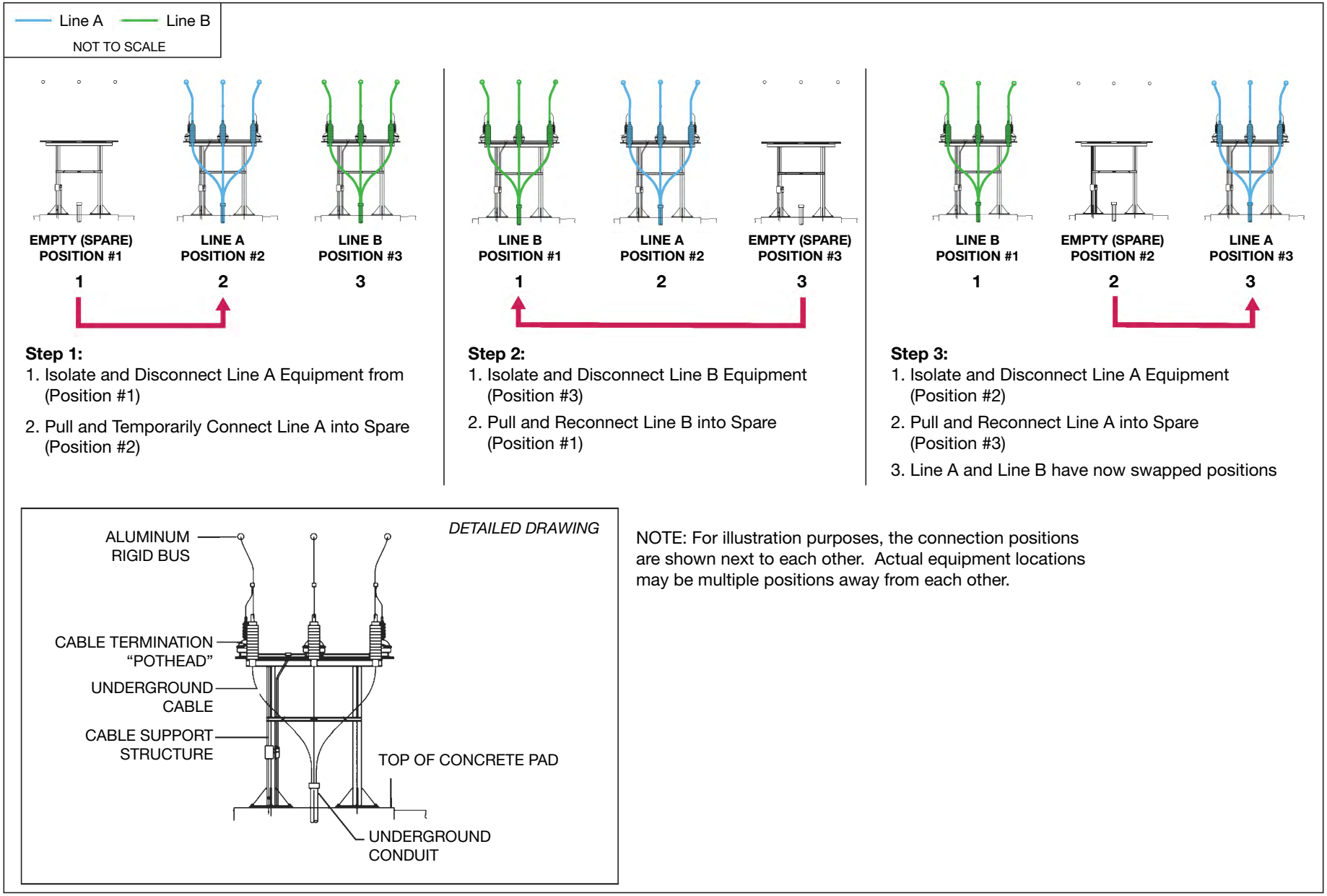
The Martin Substation separation would require *planned outages*[34] within portions of the substation, but customer service disruptions are not anticipated because the work would be scheduled to use existing redundant supply lines to allow for continued service from the substation during maintenance or construction activities. Overall, the separation work would be anticipated to occur over 133 weeks. Separation of the Martin Substation would follow NERC Reliability Standards, along with generally accepted industry standards during construction and any other relevant standards required for the project.

2.5.1.2 DISTRIBUTION EXPRESS FEEDERS *(PROJECT-LEVEL REVIEW)*

Underground construction for the distribution express feeders would generally be completed using a cut-and-cover method (open trenching) within temporarily closed roadway lanes, except at the San Jose Avenue crossing where a trenchless method, such as horizontal directional drilling or jack-and-bore, could be used. Construction of the distribution express feeders would proceed at approximately 40 feet per day.

Construction would begin at up to two work areas and proceed along the distribution express feeder alignment. Activities would begin with trench excavation and soil stockpiling. Typically, a maximum open trench length of 100 to 400 feet on each city block would occur at any one time. Trench dimensions for duct banks would vary as needed, up to 10 feet deep and 5 feet wide, to avoid conflicts with existing below-grade infrastructure and would require *shoring*.[35] Existing underground utilities within the proposed construction areas would be protected or relocated prior to excavation. Approximately every 400 feet along the trench, the installation of concrete vaults below grade would require a larger excavation (approximately 11 feet wide and 15 feet deep).

[34] A planned outage is defined here as a pre-scheduled interruption of certain electrical facilities at the Martin Substation. The facilities would be deenergized so that construction work could be performed safely. Planned outages may not necessarily result in customer power service interruptions because work would be timed to occur during the non-peak load periods (i.e., low power demand periods) when there would be sufficient capacity in adjacent facilities to supply customers by switching them to alternate supply lines.
[35] Shoring is the process of temporarily supporting a trench during excavation.



SOURCE: Advisian

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Figure 2-9
Illustrative Procedure of Switching Line Positions

Dewatering would be conducted using a pump to remove water from the trench during the daytime. The water would be pumped into containment tanks and tested for turbidity and pH values. Discharges of non-sewage wastewater to the combined storm/sanitary sewer system are subject to the permit requirements specified in article 4.1 of the San Francisco Public Works Code and supplemented by San Francisco Public Works Order No. 158170. Under article 4.1, a Batch Wastewater Discharge Permit is required for non-routine and temporary discharges to the City's combined storm/sanitary sewer system such as groundwater produced during construction-related dewatering. If the water meets acceptable discharge standards specified in article 4.1 of the San Francisco Public Works Code, as supplemented by San Francisco Public Works Order No. 158170, it would be discharged into the combined storm/sanitary sewer system. Discharge of groundwater produced during construction-related dewatering in Daly City would be subject to a wastewater discharge permit from the Bayshore Sanitary District issued in accordance with the Bayshore Sanitary District Ordinance Code section 515, which regulates the quantity and quality of discharges to the district's sanitary system. The water would be disposed of in accordance with all applicable regulatory requirements.

Trenching and shoring would precede duct bank and vault installation. Duct bank installation would include placing forms and conduits to hold the electrical cables and pouring concrete to create the duct bank as shown in Figure 2-5. Following installation of duct banks, trenches would be backfilled and road pavement sections would be restored to existing grade. While the completed trench sections are being restored, additional trenching would be performed along the next portion of the alignment. If suitable, the excavated material from the next portion of the alignment would be used to backfill the completed trench sections. When necessary, clean backfill would be imported to the project areas. Any excess materials would be tested and disposed of in accordance with applicable requirements. It is currently assumed that half of the excavated soil would be suitable for use as backfill.

New vaults installed approximately every 400 feet along the distribution express feeders would typically be constructed of prefabricated, steel-reinforced concrete with varying inner dimensions depending on the electrical equipment that would be located within the vault. The vaults would be designed to withstand heavy truck traffic. Installation of each vault would occur over a one-week period with excavation and shoring of the vault pit followed by delivery and installation of the vault, filling and compaction of the backfill, and temporary repaving. After installation of the conduits and the vaults, electric and communication cables would be pulled through the conduits within the duct banks.

Installation of duct banks at large intersections (e.g., San Jose Avenue) could require horizontal directional drilling or jack-and-bore construction methods. Both methods require pits at both the launching and receiving ends of the bore. The pit dimensions would be approximately 40 feet long, 20 feet wide, and 20 feet deep. Each pit would be constructed in approximately five working days. At the receiving pit, a minimum rectangular construction access area approximately 100 feet long by 80 feet wide for equipment staging would be required. The actual construction would entail installation of a steel casing pipe under the roadway, followed by insertion of conduits within the steel casing pipe, exposed at both ends of the excavation. The conduits would then be extended in duct bank trenches as described above.

As part of the final construction activities, all removed curbs, curb ramps, gutters, and sidewalks would be restored; new accessible curb ramps would be constructed; all removed or damaged paved surfaces would be repaved; landscaping or vegetation would be restored as necessary (in compliance with San Francisco Public Works or local standards); and the job site would be cleaned to preconstruction conditions. Areas disturbed for underground work would be restored to existing grade. No street trees are planned to be removed, although trees may be trimmed, and shrubs may be removed within the public right-of-way.

Lane closures would be implemented during construction in streets. Up to two lanes (generally the parking lane and one adjacent travel lane) would be closed for construction. On some streets, bicycle lanes would be closed. The sidewalk along the active trench would also be temporarily closed. Lane closures and other street work would be consistent with the SFMTA "Regulations for Working in San Francisco Streets" ("Blue Book"). All road work within the public right-of-ways within Daly City and Brisbane would comply with local requirements (e.g., encroachment and excavation permit requirements). Steel plating would be placed over trenches to maintain vehicular and pedestrian traffic across areas that are not under active construction. Traffic controls would also be implemented to direct local traffic safely around the work areas.

Construction activity may occur in more than one area simultaneously to complete overall construction more quickly. While two crews may work at the same time, San Francisco Public Works and SFMTA procedures typically would specify a minimum two-block separation between work zones, although as needed and requested, a smaller separation can be approved. Block separations would also be verified with other local jurisdictions (i.e., Daly City and Brisbane public works departments).

Project construction in San Francisco would be subject to the requirements of the San Francisco Construction Dust Control Ordinance,[36] which requires all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards, or 500 square feet, of soil to comply with specified dust control measures, including measures to avoid trackout of construction fugitive dust.

2.5.1.3 LOCAL DISTRIBUTION SYSTEM SEPARATION *(PROGRAM-LEVEL REVIEW)*

As described in Section 2.4.3, Local Distribution System Separation, and shown in Table 2-4, overhead work (disconnections, reconnections, and electrical equipment additions or replacements) would involve deenergizing the relevant wires, severing wires and safely terminating wire segments, and installing guy wires and/or new poles. Overhead work would require bucket trucks, conductor trucks, and cranes to remove existing poles and install guy wires. Overhead work, including pole installation, would proceed at a rate of approximately 300 feet of overhead line per day at approximately 15 work areas within the project areas. Localized ground disturbance associated with pole removal would occur.

As with the distribution express feeders, local distribution system separation underground work would involve disconnections, reconnections, and electrical equipment additions or replacements. Underground construction would include removing power from the relevant wires, excavating trenches, severing wires and safely terminating wire segments, installing duct banks or vaults, adding new wire segments or equipment, disconnecting and reconnecting wires, backfilling the trenches, and returning the ground surface to existing grade. Excavations would be completed using a cut-and-cover method (trenching). Approximately 40 work areas would require underground work, consisting of trenches totaling approximately 20,500 linear feet. As with the distribution express feeders, it is assumed that work would proceed at about 40 feet per day and typically a maximum open trench length of 100 to 400 feet on each city block would occur at any one time. A 400-foot segment would take approximately two weeks. The maximum depth of excavation would be 15 feet below ground surface. Areas disturbed for underground work would be restored to existing grade once installation is complete. Additional details about the local distribution system separation underground work are included in Section 2.4.3, Local Distribution System Separation, above.

[36] San Francisco Building Code and San Francisco Health Code article 22B.

Installation of overhead and underground transitions (e.g., electrical risers) of distribution lines would require the work described above.

Some street tree removal or trimming may be required to complete local distribution system separation work. Removed street trees in San Francisco would be replaced consistent with the requirements of San Francisco Public Works Code article 16. Prior to removal of trees in Brisbane, notification would be provided or an application would be completed consistent with Brisbane Municipal Code section 12.12.050. Removed trees in Daly City would be replaced consistent with Daly City Municipal Code sections 12.40.010 through 12.40.160.

Temporary customer power service disruptions could occur during local distribution system separation work. Work would be sequenced to minimize power outage by, where feasible, conducting most of the work before final connections are made and connecting to the appropriate grid as the final step. Typically, individual interruptions could last between four to six hours for these types of activities. The number of customers affected would depend on the nature of the work but could range from one customer to an entire block (if, for example, one transformer that provides service to multiple customers is replaced). Customers would be notified in advance of any potential customer power service disruptions.

2.5.1.4 SYSTEM REINFORCEMENTS ASSOCIATED WITH DISTRIBUTION SYSTEM SEPARATION *(PROGRAM-LEVEL REVIEW)*

System reinforcements, which would take approximately 28 months to complete assuming two crews conduct the work, could be implemented concurrently with local distribution system separation work. Underground construction would be similar to that described for the distribution express feeders and the local distribution system separation work above, requiring a cut-and-cover method for installation of underground duct banks, at a rate of approximately 40 feet a day. Typically, a maximum open trench length of 100 to 400 feet on each city block would occur at any one time. A 400-foot segment would take approximately two weeks. Pole installation would occur at a rate of about three to four poles per day, and overhead wire stringing would occur at a rate of approximately 300 feet per day. It is assumed that two crews would be conducting reinforcement work at the same time, and that the work would consist of either trenching, non-trenching, or a combination of trenching and non-trenching activities. The adjacent sidewalk, a parking lane, and one travel lane could be closed during construction of the trench. Areas disturbed for underground work would be restored to existing grade once installation is complete. To reconfigure and separate overhead electrical lines behind residences on Alta Vista Way and Estate Court, crews would access the lines either from the private properties or from an easement that is owned by the City of Daly City and located between the park lands and private properties near the intersection of South Hill Boulevard and Alta Vista Way.

Some street tree removal or trimming may be required to complete system reinforcements. Removed street trees in San Francisco would be replaced consistent with the requirements of San Francisco Public Works Code article 16. Prior to removal of trees in Brisbane, notification would be provided or an application would be completed consistent with Brisbane Municipal Code section 12.12.050. Removed trees in Daly City would be replaced consistent with Daly City Municipal Code sections 12.40.010 through 12.40.160.

Work would be sequenced to minimize power outage by, where feasible, conducting most of the work before final connections are made and interconnecting to make the transfer to the new system as the final step. Typically, individual interruptions, if needed, could last four to six hours for system reinforcement activities. The number of customers affected would depend on the nature of the work but could range from one customer to an entire block (if, for example, one transformer that provides service to multiple customers were being replaced). Customers would be notified in advance of any potential customer power service disruptions.

2.5.1.5 MODIFICATIONS TO RETAIN PG&E ACCESS TO NON-ELECTRICAL FACILITIES *(PROJECT-LEVEL REVIEW)*

Separation of the Martin Substation and Potrero Substation would include new fencing up to 8 feet tall and new or relocated curb cuts for driveway entrances at PG&E gas facilities. Fence installation would require auguring (up to 3 feet), pouring concrete foundation for fence posts, installing fences, and installing ingress and egress gates. Curb cut relocations would involve demolishing the existing sidewalk curb, pouring concrete for the driveway, and reforming the sidewalk and curb. The sidewalk and a traffic lane near the entrances could be temporarily blocked during construction.

2.5.1.6 OTHER SEPARATION COMPONENTS (PROGRAM-LEVEL REVIEW)

OPERATIONS CONTROL CENTER

The operations control center would be located in an existing building in the southeastern part of San Francisco in an existing industrial, commercial, or mixed-use area that could adjoin residential uses, depending on the building chosen. Construction activities at the operations control center would consist of interior building modifications such as wall removal and relocation; utility relocation and wiring; erection of offices and rooms (e.g., meeting rooms, conference rooms, bathrooms); installations of electronics (e.g., large wall electric system monitoring displays and electronic map board, fiber optics to communicate with the substations and field personnel, communications duct banks for network capability, SCADA), operator workstations, office equipment, furniture, and appliances; installation of security monitoring systems including physical security and cyber security monitoring systems; modifications to make the building weather-secure; and installation of other related equipment and accessories.

Exterior improvements would include excavation to upgrade utilities, including power, communications, and possibly water and sewer. If the power service connection requires upgrading, a vault at the sidewalk and pull lines to the building would be needed. The City would excavate an area up to 100 feet long and 40 feet wide from the property line to the center of the street for utility work. The depth of utility excavation would be up to 6 feet. Some frontages would also be modified, including installing cameras, fencing, and gates if not already existing. Up to two lanes (one parking and one travel, or two traffic lanes if there are more than two travel lanes) and adjacent sidewalks could be temporarily closed during construction. Installation of the emergency diesel generator would involve the placement of an approximately 24-by-10-foot concrete pad excavated as foundation. The maximum excavation depth for the generator foundation would be 4 feet.

OPERATIONS AND MAINTENANCE SERVICE YARDS; MATERIALS AND EQUIPMENT STORAGE

The City would construct fencing at its existing City-owned maintenance and storage properties in southeastern San Francisco, other acquired commercial or industrial properties in the southeastern part of San Francisco, or at acquired substations. Installation of fencing would be similar to that described in Section 2.5.1.5, Modifications to Retain PG&E Access to Non-Electrical Facilities.

TELECOMMUNICATIONS EQUIPMENT

As discussed in Section 2.4.6.3, Telecommunications Equipment, telecommunications equipment would be installed at substations, within existing or proposed underground duct banks, and on existing or proposed poles. No additional ground disturbance beyond that already identified for other project components would be needed to complete telecommunications equipment construction.

2.5.2 Construction Schedule

2.5.2.1 OVERVIEW

The total duration of construction would depend on the number of crews working concurrently, and crew deployment timing would be confirmed as project design progresses. Project construction would occur over approximately three years, with an estimated construction period of 2026 to 2028, although construction could occur later depending on the entitlement process.[37] Construction activities would proceed at multiple work areas concurrently, generally with two crews working concurrently on each of the major components (Martin Substation separation, distribution express feeders installation, local distribution system separation, and system reinforcements). **Table 2-9** presents an overview of the proposed construction implementation sequence, by project component.

Table 2-9 Project Construction Schedule

Construction Activity	Approximate Duration	Year 1 (2026)	Year 2 (2027)	Year 3 (2028)
Martin Substation Separation *Two crews of five workers each*	33 months			
Distribution Express Feeders *Two crews of six workers each*	12 months			
Local Distribution System Separation *Two crews of six workers each*	24 months			
System Reinforcements *Two crews of five workers each*	28 months			
Operations Control Center *Four crews of five workers each*	14 months			
Modifications to Retain PG&E Access to Non-Electrical Facilities *Two crews of three workers each*	1 month			
Operations and Maintenance Service Yards; Materials and Equipment Storage *Two crews of three workers each*	2 months			

NOTE: Telecommunications equipment is not listed separately because installation would occur concurrently with other components listed in the table.

[37] If work on multiple components proceeds concurrently, construction would take about three years to complete. If some project components are delayed, work could take up to five years. The date of construction start (2026) is an estimate.

Construction would generally comply with local noise ordinances. Project construction in San Francisco would generally proceed Monday through Friday, except holidays, between 7 a.m. and 8 p.m. Construction in Brisbane and Daly City would generally proceed from 7 a.m. to 7 p.m. on weekdays and from 9 a.m. to 7 p.m. on weekends and holidays. Construction in unincorporated areas of San Mateo County would generally proceed between 7 a.m. and 6 p.m. on weekdays and 9 a.m. and 5 p.m. on Saturdays.

2.5.2.2 NIGHT CONSTRUCTION

Temporary lighting would be used in construction areas during working hours when days are short, and at the Martin Substation when nighttime work beyond typical hours is needed to maintain the project schedule. Tasks such as *outage switching*,[38] cable splicing, electrical connections, low-voltage wiring, and relay setting[39] adjustment could be completed at the Martin Substation at night. These tasks would typically use hand tools, various electrical testing and metering devices, and task lighting. Construction tasks using heavy machinery would generally occur during normal daytime hours. If trenchless methods are needed for distribution express feeders construction, a generator would likely operate 24 hours per day at launching and receiving pits to maintain dry work conditions.

The Martin Substation and Daly City Yard have existing night lighting. However, additional lighting could be used along the boundaries of the construction areas at the Martin Substation and Daly City Yard, including near Geneva Avenue and Schwerin Street. Lighting would be oriented downward toward work areas and away from surrounding areas.

2.5.3 Construction Access, Staging, Equipment, and Workforce

Due to the limited space at the Martin Substation, the Daly City Yard would serve as the primary staging and laydown area for separation work at the Martin Substation. No excavation would be required during staging activities, and the area would support storage of construction equipment, materials, and stockpiles, and employee parking. Prior to any work or staging at the Daly City Yard, existing trailers and other PG&E equipment would need to be relocated to other areas of the Daly City Yard, Brisbane Yard, or 2850 Bayshore Boulevard.[40]

Most of the underground power line construction associated with the distribution express feeders and local distribution system separation would be restricted to within roadways. Construction equipment and materials would be staged within areas of the roadway including sidewalks and parking lanes. Work crew passenger vehicles may be parked on side streets or in other areas to minimize use of on-street parking spaces along the project alignment. Staging for work in the San Francisco substations would occur entirely within the walled or fenced substations. Reconductoring lines between backyards or residential parcels for local distribution system separation and system reinforcements would be accessed from the roadway or through residential parcels after receiving necessary permission from property owners.

[38] Outage switching is the transfer of electrical loads between power sources.
[39] Relays must be configured to operate, control, and protect the system.
[40] Based on review of aerial imagery, it is assumed that sufficient space is available for equipment and vehicle storage in the locations listed.

The primary vehicle access for construction haul trucks and deliveries to the Martin Substation would be Geneva Avenue to Bayshore Boulevard to U.S. 101, as shown in **Figure 2-10**. The vehicle access for the distribution express feeders alignment and distribution separation work may include the same roads above as well as other local roads where the duct bank alignments or separation or reinforcement work would be located. Alternatively, access to the local roads could be provided from I-280 and Alemany Boulevard and Junipero Serra Boulevard, or other on- and off-ramps. Construction truck routes would be selected to minimize travel on local roads to the extent feasible. Access to residences, businesses, and emergency service providers would be maintained at all times on roadways, and every effort would be made to minimize impacts on roadway access. The SFPUC would coordinate with the SFMTA, the public works departments of the cities of Daly City and Brisbane, and other local transit agencies to minimize disruption and delay of traffic movement and transit service on the project streets.

The project would use various construction equipment and vehicles, such as concrete saws, excavators, backhoes or loaders, pile drivers, air compressors, portable generators, rollers, pavers, cranes, compactors, and concrete trucks, as shown in **Table 2-10**.

Up to 76 workers would be involved in construction in various work areas when multiple construction activities overlap. Table 2-10 lists the estimated workforce during construction of each project component. Work crew passenger vehicles may be parked on side streets or in other areas to minimize use of on-street parking spaces along the project alignment.

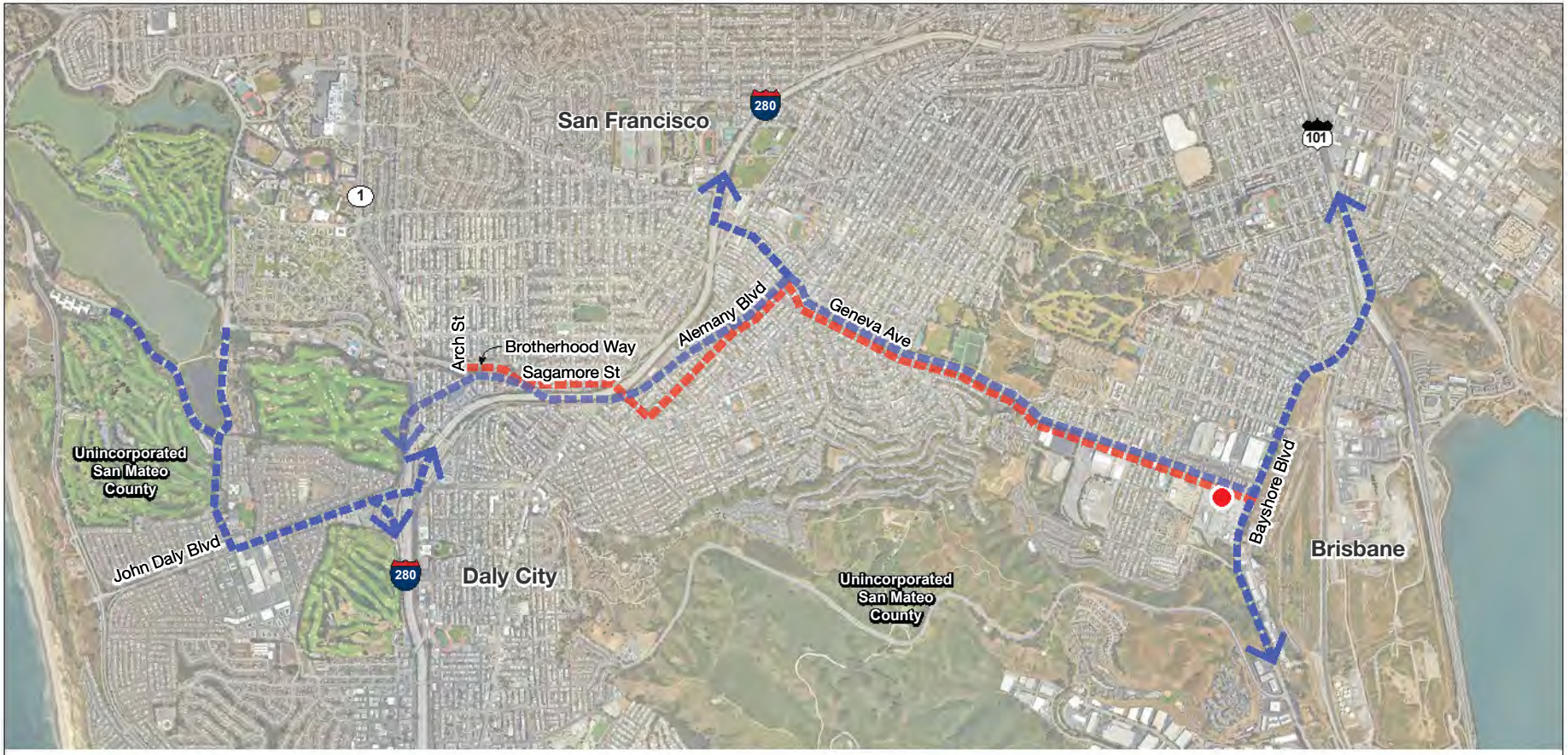
2.5.4 Earthwork and Haul Trips

Table 2-10 summarizes the haul trips associated with each project component. Truck trips would be centralized around the Martin Substation, but also distributed across areas of San Francisco where other work is proposed.

Equipment, soil, and debris removed from the work area would either be recycled or disposed of according to the provisions of the San Francisco Construction and Demolition Debris Ordinance (chapter 14 of the San Francisco Environment Code and chapter 13B of the San Francisco Building Code).

In total, up to approximately 101,900 cubic yards of soil would be excavated for the project with the following assumptions:

- For the Martin Substation, excavated soil would be exported to a permitted landfill due to potential contamination.
- For distribution express feeders, local distribution separation, system reinforcements, and other construction activities, half of the excavated soil would be exported to the nearest landfill and the other half would be suitable for reuse as backfill.
- During excavation activities in areas with contaminated soils, hazardous materials handling and dust suppression would be implemented as described below.



SOURCE: Google Earth Aerial Imagery

PG&E Asset Acquisition Project

Figure 2-10
Construction Truck Haul Routes

Table 2-10 Construction Assumptions for the Project

Construction Activity[41]	Total Estimated Haul Trips, Vendor Trips, and Concrete Truck Trips and Maximum Daily Trips (One-Way)[42,43,44]	Estimated Construction Equipment	Estimated Excavated Soil Volume and Maximum Depth of Excavation	Estimated Workers (Daily)	Estimated Construction Duration
Martin Substation Separation	Total: 2,960 Haul and Vendor Only: 1,500 Maximum Daily Average: 12	• Tractors/Loaders/ Backhoes • Excavators • Off-Highway Trucks • Plate Compactors • Generators • Air Compressor • Crane • Concrete/ Industrial Saws • Roller • Concrete Trucks • Lifts/Bucket Trucks • Jack Hammer • Cable Pulling Equipment[45] • Paver • Street Sweeper • Water Buffalo with Pump on Trailer	7,930 cubic yards, 15 feet deep	10 *2 crews*	33 months *20 feet/day, trenching*
Distribution Express Feeders	Total: 10,440 Haul and Vendor Only: 6,260 Daily Average: 40	• Tractors/Loaders/ Backhoes • Concrete/ Industrial Saws • Jack Hammer • Excavators • Generators • Roller • Concrete Trucks • Plate Compactors • Air Compressors • Line Truck (Crane-and Augur-Mounted) • Bucket Truck • Cable Pulling Equipment[45] • Paver • Street Sweeper • Water Buffalo with Pump on Trailer	50,670 cubic yards, 15 feet deep	12 *2 crews*	12 months *40 feet/day/ crew*
Local Distribution System Separation	Total: 1,560 Haul and Vendor Only: 990 Daily Average: 4		7,290 cubic yards, 15 feet deep	12 *2 crews*	24 months *40 feet/day/ crew, trenching*

[41] Telecommunications equipment construction would not require additional ground disturbance beyond that already identified for other project components.

[42] Assumes 18 cubic yards per load for soil export, 8 cubic yards per load for soil import and concrete deliveries, 8,000 feet of cable per truck for cable deliveries, 1 vault per truck for vault deliveries, and 8 cubic yards of material for other deliveries. Concrete deliveries for trenches assume up to 75 percent of the trench would be filled by concrete. Total import volume for vaults assumes the total excavation dimensions would be filled, although portions of the excavation would be replaced by vaults themselves. For duct banks, truck trips associated with cables and conduits assume 12 cables (three in each conduit in four conduits) and seven conduits.

[43] Haul trip information assumes all soil would be removed from the Martin Substation because all soil is assumed to be contaminated. Haul trip information for distribution express feeders, local distribution system separation, and system reinforcements assumes half of soil excavated would be removed due to unsuitability as fill and half of soil excavated could be reused. Distribution express feeders quantities shown assume the feeders begin at the intersection of Bayshore Boulevard and Geneva Avenue; the actual location may be farther west and therefore the quantities shown are a conservative estimate.

[44] Maximum daily average truck trips are presented for components with known construction phases; otherwise, overall daily average truck trips are presented.

[45] Cable pulling equipment could include cable winch, rope guide roller, bellmouth, cable drum trailer or cable jacks, swivel link, cable stocking, manhole roller, and cable lubricant.

Table 2-10 Construction Assumptions for the Project

Construction Activity[41]	Total Estimated Haul Trips, Vendor Trips, and Concrete Truck Trips and Maximum Daily Trips (One-Way)[42,43,44]	Estimated Construction Equipment	Estimated Excavated Soil Volume and Maximum Depth of Excavation	Estimated Workers (Daily)	Estimated Construction Duration
System Reinforcements	Total: 6,590 Haul and Vendor Only: 3,300 Daily Average: 12	• Pile Driver (distribution express feeder only)[46]	35,100 cubic yards, 15 feet deep	10 *2 crews*	28 months *40 feet/day/ crew, trenching*
Operations Control Center	Total: 800 Haul and Vendor Only: 690 Maximum Daily Average: 16	• Hand-Held Electrical Tools • Sheet-Metal Fabrication Tools • Small Coring Tools (drill holes for cable installations) • Concrete Trucks • Jack Hammer • Mini Excavator • Plate Compactors • Saw Cutter • Street Sweeper • Water Buffalo with Pump on Trailer	930 cubic yards, 6 feet deep	20 *4 crews*	14 months (<2 months for the exterior work)
Modifications to Retain PG&E Access to Non-Electrical Facilities	Total: 115 Haul and Vendor Only: 70 Daily Average: 6	• Tractors/Loaders/ Backhoes • Cranes • Generators • Air Compressors • Concrete Trucks • Jack Hammer	< 3 feet	6 *2 crews*	1 month
Operations and Maintenance Service Yards; Materials and Equipment Storage	Total: 160 Haul and Vendor Only: 70 Daily Average: 4	• Tractors/Loaders/ Backhoes • Cranes • Generators • Air Compressors • Concrete Trucks • Jack Hammer	< 3 feet	6 *2 crews*	2 months

SOURCE: Advisian, SFPUC

[46] A pile driver or excavator with attachment would be used to construct access pits for trenchless installation of the distribution express feeders, if needed. Trenchless installation methods (such as jack-and-bore) require pits at both the launching and receiving ends of the bore.

2.5.4.1 HAZARDOUS MATERIALS HANDLING

Because of known hazardous material contamination (at the Martin Substation) and potential contamination in the project areas, construction workers must have appropriate Occupational Safety and Health Administration (OSHA) hazardous waste operations training and personal protective equipment. In addition, all soil must be handled, stored, and disposed of in accordance with all local, state, and federal requirements. Martin Substation separation construction must comply with existing land use covenants,[47] operations and maintenance agreements,[48] and soil management plan requirements in consultation with the California Department of Toxic Substances Control (DTSC).[49] Soils excavated within the Martin Substation would be tested for contaminants and, if necessary, excavated spoils would be disposed of at a landfill licensed to accept hazardous waste. Hazardous materials would be transferred either by truck or rail to the nearest landfill that is licensed to accept the waste. Excavated sediments classified as hazardous waste could be trucked from the substations directly to an appropriate facility for disposal, or approximately 4.2 miles (from the Martin Substation) to the Port of San Francisco transfer facility on Cargo Way (at Pier 94), from which point the waste would be hauled by rail to an appropriate facility for disposal. The closest class I landfill (for hazardous waste) is in Kings County, approximately 215 miles from the project areas. The closest facility that accepts hazardous waste by rail is East Carbon Development Corporation Landfill in Utah. Any soil that is not classified as hazardous waste and not reused as backfill would be transported by truck to the Altamont Landfill (non-hazardous waste, class II and III landfill) in Livermore, California. Debris that is not contaminated would be hauled to either the Recology Hay Road Landfill in Solano County or the Republic Corina Los Trancos (Ox Mountain) Landfill in Half Moon Bay, California.

2.5.4.2 DUST SUPPRESSION

It is anticipated that water would be used for dust suppression along the construction corridor. The amount of water would vary each day depending on the length of the construction corridor, road surface conditions, weather conditions including temperature and wind speed, and other site-specific conditions. Non-potable water must be used for soil compaction and dust control activities during project construction and demolition when it is available. By the time the project is under construction, a new recycled water truck filling station at the Southeast Water Pollution Control Plant is expected to be operating.

2.5.5 Construction Coordination

The San Francisco Regulations for Working in San Francisco Streets (also known as the “SFMTA Blue Book”) contains regulations that are prepared and regularly updated by the San Francisco Municipal Transportation Agency (SFMTA), under the authority derived from the San Francisco Transportation Code, to serve as a guide for contractors, all City agencies (e.g., SFPUC, public works, SFMTA, Port of San Francisco), and others working in San Francisco streets. The manual establishes rules and guidance so that work can be done safely and with the least possible interference with pedestrians, bicycle, transit, and vehicular traffic. The manual also contains relevant general information, contact information, and procedures related to working in the public right-of-way when it is controlled by agencies other than the SFMTA. During project construction, the

[47] PG&E and DTSC, Covenant to Restrict Use of Property, Daly City Yard, March 23, 1995; PG&E and DTSC, Covenant and Agreement to Restrict Use of Property, PG&E Martin Service Center, February 2002.
[48] PG&E and DTSC, Agreement for Operation and Maintenance, PG&E Martin Service Center Daly City Yard, January 3, 1995; PG&E and DTSC, Revised Operation and Maintenance Agreement, Docket# HSA-94/95-010, PG&E Martin Service Center, Daly City Yard, Daly City, California, March 7, 2003.
[49] Haley & Aldrich, Inc., Soil Management Plan, Pacific Gas and Electric Company, Martin Service Center/Daly City MGP, 3004 Geneva Avenue, Daly City, California, June 15, 2017.

SFPUC[50] would implement a construction management plan (or separate construction management plans for each project component) that conforms to the SFMTA Blue Book.

Elements of the construction management plan(s) would include:

- Use of appropriate signage to minimize impacts on local street circulation during lane closures. Flaggers, signage, or other controls would be used to guide vehicles through and/or around the construction zone.
- Placement of advance warning signs outside the perimeter of work areas advising motorists, bicyclists, and pedestrians of the construction zone ahead to minimize hazards associated with construction activities, including the construction vehicle entry and egress of project-related construction activities.
- Maintenance of pedestrian and bicycle access and circulation during project construction where safe to do so. The contractor would be required to maintain bicycle lanes and lane widths to accommodate bicycle traffic or seek a permit from the SFMTA to address bicycle route detours and signage for any lane closures. Where construction activities encroach on a bicycle lane, advance warning signs (e.g., "Bicyclists Allowed Use of Full Lane" and/or "Share the Road") would be posted to indicate that bicycles and vehicles are sharing the lane and to warn bicyclists and drivers of upcoming traffic hazards. If construction activities encroach on a sidewalk, safe crossings and appropriate signage (e.g., "Sidewalk Closed") would be provided for pedestrians.

While not requirements of the SFMTA Blue Book, the following additional elements would also be included as part of the project's construction management plan, which would be developed with the SFMTA and, as relevant, the cities of Daly City and Brisbane:

- **Project Coordination** – The SFPUC would oversee coordination, implementation, and adjustment, if necessary, of the project-specific construction management plans developed for the different project components. In addition, the SFPUC would support the contractor with coordination efforts with the SFMTA and public works, as well as the City of Brisbane, the City of Daly City, the California Department of Transportation (Caltrans), Bay Area Rapid Transit (BART), the San Mateo County Transit District (SamTrans), and San Mateo County as applicable, and assist the contractor to address local traffic, transit, bicycle, pedestrian, and private property access concerns.
- **Project Construction Updates for Adjacent Businesses and Residents** – To minimize construction impacts on access to nearby residences and businesses, the SFPUC would require its contractors to develop a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. The SFPUC or its contractor would provide nearby residences and adjacent businesses with regularly updated information regarding the project. Information provided may include the location of project construction, including upcoming construction activities, their start and end dates, peak construction vehicle activities, temporary travel lane or street closures, and temporary parking lane and sidewalk closures (e.g., via the project's website or email chain). At regular intervals to be defined in the construction management plan, a regular communication to the public such as web page update, email notice, or mail notice would be distributed by the SFPUC that would provide current construction information of interest to neighbors, as well as contact information for specific construction inquiries or concerns.

[50] The SFPUC and/or or its designee could undertake project construction. The term "SFPUC" is used herein for brevity.

2.6 Operations and Maintenance

The SFPUC would be responsible for the continued operations and maintenance of the acquired electrical transmission and distribution system and new infrastructure in accordance with federal and state regulations and standards for the safe and reliable operations. The total energy delivered to serve electricity customers in San Francisco is not expected to change as a result of the project. Additional energy usage associated with the proposed operations control center and operations and maintenance service yards is shown in **Table 2-11**.

Table 2-11 Project Operations Energy Usage

Proposed Component	Approximate Size (Square Feet)	Kilowatt Hour Consumption per Square Foot, 75th Percentile	Estimated Energy Usage (Kilowatt Hours per Year)
New Operations Control Center	20,000	24.7	494,000
New Operations and Maintenance Service Yard; Materials and Equipment Storage	200,000	8.7	1,740,000
New Martin Substation Buildings (control house, switchgear buildings)	3,800 (combined)	20	76,000

SOURCE: U.S. Energy Information Administration, Commercial Buildings Energy Consumption Survey, Table PBA4, Electricity Consumption totals and conditional intensities by building activity subcategories, 2012, December 2016, available online at https://www.eia.gov/consumption/commercial/data/2012/c&e/cfm/pba4.php; U.S. Energy Information Administration, Commercial Buildings Energy Consumption Survey, Table C22. Electricity consumption totals and conditional intensities by building activity subcategories, 2018, available online at https://www.eia.gov/consumption/commercial/data/2018/ce/pdf/c22.pdf

Operation and maintenance of the system would involve routine inspections, meter readings, periodic testing, and as-needed repairs and replacement of existing equipment during regular maintenance cycles in accordance with generally accepted industry standards and manufacturers' recommendations. All distribution system facilities (overhead, underground, and substations) would be inspected and maintained in accordance with applicable provisions of the CPUC guidelines and general orders (e.g., General Orders 95, 165, and 174 for inspecting overhead facilities, underground facilities, and substations).[51] These guidelines are applicable to PG&E's existing operations and to the SFPUC's current power operations.

PG&E's existing operations and the City's current power operations operate 24 hours per day, seven days per week; no changes to operating hours are anticipated. The SFPUC anticipates approximately 400 employees may be hired for administration, operation, and maintenance of the electrical system and would be based at SFPUC offices, operations and maintenance service yards, and the operations control center. Approximately 183 staff would be based at the SFPUC's existing offices at 525 Golden Gate Avenue in San Francisco for approximately eight hours per day. Another 183 staff would be based at the operations and maintenance service yard(s) for approximately eight hours per day. Up to 183 operation and maintenance vehicles would

[51] The City would operate and maintain the acquired assets. Although project construction would include local distribution system separation/system reinforcement work in areas south of the county border, the City would not operate and maintain equipment within all local distribution system separation and system reinforcement areas shown in Figure 2-1.

be dispatched from the operations and maintenance service yards each day.[52] Approximately 35 staff would be based at the operations control center, spread across three shifts to cover 24-hour operations.

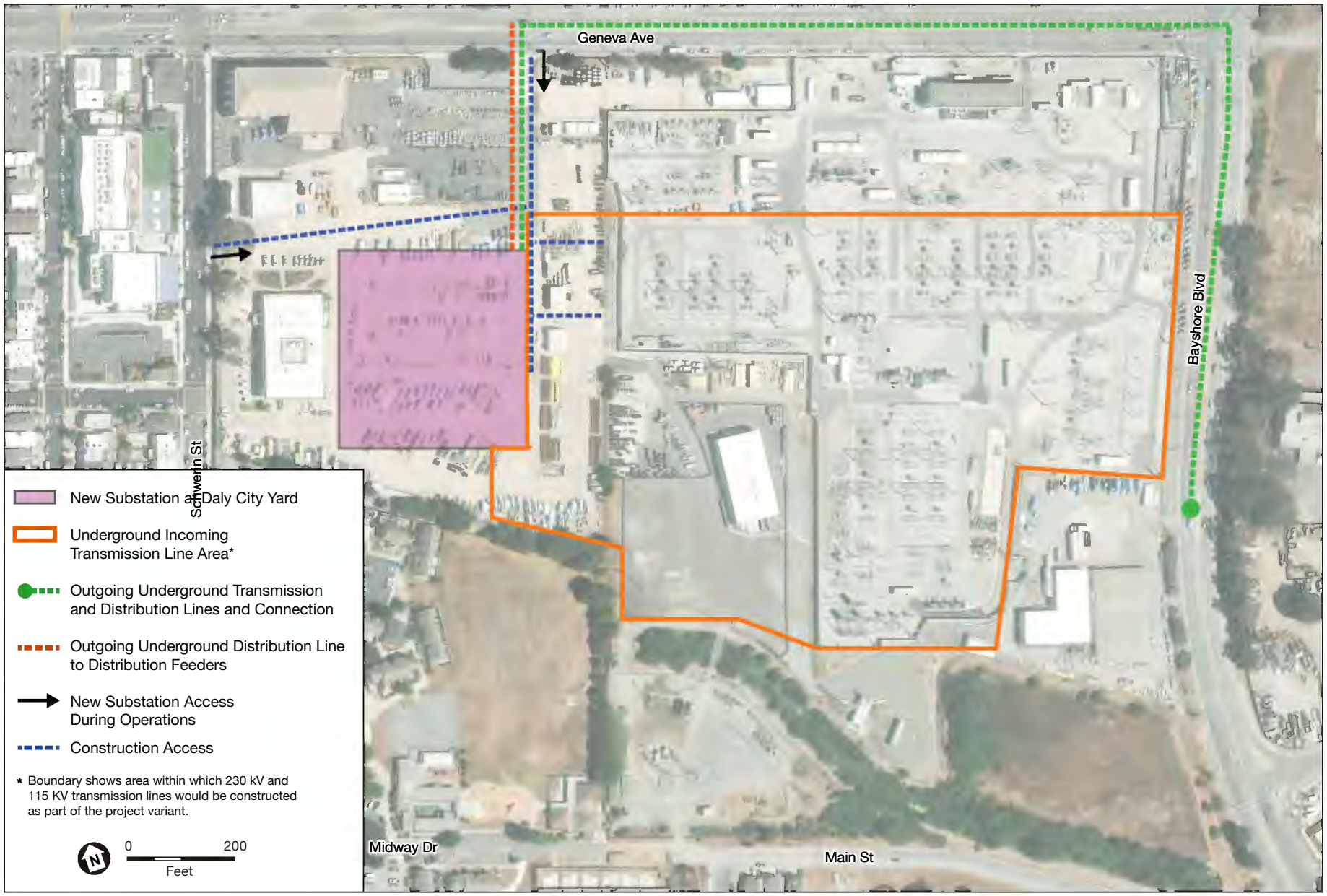
2.7 New City Substation (Project Variant)

As a variant of the project, instead of the work described in Section 2.4.1, Martin Substation Separation, a new, gas-insulated substation (the new City Substation) would be constructed at PG&E's adjacent Daly City Yard, as shown in **Figure 2-11**. The components of the project variant would be the same as those of the proposed project except that (1) the variant would include construction of the new City Substation instead of the separation work at the existing Martin Substation, (2) the distribution express feeders would originate from the new City Substation, and (3) the variant would also include installation of new incoming transmission lines from the Martin Substation to the new City Substation and outgoing distribution and transmission lines from the new City Substation to the existing distribution and transmission system. To site the new City Substation, the City would need to acquire a portion of the Daly City Yard from PG&E. PG&E's storage and parking facilities would need to be relocated to accommodate the new City Substation. **Table 2-12** summarizes the new City Substation components.

Table 2-12 New City Substation (Project Variant) Components and Excavation Volumes

Component	Quantity	Maximum Excavation Width and Length (Feet)	Maximum Excavation Depth (Feet)
GAS-INSULATED SWITCHGEAR BUILDINGS			
230 kV Enclosed Gas Insulated Switchgear (Building)	1	60x120	7
115 kV/12 kV Enclosed Gas Insulated Switchgear (Building)	1	60x225	7
TRANSFORMERS			
115 kV Transformers and Oil Containment	4	44x44	7
230 kV Transformers and Oil Containment	2	60x46	7
NEW TRANSMISSION AND DISTRIBUTION LINES			
Outgoing 230 kV, 115 kV, and 12 kV Cable Trenches from New City Substation to Bayshore Boulevard	3	3000x5	8
Incoming 230 kV and 115 kV Transmission Line Trench from Martin Substation to New City Substation	2	1,000x8	8
Vaults for Cable Splicing (Each)	6	20x11	15
OTHER IMPROVEMENTS			
Lighting and Fencing	Various	Post Holes	4-6
Grading (Including Road)	1	360x300	2

[52] In some cases more than one staff person would occupy a given vehicle for operations and maintenance tasks, and therefore 183 vehicle trips each day is a conservative estimate.



SOURCE: Google Earth Aerial Imagery

PG&E Asset Acquisition Project

Figure 2-11
New City Substation (Project Variant) at Daly City Yard

2.7.1 Gas-Insulated Switchgear Buildings

The new City Substation would include gas-insulated switchgear buildings that would contain high-voltage components (e.g., circuit breakers and disconnect switches) within two main two- to three-story structures (with maximum height of 30 feet). These features would differ from the existing Martin Substation, which is an outdoor, air-insulated transmission and distribution substation.

Gas-insulated switchgear is high-voltage equipment in which the major conducting facilities are contained within a sealed environment with SF6, or sulfur hexafluoride gas,[53] as the insulating medium. The inert gas contained within the sealed equipment has two to three times the insulating ability of air, allowing for a compact footprint for the new City Substation. SF6 gas is used to insulate the equipment by filling the equipment with the gas. The gas-insulated equipment would include 60 compartments of SF6 gas, with 175 pounds of capacity for each compartment. In addition, up to approximately 880 pounds of SF6 would be stored in canisters within the structure for topping off gas in the equipment as necessary. Storage, use, and disposal of SF6 would comply with local, state, and federal laws and regulations. With the exception of the gas-insulated switchgear, the functions of the individual equipment would be nearly identical to those at an outdoor substation (such as the adjacent PG&E Martin Substation).

Figure 2-12 shows a conceptual site rendering of the new City Substation. A ground grid consisting of a copper wire grid would be installed for employee safety throughout the property. The 60-foot-by-120-foot building for the 230 kV enclosed gas-insulated switchgear and the 60-foot-by-225-foot structure for the 115 kV enclosed gas-insulated switchgear would likely be constructed of concrete or other material and treated architecturally to integrate with surrounding industrial facilities. The 30-foot-tall structures would be installed on a pile-supported foundation, consisting of approximately 100 16-inch-diameter piles installed up to 80 feet below ground surface.

The new City Substation and potentially the incoming transmission lines would require construction within areas subject to DTSC restrictions due to hazardous substances in soil and groundwater. A land use covenant currently restricts operations and maintenance activities on the Daly City Yard parcel and an area outside and south of the Martin Substation (called Brisbane Yard), and prohibits certain types of land uses (e.g., residential, hospital, school, daycare center). Construction and operation of a new substation on the sites would require compliance with the restrictions, including obtaining DTSC approval of a soil management plan and a health and safety plan prior to any excavation. No demolition of existing structures would be required.

2.7.2 Transformers

Six transformers would be located outdoors around the gas-insulated structure, separated by firewalls. Two 230 kV transformers (up to 420 *Megavolt Ampere [mVA]*[54] each) and associated oil containment, and four 115 kV transformers (up to 45 mVA each) and associated oil containment, would be located within the boundaries of the new substation. Transformers at the City Substation would step down the voltage (e.g., 230 to 115 kV; 115 to 12 kV) and ultimately connect to the distribution network serving San Francisco. Similar to the transformers

[53] SF6 is a colorless, odorless, stable, non-toxic synthetic gas that is heavier than air. It has a low level of flammability and has excellent insulation and arc extinguishing capability. SF6 is used in a wide range of operating environments and voltage levels in the power industry. SF6 is non-combustible and non-flammable. (U.S. Department of Energy, Office of Health, Safety and Security Sulfur Hexafluoride SF6 Awareness, August 2009.)
[54] A Megavolt Ampere (mVA) is a unit of measurement of power in an electrical circuit. It is used to quantify the total power in an electrical circuit, considering both the active (real) power and the reactive power.

SOURCE: SFPUC; ESA

PG&E Asset Acquisition Project

Figure 2-12
Conceptual Rendering of the New City Substation (Project Variant), Facing South

NOTE: Image is a conceptual design to show massing, not the actual design.

installed for the project, the new City Substation transformers would include cooling fans that would operate approximately five hours each day between May 1 and October 31.

The two 230/115 kV transformers would be installed on a pile-supported foundation consisting of approximately 50 16-inch-diameter piles installed up to 80 feet below ground surface. The four 115/12 kV transformers would be installed on a pile-supported foundation consisting of approximately 64 24-inch-diameter piles installed up to 80 feet below ground surface.

2.7.3 New Transmission and Distribution Lines

New underground transmission lines would be constructed to connect the new substation to the PG&E Martin Substation to maintain interconnection with PG&E (within the area bounded by the orange line in Figure 2-11) and to connect the new substation to the existing distribution system lines in Bayshore Boulevard (shown in Figure 2-11 in green). Underground 230 kV and 115 kV transmission or distribution lines would be rerouted or constructed to connect the new City Substation to the Martin Substation (incoming lines) and to the existing 230 kV and 115kV transmission lines that serve San Francisco (outgoing lines from the Martin Substation) as shown in Figure 2-11. Under the project variant, the distribution express feeders described in Section 2.4.2, Distribution Express Feeders, would originate from the distribution facilities in the City Substation. Both 230 and 115 kV transmission lines from PG&E's Martin Substation would connect directly into the City Substation. Additionally, it would be necessary to perform underground construction work to reroute and reconnect the 12 kV distribution feeders that mainly or exclusively serve customers in San Francisco. These would be disconnected from the existing PG&E Martin Substation and reconnected to the City Substation as the source for these distribution lines.

2.7.4 Other Improvements

Lighting would be installed around the new structure and transformers, and an 8-foot-tall fence would be constructed around the site for safety and security. Substation areas without permanent cover would be graded and covered with crushed rock. Additional security measures including but not limited to access control, cameras, and alarm systems would also be installed. The new City Substation would include parking spaces for City personnel.

2.7.5 Project Variant Construction

2.7.5.1 CONSTRUCTION ACTIVITIES

Construction of the new City Substation at the Daly City Yard would include the following sequential steps:

- Relocate existing material and equipment within the project variant footprint in the Daly City Yard
- Test and off-haul all hazardous materials
- Grade and excavate (including pile drive and implement other site improvements such as drainage) and place foundations
- Construct buildings and install structures (i.e., transformers)
- Place backfill

- Install fence and landscaping
- Test and commission the system

Ground disturbance in the Daly City Yard would require construction within areas subject to existing land use covenants,[55] operations and maintenance agreements,[56] and soil management plan requirements,[57] same as the Martin Substation separation. As required, the California Department of Toxic Substances Control (DTSC) would be consulted prior to excavation.

In addition to the work at the Daly City Yard, under the project variant, approximately 100 to 400 feet of the parking lane and adjacent sidewalk would be closed at any one time along Geneva Avenue between the new City Substation and Bayshore Boulevard and along Bayshore Boulevard during construction of the three approximately 3,000-foot-long outgoing 230 kV and 115 kV cable trenches. Approximately 40 feet of construction would be completed each day. The three separate trenches would be constructed one at a time along parallel paths between the City Substation and the connection in Bayshore Boulevard.

Approximately 1,000 feet of duct banks for incoming transmission lines to the new City Substation would be constructed through the existing Martin Substation at a rate of approximately 20 feet per day. Underground construction for the new transmission and distribution lines would be completed using a cut-and-cover method (open trenching) within temporarily closed roadway lanes. Construction of the transmission lines within the Daly City Yard would proceed at approximately 20 feet per day; construction of lines in Geneva Avenue and Bayshore Boulevard would proceed at approximately 40 feet per day. Construction activities would be similar to activities described for the distribution express feeders.

Lane closures would be implemented during construction in streets. Up to two lanes (generally the parking lane and one adjacent travel lane) would be closed for construction. On some streets, bicycle lanes would be closed. The sidewalk along the active trench would also be temporarily closed. Lane closures and other street work would be consistent with the SFMTA Blue Book. All road work within the public rights-of-way within Daly City and Brisbane would comply with local requirements (e.g., encroachment and excavation permit requirements). Steel plating would be placed over trenches to maintain vehicular and pedestrian traffic across areas that are not under active construction. Traffic controls would also be implemented to direct local traffic safely around the work areas.

Remaining construction activities for the project variant would be the same as described for the project in Section 2.5, Construction.

[55] PG&E and DTSC, Covenant to Restrict Use of Property, Daly City Yard. March 23, 1995; PG&E and DTSC, Covenant and Agreement to Restrict Use of Property, PG&E Martin Service Center, February 2002.
[56] PG&E and DTSC, Agreement for Operation and Maintenance, PG&E Martin Service Center Daly City Yard, January 3, 1995; PG&E and DTSC, Revised Operation and Maintenance Agreement, Docket# HSA-94/95-010, PG&E Martin Service Center, Daly City Yard, Daly City, California, March 7, 2003.
[57] Haley & Aldrich, Inc., Soil Management Plan, Pacific Gas and Electric Company, Martin Service Center/Daly City MGP, 3004 Geneva Avenue, Daly City, California, June 15, 2017.

2.7.5.2 CONSTRUCTION SCHEDULE

Construction tasks using heavy machinery, and other major construction work, would typically occur during daytime hours.[58] It is estimated that the construction of the substation would take approximately 26 months, as shown in **Table 2-13**, assuming daytime construction between 7 a.m. and 5 p.m. Construction could also extend to 8 p.m. Pile driving activities would occur for up to approximately 12 weeks and would only occur during daytime hours.

Table 2-13 Project Variant Construction Schedule

Construction Activity	Approximate Duration	Year 1 (2026)	Year 2 (2027)	Year 3 (2028)
New City Substation *Instead of Martin Substation separation* *Two crews of five workers each*	26 months			
All other activities would occur as shown in Table 2-9, except Martin Substation separation				

After completion, the new City Substation would be connected to the existing transmission system at the Martin Substation in a planned stepwise fashion, in which the supply and loads would be transferred using the existing systems' switching capability and capacity. As the current system has built-in redundancies, the existing transmission connections to the Martin Substation would be used to maintain customer power during the stepwise transfer to the new substation. During the connection to the existing transmission system, nighttime work may be required to stay on schedule with possible planned outages. Tasks such as outage switching, cable splicing, electrical connections, low-voltage wiring, and relay modifications could be completed at night. These tasks would typically use hand tools, various electrical testing and metering devices, and task lighting. Connection of the system would take approximately two to four weeks.

2.7.5.3 CONSTRUCTION ACCESS, STAGING, EQUIPMENT, AND WORKFORCE

Construction of the project variant would use the same equipment as the project, with the addition of pile drivers for switchgear building construction, as shown in **Table 2-14**. The anticipated excavation associated with the new City Substation would be approximately 34,980 cubic yards. Combining that amount with the excavation amounts for the remaining project components, excavation associated with the project variant would total approximately 128,900 cubic yards.[59] The volume of soil associated with the new City Substation would generate approximately 2,600 haul truck trips.[60] Hazardous materials handling for the project variant would follow the procedures described for the project in Section 2.5.4.1, Hazardous Materials Handling, above.

[58] Connection of the new City Substation to the electrical system would occur after all other construction work is complete.
[59] Under the project variant, the new City Substation would be constructed instead of the Martin Substation separation but all other project components would be the same.
[60] Round trips, assuming 18 cubic yards per dump truck.

Table 2-14 Construction Assumptions for the Project Variant

Construction Activity	Total Estimated Haul, Vendor, and Concrete Truck Trips and Average Daily Trips (One-Way)[61]	Estimated Construction Equipment	Estimated Excavated Soil Volume and Maximum Depth of Excavation	Estimated Workers (Daily)	Estimated Construction Duration
New City Substation	Total: 12,980 Haul and Vendor Only: 5,550 Maximum Daily Average: 54	• Same as Martin Substation separation, plus pile driver	34,980 cubic yards, 15 feet deep; pile driving up to 100 feet required	10 *2 crews*	26 months *20 feet/day, trenching*
All other activities would occur as shown in Table 2-10, except Martin Substation separation					

2.7.6 Project Variant Operation

Operation of the project variant would consist of the same activities described for the project in Section 2.6, Operations and Maintenance; however, the project variant would also include SF6 gas storage and use. SF6 gas would be used as the insulating medium for the new equipment within the City Substation, for both insulation and fault interruption. SF6 gas would be contained within a total of 60 compartments surrounding the electrical equipment, each containing approximately 175 pounds of SF6. Electrical equipment is designed to avoid the release of gas into the atmosphere, but small leaks can occur over time. For circuit breakers that use SF6 gas for insulation and interruption, the leakage rate of currently available designs is approximately 0.5 percent per year (or slightly less than 1 pound per year).

The SF6 gas pressures in the equipment would be continuously monitored and the equipment would be topped off with SF6 if needed. Extra SF6 gas would be stored in small cylinders (less than approximately 110 pounds per cylinder) as part of a "gas cart." A gas cart typically would be stored within the building near the gas-insulated switchgear equipment. Approximately four cylinders per building would be stored onsite in a gas cart, for a total of eight cylinders.

Similar to the project, the new City Substation would not require onsite staff for operation and maintenance. Instead, monitoring and topping off of SF6 gas would be conducted by staff deployed from the operations and maintenance service yard.

Energy usage associated with the project variant is shown in **Table 2-15**.

[61] Haul trip information assumes all soil would be removed from the area excavated for the project variant because all soil is assumed to be contaminated.

Table 2-15 Project Variant Operations Energy Usage

Proposed Component[62]	Approximate Size (Square Feet)	Kilowatt Hour Consumption per Square Foot, 75th Percentile	Estimated Energy Usage (Kilowatt Hours per Year)
115 kV Building	16,992	20	339,840
230 kV Building	7,920	20	158,400

SOURCE: U.S. Energy Information Administration, Commercial Buildings Energy Consumption Survey, Table C22. Electricity consumption totals and conditional intensities by building activity subcategories, 2018. Available online at https://www.eia.gov/consumption/commercial/data/2018/ce/pdf/c22.pdf

2.8 Anticipated Permits and Approvals

The permits and approvals anticipated to be required for the project or project variant from federal, state, and local agencies are listed below. The project could be subject to various local regulations and could require encroachment permits from the California Department of Transportation (Caltrans), San Mateo County, and/or various local jurisdictions. However, because California Government Code section 53091 et seq. provides that the SFPUC receives intergovernmental immunity from the zoning and building laws of other cities and counties, local regulations may not be applicable to the SFPUC. The SFPUC would obtain any other regulatory approvals for the project, as required by law. The SFPUC would acquire property rights as needed for the construction, installation, operation, and maintenance of proposed infrastructure on public land or private lands. The following is a preliminary list of potential actions and approvals needed for project construction and operation.

2.8.1 Federal Actions and Approvals

- Approval from the Federal Energy Regulatory Commission, potentially including for interconnection agreement associated with new or expanded substation.

2.8.2 State Actions and Approvals

- California Public Utilities Commission (CPUC)
  - Approval for transfer of utility assets
- Regional Water Quality Control Board, San Francisco Bay Region
  - Stormwater General Construction Permit and Stormwater Pollution Prevention Plan for potential construction effects on water quality[63]
- California Department of Toxic Substances Control (DTSC)
  - Approval of remediation action plan amendment, soil management plan, and health and safety plan for excavation at the PG&E Daly City Yard, Martin Substation, and Brisbane Yard
  - Approval of excavation guideline for routine maintenance or installation of utility facilities

[62] Energy assumption based on project variant building square footage. The estimates include heating, cooling, lights, alternating current (AC) load, direct current (DC) battery chargers, and DC load.
[63] Applicable to areas that do not drain to the City's combined storm/sanitary sewer system.

- California Coastal Commission
  - Coastal Development Permit for construction within the coastal zone (retained jurisdiction)
- California Department of Transportation (Caltrans)
  - Encroachment permits, access permits
- San Francisco Bay Conservation and Development Commission
  - Development permit for construction within 100 feet of the San Francisco Bay shoreline

2.8.3 Local Actions and Approvals

- San Francisco Planning Commission
  - Certification of the PG&E Asset Acquisition Project EIR
  - Coastal Development Permit for construction within the San Francisco Coastal Zone
  - General Plan referral
- San Francisco Public Utilities Commission (SFPUC)
  - Approval of the project, adoption of CEQA findings and mitigation monitoring and reporting program
  - Issuance of a report pursuant to San Francisco Charter section 16.101 (for acquisition of utility property)
  - Authorization of bonds or approval of other financing mechanisms
  - Approval of real estate transactions
- San Francisco Board of Supervisors
  - Approval of the project, adoption of the CEQA findings and mitigation monitoring and reporting program adopted by the SFPUC
  - Authorization to issue revenue bonds
  - Approval of real estate transactions
- San Mateo County
  - Coastal Development Permit for construction within the San Mateo County Coastal Zone
  - Public Works Department encroachment permit
  - Local oversight by San Mateo County Health Services in case of unanticipated contaminated materials encountered during construction
  - General plan conformity review for construction and property acquisition in San Mateo County
- City of Daly City
  - Coastal Development Permit for construction within the Daly City Coastal Zone
  - Encroachment permit
  - General plan conformity review for construction and property acquisition in Daly City

- City of Brisbane
  - Encroachment permit
  - General plan conformity review for construction and property acquisition in Brisbane
- Bayshore Sanitary District
  - Class 4 permit (underground construction)
- Other City Departments
  - The SFPUC would consult and coordinate with City departments, including without limitation San Francisco Public Works, the Department of Building Inspection, the Department of Public Health, and the SFMTA, to ensure that soil disturbance and site mitigation, street and sidewalk improvements, on-street parking modifications, dust control, noise control, and building construction comply with substantive requirements of applicable local laws.

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CHAPTER 3
ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

3.1 Overview

This chapter provides an analysis of the physical environmental effects of implementing the Pacific Gas and Electric Company (PG&E) Power Asset Acquisition Project ("the project") as described in Chapter 2, Project Description. This section presents the framework used in the individual environmental topic sections in this chapter and Appendix A, Initial Study, as well as the basic assumptions used in the impact analyses, including the scope of analysis, the baseline conditions used to analyze impacts, the categories of impact significance, and the assumptions for the cumulative impact analyses. As discussed further below, for each environmental impact report (EIR) topic identified in Section 3.1.1, Scope of Analysis, the environmental setting is described, the impacts of the project are analyzed, and mitigation measures are recommended where necessary to address potentially significant impacts.

3.1.1 Scope of Analysis

3.1.1.1 INITIAL STUDY TOPICS

As described in Chapter 1, Introduction and Background, the San Francisco Planning Department ("the planning department") determined that an EIR is required for the project in compliance with the California Environmental Quality Act (CEQA) and published a Notice of Preparation (NOP; see Appendix B). As part of the preparation of the EIR, the planning department identified several resource topics that could be adequately addressed in an initial study. The initial study prepared for the project (see Appendix A) concluded, based on the analysis provided, that many of the physical environmental impacts of the project would be less than significant, or that mitigation measures agreed to by the SFPUC and required as conditions of approval would reduce significant impacts to a less-than-significant level. The initial study is an integral part of this Draft EIR. CEQA does not require further assessment of the effects found not to be significant in the initial study; thus, those issues are not included in this chapter. The topics addressed in the initial study (and not included in this chapter) are listed in **Table 3.1-1**. Also shown are abbreviations for each environmental topic that are used in the naming of impact statements and mitigation measures as necessary. To provide the most comprehensive review of potential environmental effects that could result from the project, the impact analyses consider California Public Utilities Commission (CPUC)-specific environmental concerns that are not on the City and County of San Francisco ("City") environmental checklist. The CPUC-specific environmental analysis topics are identified in the *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments* (2019)[1] and relate to biological resources; energy; hazards, hazardous materials, and public safety; recreation; transportation; and utilities and service systems.

[1] California Public Utilities Commission, *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments*, November 2019.

Table 3.1-1 Environmental Topics For Which Effects Were Found Not To Be Significant (Analyzed in the Initial Study, Appendix A)

Land Use and Planning (LU)	Shadow (SH)	Hazards and Hazardous Materials (HZ)
Aesthetics (AE)	Recreation (RE)	Mineral Resources (MN)
Population and Housing (PH)	Utilities and Services Systems (UT)	Energy (EN)
Cultural Resources (CR)[2]	Public Services (PS)	Wildfire (WF)
Tribal Cultural Resources (TCR)[3]	Biological Resources (BI)[4]	Agriculture and Forestry Resources (AG)
Transportation and Circulation (TR)	Geology and Soils (GE)[5]	
Greenhouse Gas Emissions (GG)	Hydrology and Water Quality (HY)	
Wind (WI)		

3.1.1.2 EIR TOPICS

The environmental topics addressed in this chapter are listed in **Table 3.1-2**. The abbreviation for each topic used in the naming of impact statements and mitigation measures is shown in parentheses.

Table 3.1-2 EIR Environmental Topics and Sections (EIR Chapter 3)

3.2 Noise and Vibration (NO)	3.3 Air Quality (AQ)

3.1.2 Format of Environmental Analysis

Each environmental topic section within Chapter 3 contains the following elements:

- **Introduction.** This subsection includes a brief description of the types of impacts that are analyzed, identifies issues raised during the scoping period that are relevant to the resource topic being addressed, and provides a summary of any impacts that were scoped out in the initial study (that is, impacts that were determined to be less than significant or less than significant with mitigation measures agreed to by the San Francisco Public Utilities Commission (SFPUC) and to be required as conditions of approval).
- **Environmental Setting.** This subsection describes the existing, baseline physical environmental conditions in the project areas and region on or about the date of the NOP at an appropriate level of detail to allow the reader to understand the starting point of comparison for identifying potential project-caused changes in the physical environment as part of the impact analysis.
- **Regulatory Framework.** This subsection describes the relevant federal, state, and local regulatory requirements that are directly applicable to the environmental topic being analyzed.
- **Impacts and Mitigation Measures.** This subsection evaluates the potential for the project to result in adverse effects on the existing physical environment. The subsection begins with identification of the

[2] Required Mitigation Measures M-CR-1a, M-CR-1b, M-CR-1c, M-CR-1d, M-CR-1e, M-CR-2a, M-CR-2b, M-CR-2c, M-CR-2d, M-NO-4a and M-NO-4b would reduce effects to less than significant.
[3] Required Mitigation Measures M-CR-2a, M-CR-2b, M-CR-2c, M-CR-2d, and M-TCR-1 would reduce effects to less than significant.
[4] Required Mitigation Measures M-BI-1a, M-BI-1b, M-BI-1c, M-BI-1d, M-BI-3a, M-BI-3b, M-BI-4, and M-BI-5 would reduce effects to less than significant.
[5] Required Mitigation Measure M-GE-5 would reduce effects to less than significant.

significance criteria used for evaluating environmental impacts, followed by discussion of the approach to analysis, the impacts of the project and mitigation measures (if required), and cumulative impacts.

For each environmental topic section, this Draft EIR (including initial study) assigns impacts a unique alphanumeric identifier that is comprised of that section's abbreviation and a number (see Tables 3.1-1 and 3.1-2), with all impacts for that topic sequentially numbered. For example, the abbreviation "NO" indicates noise and vibration impacts; the first noise and vibration impact is Impact NO-1, the second noise and vibration impact is Impact NO-2, and so on. The mitigation measure(s) that correspond with the impact are identified with an "M" in front of the same alphanumeric code. For example, Mitigation Measure M-NO-1 addresses Impact NO-1.

3.1.3 Approach to Analysis

This Draft EIR analyzes potential physical environmental impacts that may occur if the City proceeds with the project. This Draft EIR evaluates proposed project activities at a level of detail consistent with the best available information and specificity available at the time of EIR preparation.

This Draft EIR therefore contains analysis of some project components at a "project level" and others at a "program level" based upon the level of information available at this time. The Martin Substation separation, distribution express feeders, and new City Substation (the latter analyzed in this Draft EIR as a project variant) are evaluated at a project level of detail in accordance with CEQA Guidelines section 15161. The local distribution system separation, system reinforcements, operations control center, operations and maintenance service yards, and remaining project components are evaluated in the Draft EIR at a program level. Chapter 2, Project Description, contains additional information regarding the components analyzed at the program and project levels. As relevant, each environmental topic section describes the assumptions made to complete the program-level analysis.

CEQA Guidelines section 15125 states that the "environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." The environmental setting typically includes the existing physical conditions on the project site and in the vicinity at the time of NOP publication, including projects that are under construction. The environmental analysis then presents existing and existing-plus-project and variant scenarios to identify environmental impacts that would occur from implementation of the proposed project and project variant. The analysis in this Draft EIR uses the existing environmental setting at the time of NOP publication as the baseline physical conditions to determine whether an impact is significant. Because existing conditions include PG&E's operation of the electric system in San Francisco, the impact analyses evaluate changes in operations due to the project. The impact analyses do not evaluate continuation of existing operations, i.e., ongoing operations and maintenance activities.

As described in Chapter 2, Project Description, the project includes a potential project variant. The project and project variant would be the same except that the project variant would include construction of a new City Substation instead of the Martin Substation separation. The Martin Substation and new City Substation locations involve similar land uses at adjacent locations within PG&E's existing property at the Martin Substation and Daly City Yard. Therefore, the analysis distinguishes between the project and project variant only where the differences between them would result in a different conclusion with respect to potential impacts on the environment.

As noted in Chapter 2, Section 2.4.6.3, Telecommunications Equipment, telecommunications equipment would be installed in existing or proposed duct banks or mounted on existing or proposed poles. Telecommunications equipment at substations would be inside the control room. Cables and other devices would be installed underground in vaults or mounted on poles. Therefore, no additional excavation would be required to install telecommunications equipment and impact evaluations of other project components incorporate potential impacts of the telecommunications equipment.

3.1.4 Determination of Environmental Significance

The significance criteria used in this Draft EIR and initial study are based primarily on guidance from the planning department's Environmental Planning Division regarding the thresholds of significance used to assess the severity of the environmental impacts of the project. The criteria are based on the CEQA Guidelines Appendix G environmental checklist with some modifications.[6] Each section of Chapter 3 presents, before the discussion of impacts, the significance criteria used to analyze each environmental topic. Conclusions of impact significance are characterized as follows:

- **No Impact.** A no impact conclusion is reached if there is no potential for impacts, for example if the environmental resource does not occur within the project areas or the area of potential effects.
- **Less than Significant.** This determination applies if a project-caused change in the environment would result but would not exceed the defined significance criteria or would be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws or regulations. No mitigation is required for impacts determined to be less than significant.
- **Less than Significant with Mitigation.** This determination applies if there is a potential for the project to result in an adverse effect that would or could meet or exceed the significance criteria, but feasible mitigation is available that would reduce the impact to a less-than-significant level. An impact described as "potentially" significant indicates there is a potential for this impact to occur, but there is not enough project information or site-specific information to determine definitively whether or not it qualifies under the significance criteria as significant. Impacts identified as "potentially significant" are treated the same as significant impacts in this Draft EIR.
- **Significant and Unavoidable with Mitigation.** This determination applies if the project would result in an adverse effect that would or could meet or exceed the significance criteria and there is feasible mitigation available to lessen the severity of the impact, but either the residual effect after implementation of the measure would remain significant or there is some uncertainty about the effectiveness of the mitigation measure.
- **Significant and Unavoidable.** This determination applies if the project would result in an adverse effect that would or could meet or exceed the significance criteria and for which there is no feasible mitigation available.

[6] As discussed in Chapter 1, Introduction and Background, the CPUC confirmed the planning department's role as the lead agency for CEQA review and its need for a completed CEQA review prior to its decision-making, and indicated that its guidelines would not be applicable to this project because it is not the lead agency. However, to provide the most comprehensive review of potential environmental effects that could result from the project, the impact analyses consider CPUC-specific environmental concerns that are not on the City's environmental checklist, even though this is not legally required (refer to California Public Utilities Commission, *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-Filing and Proponent's Environmental Assessments*, November 2019).

3.1.5 Approach to Cumulative Impact Analysis and Cumulative Projects

3.1.5.1 CEQA PROVISIONS REGARDING CUMULATIVE IMPACTS

Cumulative impacts, as defined in section 15355 of the CEQA Guidelines, refer to two or more individual effects that, when taken together, are "considerable" or that compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or multiple separate projects. A cumulative impact from multiple projects is the change in the environment that would result from the incremental impact of each project when added to those of other closely related past, present, or probable future projects. Cumulative impacts may result from individually minor but collectively significant impacts taking place over time. Section 15130 of the CEQA Guidelines provides the following pertinent guidance for cumulative impact analyses:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (i.e., the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects, including those outside the control of the agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as the discussion of effects attributable to the project alone.
- The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact.

CEQA Guidelines section 15130(b)(1) provides two approaches to a cumulative impact analysis. The analysis can be based on (a) a list of past, present, and probable future projects producing related or cumulative impacts; or (b) a summary of projections contained in a general plan or related planning document.

3.1.5.2 APPROACH TO CUMULATIVE IMPACT ANALYSIS IN THIS DRAFT EIR

In Sections 3.2 and 3.3 of this chapter, and in the initial study (Appendix A), the cumulative impact analysis for each resource topic follows the analysis of direct and indirect effects of the project. Each analysis of cumulative impacts is based on the same setting, regulatory framework, and significance criteria as the analysis of impacts of the project. The analysis of cumulative impacts considers the incremental effects of the project combined with the impacts of past, present, and reasonably foreseeable future projects. Additional mitigation measures are identified if the cumulative analysis determines that a significant cumulative impact could occur and the project's contribution to that significant cumulative impact would be considerable, even with project-level mitigation. Cumulative impacts are designated with a "C" in front of the code corresponding to the subject environmental topic; for example, the cumulative noise and vibration impact is designated Impact C-NO-1.

As permitted in CEQA Guidelines section 15130(b)(1), the cumulative impacts analyses in this Draft EIR employ the list-based approach, a projections approach, or a hybrid of the two as appropriate. In the list-based

approach, a list of projects identifies past, present, and reasonably foreseeable future projects that would cause impacts that could combine with the incremental impacts of the project to cause or contribute to cumulative effects. Ongoing impacts of past projects generally are reflected in baseline conditions and are not double-counted in the cumulative effects analysis; however, future impacts of past projects (such as future emissions of projects that have already been approved) are considered in the analysis. Other present and probable future projects include projects for which an application has been filed with the approving agency or that has approved funding. In the projections approach, projections contained in an adopted local, regional, or statewide plan, or related planning document, are summarized to describe or evaluate conditions contributing to the cumulative effect. Other projects are also considered reasonably foreseeable because they have been included in the SFPUC's capital plan and it is reasonable to expect that they would be implemented, even if an application has not been filed and there is no approved funding at this time. The cumulative projects identified in the vicinity of the project are listed in **Table 3.1-3** and shown in **Figure 3.1-1**. Table 3.1-3 includes projects that could be located near the separation activities along the San Francisco-San Mateo County border, as well as projects in southeastern San Francisco which could be near the operations control center or operations and maintenance service yards.

The cumulative projects listed in Table 3.1-3 would be subject to independent environmental review and consideration by approving agencies. Consequently, it is possible that some of the projects will not be approved or will be modified prior to approval (e.g., as a result of the CEQA process).

Projects that are relevant to the cumulative analyses include those that could contribute incremental effects on the same environmental resources and would have similar environmental impacts as those identified for the project in this Draft EIR. The following factors were used to determine an appropriate list of relevant projects to be considered in the cumulative analyses:

- **Similar Environmental Impacts.** A relevant project contributes to effects on the same environmental resources that are also affected by the project and would have similar or related environmental impacts as those discussed in this Draft EIR (see Sections 3.2 and 3.3 in this chapter and Appendix A, Initial Study).
- **Geographic Scope and Location.** A relevant project is located within the defined geographic scope for the cumulative effect. The geographic scope of cumulative projects depends on the environmental resource affected and is identified within each section. The geographic scope generally coincides with the physical environment described in the setting and could include the areas adjacent to the proposed construction activities that are within or adjacent to the project areas. For some environmental topics, however, the geographic scope can extend farther, such as for the discussion of transportation in which the regional roadway network is relevant, or the evaluation of air quality effects in which the regional air basin is the appropriate geographic scope for the analysis.
- **Timing and Duration of Implementation.** The schedule of activities for a relevant project would need to coincide in timing with the effects of the project to result in cumulative impacts. For temporal impacts such as noise and transportation, the cumulative analyses consider the short-term cumulative effects of those projects with overlapping construction schedules as well as the long-term cumulative effects of those projects that would be in operation concurrently with the project and would affect the same environmental resources and sensitive receptors.

The cumulative analyses presented in Sections 3.2 and 3.3 and Appendix A, Initial Study, first consider whether the project would have an impact that could result in adverse physical effects on the environment. If

so, the cumulative analysis considers whether any of the relevant projects would result in related impacts or affect the same environmental resources as the project, resulting in a cumulative impact. If the cumulative impact is considered significant based on the identified significance criteria, then the analysis considers whether the project's contribution would be cumulatively considerable (significant) or not cumulatively considerable (less than significant). If the project's contribution would be cumulatively considerable, then one or more mitigation measures are identified to reduce the project's contribution to a less-than-cumulatively-considerable level (less than significant with mitigation). If there is no feasible mitigation to reduce the project's contribution to a less-than-significant level, then the project's contribution to the cumulative impact is considered significant and unavoidable.

The list of projects in Table 3.1-3 includes projects that would be constructed, operated, maintained, or otherwise developed in the general vicinity of the project, with the potential to result in cumulative impacts at the same time the project would cause impacts (e.g., during construction).

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
1	Candlestick Point-Hunters Point Shipyard Phase II (CP Development Co. LP/ San Francisco)	This project would redevelop the 702-acre Candlestick Point-Hunters Point Shipyard area along the waterfront between south of India Basin and Candlestick Point. The project includes a mixed-use community with a wide range of residential, retail, office, research and development, civic, and community uses, and parks and recreational open space. In addition, a 300-slip marina would be constructed as would shoreline improvements to stabilize the shoreline. The project, originally approved in 2010, has been partially constructed, including Phase 1 of the Alice Griffith Housing Development, demolition of the former Candlestick stadium, and infrastructure improvements. Remaining work (Phase II) includes 6,225 units of housing (including rebuilding the Alice Griffith Public Housing), a regional retail center, a 220-room hotel, a performance venue, and 160 acres of new and revitalized open space. Maximum building height would range between 40 and 120 feet. Construction is anticipated to continue through 2033 at Candlestick Point and from 2027 through 2042 at Hunters Point Shipyard.	2024 through 2042

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
2	Executive Park Subarea Plan – Thomas Mellon Waterfront Residences/150 Executive Park Boulevard (Ocean Landing LLC/San Francisco)	The Executive Park Amended Subarea Plan approved in 2011 provides for the transition of an existing office park development within a 14.5-acre site to a primarily residential area with approximately 1,690 residential units and about 80,000 gross square feet of retail, comprised of two development projects. One of the projects, the Thomas Mellon Waterfront Residences project, involves demolishing an existing office building and surface parking lot and constructing five residential buildings, two below-grade parking structures, publicly accessible open spaces, new streets, alleyways, and pedestrian walkways. The entire development contains 585 residential units. The buildings would be between approximately 65 and 170 feet tall. Development of the second project included in the Executive Park Subarea Plan is currently on hold.	Entitlements approved, on hold
3	Harney-101 Transit Crossing Project (San Francisco Municipal Transportation Agency [SFMTA]/San Francisco and Brisbane)	The Harney-101 Transit Crossing Project would provide undercrossing improvements at Alana Way underneath Highway 101, as well as on nearby streets. Overall potential improvements could include intersection improvements to the Alana/ Harney/Thomas Mellon intersection, widening of Harney Way, addition of a sidewalk and bike path to the Highway 101 undercrossing, and Beatty Avenue street improvements.	2025
4	Brisbane Baylands Specific Plan (Baylands Development Inc./Brisbane)	The Brisbane Baylands Specific Plan proposes development of up to 2,200 residential units and 7 million square feet of commercial use. The project site comprises approximately 540 acres and is bounded on the north by San Francisco, on the east by the US 101 freeway, and on the west and south by Bayshore Boulevard. Buildout would occur over a 30-year period and involve four distinct activities: demolition and deconstruction, landfill closure and site remediation of the former railyard area, grading for development, and construction of proposed uses and related infrastructure.	Planning

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
5	Baylands North, formerly Visitacion Valley Redevelopment Area (Baylands Development Inc./ San Francisco)	The Visitacion Valley Redevelopment Area Project is a 46-acre area in the Visitacion Valley neighborhood, comprising approximately 124 parcels. The Visitacion Valley project area includes the former Schlage Lock industrial site, located at the southern border of San Francisco, and the properties fronting Bayshore Boulevard and the Visitacion Valley neighborhood's commercial corridor of Leland Avenue. The project would be constructed over approximately 15 years and involves the demolition of most of the existing vacant buildings on the former Schlage Lock site, environmental remediation of the site, and the construction of a mixed-use residential (1,679 dwelling units), retail and office development (18,000 gross square feet). Phase 1 of the project, at the north end of the site, consists of 574 residential units, one public park, major and minor retail components and stabilization or rehabilitation of the Old Schlage Lock Historical Office Building. Buildings would be up to 85 feet tall.	2024 through 2039
6	California High Speed Rail Project (Transbay Joint Powers Authority/Brisbane and San Francisco)	The California High Speed Rail project includes a section of high-speed rail connecting San Francisco to San Jose. One of the three Light Maintenance Facilities (LMFs) located along the system to provide regular maintenance and operations for high-speed trains would be located in east Brisbane. LMFs are where trains are inspected, cleaned, serviced, and stored, providing a service point for any trains in need of emergency repair services. LMFs will also supply trains and crews to the local terminal station at the start of the day. The LMF in Brisbane would be approximately 110 acres along the rail line. Track modifications associated with the East Brisbane LMF would require relocating the Bayshore Caltrain Station, demolishing and relocating the Tunnel Avenue overpass, widening the bridge crossing Guadalupe Valley Creek in Brisbane, relocating the Brisbane Fire Station, and relocation control point Geneva.	2023 through 2031

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
7	PG&E Egbert Switching Station Project (PG&E/ Brisbane and San Francisco)	The project primarily consists of construction, operation, and maintenance of a new 230-kilovolt (kV) switching station in San Francisco that would be connected to the local 230 kV system by reconfiguring two existing, underground, single-circuit 230 kV transmission lines located in San Francisco, Daly City, and Brisbane. The project would also provide an alternative 230 kV transmission path to serve customers in San Francisco if the Martin Substation becomes inoperable due to an extreme event. The project includes a transmission line across Geneva Avenue near the Martin Substation.	On Hold. Construction estimated 2 years, start date unknown
8	Midway Village Redevelopment (Mid-Pen Housing Coalition/Daly City)	The Midway Village area currently consists of 172,500 square feet of residential (150 units), office, and child-care space. The project involves redevelopment of the Midway Village area and consists of a mixed-use development consisting of 555 residential units, 746 parking spaces, up to 3.5 acres of Daly City-owned park, a child-care facility, a community center, office space, a revised street system, and other recreation facilities. Building heights will vary between one and four stories, with a maximum height of 60 feet. The existing development would be demolished, and new development constructed in six phases. Phase 1 is currently under construction.	2021 through 2026 or later
9	Guadalupe Quarry Redevelopment Project (Orchard Partners, LLC/ Brisbane)	The project includes closure, reclamation, and redevelopment of the existing Guadalupe Quarry to construct and operate a three-story warehouse facility and preserve habitat of the upper benches and undeveloped areas of the quarry as protected open space. The proposed warehouse building would have a footprint of approximately 500,000 square feet, with a total area of approximately 1,319,000 square feet and a maximum height of approximately 100 feet, and would include warehouse and office uses. Additional components would include parking, staging, access roads, loading areas, landscaping, guard booth and security gates, lighting, perimeter fencing/walls, and drainage facilities.	Planning

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
10	Sunnydale Hope SF Master Plan (Sunnydale Development Co., LLC, and San Francisco Housing Authority/San Francisco)	The Sunnydale Hope SF Project will demolish the existing Sunnydale-Velasco public housing complexes and construct replacement housing, new market-rate housing, infrastructure, open space, and community amenities. Buildout of the master plan would result in demolition of 785 existing residential units, and development of 1,770 residential units. The master plan also includes all new streets, utilities, and infrastructure, as well as 3.5 acres of new open spaces and approximately 60,000 square feet of new neighborhood-serving retail and community spaces. Buildings would be up to 65 feet tall.	2017 through 2033
11	Pacific Place Retail Conversion (McCall Design Group/Daly City)	The project consists of seven condominiums on a 1-acre lot at 55 Calgary Street (formerly 2665 Geneva Avenue).	2024 to 2025
12	Cormorant Battery Storage Facility (Cormorant Energy, Daly City)	The project involves construction of a 250-megawatt (MW) battery energy storage system, substation, and underground transmission line. At project completion, the 11.5-acre parcel at 2150 Geneva Avenue would be developed with the battery energy storage system facility on 6.9 acres, substation on 0.71-acre, and the remainder of the site used for a driveway, access road, and landscaping. The project would install lithium-ion batteries in 9-foot-tall purpose-built enclosures; inverter; medium-voltage transformers; switchgear; a collector substation; and other associated equipment to interconnect into the PG&E Martin Substation. The substation equipment would be approximately 65 feet tall. A 115 kV line with above- and underground sections would connect the project to Martin Substation. Between the project site and the corner of Daly City Yard the line would be underground. The underground portion of the line would transition to overhead at a riser at the southwest corner of the Daly City Yard.	2025 to 2026
13	6225 Mission Street Mixed-Use Building (Tom Zhang/Daly City)	The project would redevelop the site with a mixed-use apartment building containing 8 housing units.	Planning

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
14	141 3rd Avenue Residential (Clarum Homes/Daly City)	The project proposes a General Plan amendment to Residential-Medium Density (R-MD) to allow for a rezoning of the project site to R-3, Multiple-Family Residential. The project would construct 14 new three-story townhomes, each with a two-car tandem garage. The project would include a 120-foot internal access road, associated private driveways, landscaping, and utility improvements.	Approved 2023, construction start unknown
15	Stonestown Development Project (Brookfield Properties/ San Francisco)	The project proposes a mixed-use, multi-phased master-planned development to be located on the west side of San Francisco, immediately north of San Francisco State University, west of 19th Avenue, south of Eucalyptus Drive, and east of Lowell High School.	Approved 2024, to be built in phases over 15 years
16	San Francisco State University Capital Outlay Plan (California State University/San Francisco)	The California State University Multi-Year Plan includes capital improvements at San Francisco State University. Capital improvements expected to be under construction at San Francisco State University include new construction of or improvements to over 20 buildings on campus.	2021 through 2026
17	Parkmerced Project (Parkmerced Investors Properties LLC/San Francisco)	The Parkmerced Project will add about 5,600 new residential units to the 152-acre site's existing 3,221 housing units. It will also provide new commercial and retail services and open space. The Parkmerced project area is located in the southwestern area of San Francisco, bounded roughly by San Francisco State University to the north, Brotherhood Way to the south, 19th Avenue/ Junipero Serra Boulevard to the east, and Lake Merced Boulevard to the west.	Approved, construction estimated 20 years, start date unknown
18	Westlake South Mixed-Use Project/Old Burlington Site (Kimbo Westlake LP/Daly City)	The project proposes several text amendments to the PD-60A zoning modifying the parking requirements for the site located at 99 Southgate Avenue in Daly City. The project would demolish the existing vacant 55,000 square foot retail building and redevelop the site with a seven-story mixed-use building. The proposed building would include an above-grade parking garage, 10,800 square	Approved 2022, construction start unknown

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		feet of ground floor commercial space, and 214 apartment units.	
19	Lake Merced West Project - 520 John Muir Drive (San Francisco Recreation and Parks Department and SFPUC/ San Francisco)	The Lake Merced West Project will create a recreational facility on approximately 11 acres located at 520 John Muir Drive, on the southwest side of Lake Merced. Once construction is complete, the facility will offer an array of activities open to the public, including a restaurant, community building, skateboard park, boat dock and rentals, sport courts, and areas that could be used flexibly for a wide variety of uses such as picnics or larger gatherings.	Unknown
20	Vista Grande Drainage Basin Improvement (City of Daly City and SFPUC/Daly City and San Francisco)	In coordination with the City of Daly City, the project will divert stormwater from the Vista Grande Watershed to South Lake Merced and better manage stormwater transport to the Pacific Ocean to increase lake levels, improve stormwater quality, and help restore the Lake Merced Drainage Basin's natural hydrology.	2025 through 2028
21	Ocean Beach Climate Change Adaptation Project (SFPUC and RPD/San Francisco)	The project would address shoreline erosion, severe coastal storm and wave hazards, and sea level rise which threatens city infrastructure, coastal access and recreational facilities, and public safety. Major project components include: (1) permanently closing the Great Highway Extension between Sloat and Skyline boulevards, and reconfiguring affected intersections and San Francisco Zoo parking access; (2) removing rock and sandbag revetments, and rubble and debris from the beach, and reshaping the bluff to provide a more gradual transition between beach and upland areas, and planting native vegetation; (3) constructing a multi-use trail and Americans with Disabilities Act upgrades to existing trail segments, beach access stairway, coastal access parking, and restrooms, and enhancing habitat; (4) constructing a buried wall to protect existing wastewater infrastructure from shoreline erosion; and (5) long-term beach nourishment (sand replenishment).	Late 2027 through 2031

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
22	Biosolids Digesters Facilities Project (SFPUC)	The project includes the construction and operation of a new solids treatment process, odor control, energy recovery, and associated facilities at the Southeast Plant to replace outdated facilities with more reliable, efficient, and modern technologies. Key components of the project include: replacement and relocation of the solids processing treatment process with new facilities; odor control facilities to collect and treat odors; water systems and pump stations; support facilities such as buildings for operations and maintenance staff; various utility piping and electrical facilities; and landscaping and architectural improvements along Jerrold Avenue. The project also includes a biogas utilization system to convert digester gas into pipeline-quality, renewable natural gas for injection into PG&E's existing natural gas pipeline in the area. Construction of the project began in January 2020 and is ongoing.	January 2020 through Summer 2028
23	SEP Power Feed and Primary Switchgear Upgrades (SFPUC)	The objective of the project is to increase reliability, redundancy and capacity of the electrical system at Southeast Plant (SEP) to meet Sewer System Improvement Program (SSIP) level-of-service goals by upgrading the existing power feed by PG&E and obtaining a new feed by SFPUC Power Enterprise. The project will construct an elevated building to house the new Primary Power Switch Station and substructures to provide adequate power for the existing electrical loads and new SSIP facilities, upgrade/replace aging existing substations, install power monitoring and protection system for additional reliability and efficiency, as well as provide redundant services to the nearby pump stations.	January 2024 to May 2025
24	SEP Repair and Replacement Treatment Plant Improvement Projects (SFPUC)	In order to maintain the operational reliability of existing facilities, ongoing repair and replacement activities are conducted including replacement of equipment that has reached the end of its useful life, is no longer operational due to continuous operation in a highly corrosive	Ongoing

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		environment, or does not meeting current operational requirements.	
25	Demolition of the Existing SEP Digesters and Southside Renovation Project (SFPUC)	This Phase II Sewer System Improvement Program (SSIP) project (Phase II has not yet been approved) would include demolition of the existing SEP digesters and associated control buildings, and improvements within the south side of the SEP. This project has not yet begun the planning phase and the SFPUC has not yet determined the specific improvements to be constructed.	After 2028
26	Quint-Jerrold Connector Road (San Francisco County Transportation Authority)	This project would construct a new 950-foot-long roadway to provide access between existing Quint Street and Jerrold Avenue. The roadway would consist of two 13-foot-wide lanes (within a 50-foot-wide corridor), one northbound and one southbound. In addition, the project would construct or install several other elements along or beneath the length of the new roadway. Along the western side of the new roadway, the project would construct a new 5.5-foot-wide to 20-foot-wide sidewalk, depending on location; construct a new 27-foot-wide curb cut located along the San Francisco Wholesale Produce Market property (Project 25, below); and install street trees and street lighting. Along the eastern side of the new roadway, the project would construct a new 6.5-foot-tall reinforced concrete retaining wall. A new stop sign would be installed at the intersection of the new roadway and Jerrold Avenue. New sewer and water pipelines would be installed beneath the new roadway to provide on-site drainage and overall system reliability. The new road would support a potential new Caltrain station at Oakdale Avenue. The intersection with Jerrold Avenue also would accommodate trucks, although some movements would require wide turns. The San Francisco County Transportation Authority (SFCTA), Caltrain, and SF Public Works have coordinated project schedules to minimize the duration of the street closure.	Currently in the right-of-way acquisition phase. If successful, design would begin, and construction could start in 2025.

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
27	San Francisco Market (formerly San Francisco Wholesale Produce Market) Expansion (City and County of San Francisco Market Corporation)	This project consists of phased development to expand the existing San Francisco Wholesale Produce Market. The project would demolish the existing San Francisco Market buildings at the four quadrants of the main site, and would construct new buildings at each of the four quadrants. The project would include warehousing, office, meeting hall, and restaurant/café land uses. The new buildings would be 16 to 45 feet tall and would have a larger footprint than the existing buildings. The project and its associated roadway infrastructure would be built in about nine phases, over a period of approximately 16 years. It would start with the demolition of existing facilities at the SE Quadrant and construction of the 1900 Kirkwood Avenue building in January 2024, and would conclude with the occupancy of the 2000 Kirkwood Avenue building in June 2041. Phases 1 through 4 of the project include: Closure of Jerrold Ave between Toland and Rankin by the San Francisco Market; Demolition of the existing 455 Toland St building (NW Quadrant), and grading for new surface parking lot; Vacation of Jerrold Ave, and other minor right-of-way areas at the Main Site; and Demolition of existing SE Quadrant Building and dock, and construction of 1900 Kirkwood Ave Building. The project would vacate Jerrold Avenue on the main site and reroute through-traffic around the main site on Innes Avenue, which will become the primary route for non-market destined traffic traveling through the area.	2024 through 2041: Phases 1 through 4 would occur between 2024 and 2028
28	Pier 70 Waterfront Site (Forest City Development CA)	This project consists of redevelopment of approximately 28 acres (identified as the “Waterfront Site”) of the former industrial shipyard at Pier 70 and an additional 7 acres of land owned by the Port and PG&E. The site would be developed into a new mixed-use community with new commercial office development, new residential development, and a retail and arts component. New above-grade and	Phased construction 2018 to 2029 (expect delays)

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		below-grade parking and approximately 8 acres of new and expanded parks and shoreline access would be constructed. The project also includes the rehabilitation and adaptive reuse of Buildings 2, 12, and 21, which contribute to the eligible Pier 70 National Register Historic District. Overall, the project would construct a maximum of 4.2 million gross square feet in four phases over about 11 years. The project would include up to 3,025 new residential units and up to 2.3 million square feet of commercial, restaurant, retail, and arts/light industrial land uses.	
29	Blue Greenway Project (Port of San Francisco)	The Blue Greenway is the City's project to improve the City's southerly portion of the 500-mile, nine-county, region-wide Bay Trail, as well as the newly established Bay Area Water Trail and associated waterfront open space system. The alignment of the Blue Greenway generally follows the alignment of the Bay Trail and Bay Area Water Trail from Mission Creek on the north to the County line on the south. Remaining parks: Warm Water Cove Park (in future after 2030), Pier 70 Parks (2028-2029) and Aqua Vista Park (would be completed by 2025-2026). The Port expects to complete all Blue Greenway projects within its jurisdiction by 2035.	Aqua Vista Park to be completed by 2025-2026
30	India Basin Mixed-Use Development (Build, Inc. and San Francisco Recreation and Parks Department)	This project would encompass publicly and privately owned parcels, including existing streets, totaling approximately 38.8 acres at 700 Innes Avenue, 900 Innes Avenue, India Basin Shoreline Park, and India Basin Open Space locations. The project at 700 Innes Avenue would develop 17.12 acres of privately owned land plus 5.94 acres of developed and undeveloped public right-of-ways in phases; proposed uses include residential, retail, commercial, office, research and development/laboratory and clinical care space, institutional, flex space, recreational and art uses, parking, and a shoreline network of publicly accessible open space. San Francisco Recreation and Parks would improve 8 acres of publicly owned parcels along the shoreline plus	Entitlements approved, construction dates unknown

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		1.58 acres of unimproved "paper" streets to create a publicly accessible network of new and/or improved parkland and open space. This new shoreline network would extend the Blue Greenway/Bay Trail and would provide pedestrian and bicycle connections to and along the shoreline, fronting San Francisco Bay.	
31	San Francisco Gateway Project (Prologis, Inc.)	The San Francisco Gateway Project would demolish the four existing single-story buildings at 749 Toland Street and 2000 McKinnon Avenue and construct two new multi-story buildings that would provide new production, distribution, and repair (PDR) space in the city. Each building would be approximately 97 feet tall and would have a maximum height of 115 feet, including rooftop appurtenances. The two new buildings would include PDR space, a logistics yard, vehicular circulation systems, and ground-floor retail spaces; they would total 2,160,000 gross square feet. The proposed project would convert Kirkwood Avenue (along the northern side of the project site, between Toland and Rankin streets) to a single-lane, eastbound one-way street; and convert a portion of McKinnon Avenue (along the southern side of the project site, between Toland and Selby streets) to a single-lane, westbound one-way street. Construction is anticipated to take approximately 31 months. Approximately 140,600 cubic yards of soil would be excavated for the proposed project. The EIR also analyzes an expanded streetscape variant, which would improve the public right-of-way surrounding the project site.	Summer 2026 through Winter 2028
32	Channel Force Main Intertie (SFPUC)	The existing 66-inch Channel Force Main transports wastewater from the northeastern part of San Francisco to the Southeast Treatment Plant. The Channel Force Main Intertie Project will increase reliability, provide operational flexibility, and allow for future inspections and maintenance. This project will construct a new pipeline connection and control	January 2024 to December 2025

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		systems along the existing force main. The project will also install control panels in the sidewalk along Cesar Chavez Street, between Indiana and Pennsylvania Streets, and replace existing air valves at two locations on Indiana Street, near the 20th and 25th street intersections.	
33	City Distribution Division Headquarters Project (SFPUC)	This project would establish a new City Distribution Division (CDD) headquarters at 2000 Marin Street that would replace the existing CDD yards located at 639 Bryant and 1990 Newcomb. The project would demolish the existing building and parking lot on the project site and construct six buildings, totaling 370,850 square feet, including various uses and facilities such as administrative offices, electrical, landscaping, carpentry, machine, auto and meter shops, a warehouse, a parking garage, and a fueling station. The proposed buildings range from one to six stories and from 20 to 60.5 feet in height.	January 2025 to December 2027
34	3433 3rd Street (Equity Community Builders)	The proposed project would construct an approximately 16,194 gross square-foot (sf), two-story, office and assembly building with surface parking with an approximate 9,441 sf ground floor footprint. The proposed project would include a 7,364 sf of union assembly/ meeting hall, 8,830 sf of office space which includes 2,646 sf of elevators and corridors, 4,215 sf of landscaped area, and 9,372 sf of parking area. The project site is approximately 25,968 sf in area.	Planning
35	Bay Corridor Transmission and Distribution (Phases 3 and 4) (SFPUC)	The San Francisco Public Utilities Commission Power Enterprise is building a high voltage transmission and distribution system in the Southeast portion of the city. It is intended to serve existing and future customers with large power needs. There are four phases of the project; phases 1 and 2 were completed in 2022. Phase 3 - 1535 Davidson Avenue - Power Distribution System - builds a new electrical substation at 1535 Davidson Avenue. Phase 4 - The Project proposes the following improvements in the City's Bayview District:	Phase 3 construction ongoing with completion by Winter 2024. Phase 4 construction August 2024 to May 2026

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		Installation of a new duct bank from the intersection of Evans Avenue and Rankin Street to 2000 Marin Street. Replacement of existing 12-inch and 8-inch cast iron potable water mains with new 12-inch ductile iron pipe mains along three segments (Evans Avenue from Napoleon Street north to the existing Evans Avenue bridge near Cesar Chavez Street, Marin Street from Evans Avenue to the Marin Street terminus, and Cesar Chavez Street from Evans Avenue to Mississippi Street). This project component involves: the replacement of water main appurtenances including valves, fire hydrants, and water service; and extension and modernization of the existing emergency water system from the intersection of Evans Avenue and Marin Street to the Marin Street terminus; installation of high-pressure fire hydrants and high pressure valves. Ancillary work including ADA curb ramp upgrades, traffic signal related improvements, and restoration of traffic markings and striping.	
36	1399 Marin Transit Service Operations and Maintenance Plan (SFMTA)	The existing diesel hybrid fleet of approximately 88 buses will be moved from the Kirkland Transit Facility near Fisherman's Wharf to operate from the Islais Creek Transit Facility located at 1301 Cesar Chavez Street, with bus storage and repair-level maintenance occurring at the 1399 Marin facility, located across Indiana Avenue from Islais Creek facility site. Minimal improvements to the site (replacement or upgraded fencing, improved yard lighting, which likely will include some minor trenching and spot repavement of the surface yard area) are planned. No improvements are planned for the interior of the building on site.	Spring to Winter 2025
37	Additional Newcomb Yard Improvements (SFPUC)	This program will fund interim improvements at CDD Headquarters at 1990 Newcomb Avenue that are required to address health and safety concerns and to renovate existing facilities to accommodate the division's staffing needs while a new SFWD Headquarters at 2000 Marin is designed and constructed. Interim	2025 to 2027

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		improvements include: re-roofing the Administration, Shops and Warehouse Building; Emergency Communication Facilities at Newcomb Yard and Lake Merced Pump Station; developing approximately 4,000 square feet of new office space; renovating the Shops Building mechanical systems; developing Incident Command Structure facilities; developing access control systems; and street and sidewalk improvements.	
38	Islais Creek Bridge Project (San Francisco Public Works)	The City and County of San Francisco is proposing to replace the existing Islais Creek Bridge along Third Street in San Francisco's Bayview neighborhood. Construction of the proposed project would result in the replacement of the existing drawbridge with a fixed bridge and large ships would no longer be able access the Islais Creek channel west of the new bridge. Throughout the construction duration, there would be no access for vehicles, the T-Third Street light rail service, or pedestrians to the bridge or Third Street between Marin Street to the north and Cargo Way to the south. Vehicles would be detoured around the site to other routes. T-Third Street passengers would use bus shuttles in lieu of light rail service south of Islais Creek Bridge and the 15 Bayview Hunters Point Express and 91 Third Street/19th Avenue OWL buses would be detoured around the project site.	Spring 2026 to Spring 2028
39	Bayview Caltrain Station (SFCTA)	Upon recommendation of the San Francisco Planning Department, the San Francisco County Transportation Authority would restore Caltrain station service to the Bayview by constructing a new station along the Caltrain rail alignment in the Bayview, likely between Jerrold Avenue and Oakdale Avenue.	Planning
40	Potrero Power Station Mixed-Use Development Project (California Barrel Company LLC)	This project would construct 2,477 dwelling units, approximately 1.6 million gross square feet (gsf) of commercial uses (including office, research and development/life science, retail, hotel, and production-distribution-repair),	Phase 1 (vertical construction) is scheduled for 2023-2035

Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates
		approximately 887,000 gsf of parking, and approximately 42,000 sf of community facilities. The project would also construct approximately 6.9 acres of publicly accessible open space.	

SOURCES (listed by project number):

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3. San Francisco Municipal Transportation Agency (SFMTA), Harney-101 Transit Crossing Project. Available at: https://www.sfmta.com/projects/harney-101-transit-crossing-project. Accessed October 17, 2023.
4. City of Brisbane, Brisbane Baylands Specific Plan, NOP – Notice of Preparation of Draft EIR, Received February 24, 2020. Available at: https://ceqanet.opr.ca.gov/2006022136/7. Accessed October 24, 2023
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7. California Public Utilities Commission (CPUC), Pacific Gas and Electric (PG&E) Company Egbert Switching Station Project (Martin Substation Extension). Last Update: November 5, 2021. Available at: https://ia.cpuc.ca.gov/environment/info/dudek/egbert/egbert.html Accessed July 22, 2024.
8. City of Daly City, Midway Village Redevelopment Project Sustainable Communities Environmental Assessment, April 6, 2020.
9. City of Brisbane, Revised Notice of Preparation of an Environmental Impact Report for the Guadalupe Quarry Redevelopment Project, December 15, 2022.
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13. City of Daly City Planning Division, Current Residential Project List, Reflects application received, entitlements granted, and construction commenced for the 24 months preceding January 1, 2023.
14. City of Daly City, Initial Study 141 3rd Avenue Residential Project, January 2023.
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16. California State University, Capital Planning, Design and Construction. Multi-Year Plan 2021-2022 through 2025/2026. Accessed July 22, 2024.
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21. San Francisco Planning Department, Ocean Beach Climate Change Adaptation Project Environmental Impact Report.
22. SFPUC, Biosolids Digesters Facilities. Available at: https://www.sfpuc.gov/construction-contracts/construction-projects/biosolids-digesters-facilities. Accessed August 23, 2024.
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27. San Francisco Planning Department, Addendum 2 to Mitigated Negative Declaration, San Francisco Market (formerly San Francisco Wholesale Produce Market), July 21, 2022..
28. San Francisco Planning Department, Pier 70 Mixed-Use District Project Addendum to Environmental Impact Report. April 16, 2018.
29. Port of San Francisco, Blue Greenway Project. Available at: https://sfport.com/projects-programs/blue-greenway. Accessed July 26, 2024.
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Table 3.1-3 Projects Considered in Cumulative Impact Analysis

Project No. in Figure 3.1-1	Project Name (Project Sponsor or Agency/ Location)	Project Description	Anticipated Construction Dates

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32. SFPUC, Channel Force Main Intertie. Available at: https://www.sfpuc.gov/construction-contracts/construction-projects/channel-force-main-intertie. Accessed July 26, 2024.
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34. San Francisco Property Information Map, Project Profile for 2023-008546PRJ, 3433 3rd Street, approval letter issued August 1, 2024.
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37. SFPUC, Additional Newcomb Yard Improvements Bid Details. Project description provided by SFPUC.
38. San Francisco Planning Department, Islais Creek Bridge Project Draft Environmental Impact Report. November 29, 2023.
39. San Francisco Planning Department, Executive Summary and Recommendation, Southeast Rail Station Study, July 14, 2022.
40. San Francisco Planning Department, Addendum to an Environmental Impact Report Potrero Power Station Mixed-Use Development Project, September 9, 2020.

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PROJECTS

1 Candlestick Point-Hunters Point Shipyard Phase II
2 Executive Park Subarea Plan – Thomas Mellon Waterfront Residences/150 Executive Park Boulevard
3 Harney-101 Transit Crossing Project
4 Brisbane Baylands Specific Plan
5 Baylands North, formerly Visitacion Valley Redevelopment Area
6 California High Speed Rail Project
7 PG&E Egbert Switching Station Project
8 Midway Village Redevelopment
9 Guadalupe Quarry Redevelopment Project
10 Sunnydale Hope SF Master Plan
11 Pacific Place Retail Conversion
12 Cormorant Battery Storage Facility
13 6225 Mission Street Mixed-Use Building
14 141 3rd Avenue Residential
15 Stonestown Development Project
16 San Francisco State Capital Outlay
17 Parkmerced Project
18 Westlake South Mixed-Use Project/Old Burlington Site
19 Lake Merced West Project - 520 John Muir Drive
20 Vista Grande Drainage Basin Improvement
21 Ocean Beach Climate Change Adaptation Project
22 Biosolids Digesters Facilities Project
23 SEP Power Feed and Primary Switchgear Upgrades
24 SEP Repair and Replacement Treatment Plant Improvement Projects
25 Demolition of the Existing SEP Digesters and Southside Renovation Project
26 Quint-Jerrold Connector Road
27 San Francisco Market (formerly San Francisco Wholesale Produce Market) Expansion
28 Pier 70 Waterfront Site
29 Blue Greenway Project
30 India Basin Mixed-Use Development
31 San Francisco Gateway Project
32 Channel Force Main Intertie
33 City Distribution Division Headquarters Project
34 3433 3rd Street
35 Bay Corridor Transmission and Distribution
36 1399 Marin Transit Service Operations and Maintenance Plan
37 Additional Newcomb Yard Improvements
38 Islais Creek Bridge Project
39 Bayview Caltrain Station
40 Potrero Power Station Mixed-Use Development Project

Cumulative Projects
System Reinforcements
Distribution Express Feeders
Local Distribution System Separation
Southwest Area
Central Area
Southeast Area
N
0 2000
Feet

San Francisco
Brisbane
Daly City
San Francisco Co
San Mateo Co
101
280
35

Daly City Yard
Martin Substation Project Site
Schwerin St
Geneva Ave
Bayshore Blvd
Midway Dr
Main St

SOURCE: ESA, 2023; Google Earth, 2023

PG&E Asset Acquisition Project

Figure 3.1-1
Cumulative Impacts Projects

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3.2 Noise and Vibration

3.2.1 Introduction

This section describes the existing noise environment in the project areas, evaluates the potential construction-related and operational noise and vibration impacts associated with implementation of the project or project variant, and identifies mitigation measures to avoid or reduce potential adverse impacts. Noise and vibration topics consist of temporary or permanent increases in ambient noise levels and generation of excessive noise and groundborne vibration. Supporting detailed technical information is included in **Appendix E**. Project-related noise and vibration effects on wildlife are discussed in Appendix A Section E.15, Biological Resources.

3.2.2 Environmental Setting

3.2.2.1 SOUND FUNDAMENTALS

Sound is characterized by parameters that describe the rate of *oscillation* (frequency) of sound waves, the distance between successive troughs or crests in waves, the speed that they travel, and the pressure level or energy content of a given sound. The sound pressure level has become the most common descriptor used to characterize how loud a sound is, and the decibel (dB) scale is used to quantify sound intensity. Because the human ear is not equally sensitive to all sound frequencies, human response is factored into sound descriptions in a process called *A-weighting*, expressed as *dBA*. The dBA, or A-weighted decibel, refers to a scale of noise measurement that reflects the different frequencies that humans can hear. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA. Except in carefully controlled laboratory experiments, a change of only 1 dBA in sound level cannot be perceived. Outside of the laboratory, a 3 dBA change is considered a perceptible difference while a 5 dBA change is considered readily noticeable. A 10 dBA increase in the level of a continuous noise represents a perceived doubling of loudness.[1]

NOISE DESCRIPTORS

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Variations in noise exposure over time are typically expressed in terms of a steady-state energy level (called Leq) that represents the acoustical energy of a given measurement, or alternatively as a statistical description of what sound level is exceeded over some fraction (10, 50, or 90 percent) of a given observation period (i.e., L10, L50, L90). Leq (24) is the steady-state acoustical energy level measured over a 24-hour period. Lmax is the maximum, instantaneous noise level registered during a measurement period. Because people in residential areas are more sensitive to unwanted noise intrusion during the evening and at night, an artificial 5 dBA increment is added to evening noise levels (7 to 10 p.m.) and an artificial 10 dBA increment is added nighttime noise levels (10 p.m. to 7 a.m.) to form a 24-hour noise descriptor called the *Community Noise Equivalent Level* (CNEL). Another 24-hour noise descriptor, called the *day-night noise level* (Ldn), is similar to CNEL, but Ldn does not add the evening 5 dBA penalty between 7 p.m. and 10 p.m. In practice, Ldn and CNEL usually differ

[1] California Department of Transportation (Caltrans), Technical Noise Supplement (TeNS) to the Traffic Noise Analysis Protocol pp. 2-44 to 2-45, September 2013, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf, accessed December 2024.

by less than 1 dBA at any given location from transportation noise sources.[2] **Table 3.2-1** presents representative noise sources and their corresponding noise levels in dBA at varying distances from the noise sources.

Table 3.2-1 Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet fly-over at 100 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck going 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
6.5-foot wave breaking at shoreline	78	
Noisy urban area during daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area during daytime	50	Dishwasher in next room
Quiet urban area during nighttime	40	Theater, large conference room (background)
Quiet suburban area during nighttime		
	30	Library
Quiet rural area during nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

SOURCES: California Department of Transportation (Caltrans), Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, p. 2-20; Bolin, Karl, & Abom, M. (2010) Airborne Sound Generated by Sea Waves, Journal of Acoustical Society of America, 127(5);2771-9.

[2] Caltrans, Technical Noise Supplement (TeNS) to the Traffic Noise Analysis Protocol, September 2013, p. 2-48, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf, accessed June 2024.

ATTENUATION OF NOISE

Noise attenuates (decreases) with distance. Roadway noise sources tend to be arranged linearly. Therefore, noise from roadway vehicular traffic attenuates at a rate of approximately 3.0 to 4.5 dB per doubling of distance from the source, depending on the intervening surface (paved or vegetated, respectively).[3] Point sources of noise, such as stationary equipment or construction equipment, typically attenuate at a rate of approximately 6.0 to 7.5 dB per doubling of distance from the source.[4] For example, a sound level of 80 dBA at 50 feet from the noise source will be reduced to 74 dBA at 100 feet, 68 dBA at 200 feet, and so on.

Noise levels can also be attenuated by shielding the noise source or providing a barrier between the source and the receptor. With respect to the transmission of exterior noise to interior environments, noise attenuation effectiveness depends on exterior wall insulation, the window sound transmission class rating, and whether the windows are closed or open. Sound transmission class ratings indicate how well wall, ceiling, floor, door, or window assemblies attenuate airborne sound. These ratings are not, however, a measure of how many decibels a wall can stop. For example, an exterior wall with a sound transmission class 45 rating does not result in a 45 dB reduction in exterior-to-interior sound transmission. Generally, the higher the sound transmission class rating, the more the sound is attenuated.[5]

The age of a structure is not necessarily a reliable predictor of the amount of attenuation an exterior can provide. Residential structures have a wide range of noise reductions because of differences in materials, building techniques, and individual building plans. Typical residential buildings reduce noise from outside to inside in the range of 24 to 27 dB (with an average of 25 dB) with windows closed and 12 to 18 dB (with an average of 15 dB) with windows open.[6] Based on the typical residential buildings that exist within San Francisco, an assumption of a 25 dB noise reduction with windows closed and 15 dB noise reduction with windows open is reasonable.[7]

HEALTH EFFECTS OF ENVIRONMENTAL NOISE

The World Health Organization is a recognized source of current knowledge regarding health impacts, including those generated by noise. According to the World Health Organization, one health effect is sleep disturbance, which can occur when continuous indoor noise levels exceed 30 dBA (Leq) or when intermittent interior noise levels reach or exceed 45 dBA (Lmax), particularly if background noise is low. With a bedroom window slightly open (a reduction from outside to inside of 15 dB), the World Health Organization criteria suggest that acceptable nighttime ambient noise levels should be 45 dBA (Leq) or below, and short-term events should not generate noise in excess of 60 dBA (Lmax). The World Health Organization also notes that maintaining noise levels within the recommended levels during the first part of the night helps people to fall asleep.[8]

Other potential health effects of noise identified by the World Health Organization include decreased performance on complex cognitive tasks, such as reading, attention, problem solving, and memorization;

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[3] Ibid.
[4] The 1.5 dB variation in attenuation rate (6 dB versus 7.5 dB) can result from ground-absorption effects, which occur as sound travels over soft surfaces such as earth or vegetation (7.5 dB attenuation rate) versus hard surfaces such as pavement or hard-packed earth (6 dB rate).
[5] There is not a straightforward linear relationship between increasing sound transmission class and a reduction in exterior to interior noise because the amount of reduction varies considerably with the frequency range of noise.
[6] Governor's Office of Planning and Research, *State of California 2017 General Plan Guidelines,* Appendix D: Noise Element Guidelines, page 378, 2017, *http://opr.ca.gov/docs/OPR_Appendix_D_final.pdf,* accessed May 5, 2020.
[7] Ibid.
[8] World Health Organization, *Guidelines for Community Noise*, April 1999, Chapter 3, p. 46.

physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, or shorter-term exposure to very high noise levels, for example, exposure several times a year to a concert with noise levels at 100 dBA). Noise can also disrupt speech intelligibility at relatively low levels; for example, in a classroom setting, a noise level as low as 35 dBA can disrupt clear understanding. Finally, noise can cause annoyance and can trigger emotional reactions like anger, depression, and anxiety. The World Health Organization reports that during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA, or moderately annoyed by activities with noise levels below 50 dBA.

Vehicle traffic and continuous sources of machinery and mechanical noise contribute to unhealthy ambient noise levels. Short-term noise sources, such as large vehicle audible warnings, the crashing of material being loaded or unloaded, car doors slamming, and engines revving, contribute very little to 24-hour noise levels but are capable of causing sleep disturbance and annoyance. The effect of noise on receptors depends on both time and context. For example, long-term high noise levels from large traffic volumes can make conversation at a normal voice level difficult or impossible, while short-term peak noise levels at night can disturb sleep.

VIBRATION AND GROUNDBORNE NOISE

Groundborne noise refers to noise generated by vibrations from outside a structure but experienced inside the structure. Groundborne noise can be a problem in situations where the primary airborne noise path is blocked, such as in the case of a subway tunnel passing near homes or other noise-sensitive structures. Vibration is an oscillatory motion through a solid medium. Typically, groundborne vibrations generated by man-made activities attenuate rapidly with the distance from the source of the vibration. Vibration is typically measured by peak particle velocity (PPV) in inches per second (in/sec).

Vibration decibels (VdB) is the unit used to assess effects of vibrations on people and to distinguish vibration decibels from sound decibels (dB). With the exception of long-term occupational exposure, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. People may tolerate infrequent, short-duration vibration levels, but human annoyance to vibration becomes more pronounced if the vibration is continuous or occurs frequently. **Table 3.2-2** lists human response to different levels of groundborne noise and vibration.

High levels of vibration can damage fragile buildings or interfere with sensitive equipment. Depending on the age of the structure and type of vibration (transient, continuous, or frequent intermittent sources), vibration levels as low as 0.5 to 2.0 in/sec PPV can damage a structure.[9]

The operation of heavy construction equipment, particularly pile drivers and other heavy-duty impact devices (such as pavement breakers), creates seismic waves that radiate along the surface of the ground and downward. These surface waves can be felt as ground vibration and result in effects that range from annoyance for people to damage to structures. Ground-borne vibration generally attenuates rapidly with distance from the source of the vibration. This attenuation is a complex function of how energy is imparted into the ground as well as the subsurface soil and/or rock conditions through which the vibration is traveling. Variations in geology can result in different vibration levels, with denser soils generally resulting

[9] Caltrans, Transportation and Construction Vibration Guidance Manual, April 2020, Table 9, p. 23, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf, accessed December 2024.

in more rapid attenuation over a given distance. The effects of ground-borne vibration on buildings include rumbling sounds as well as floor movement, window rattling, and items on shelves or hanging on walls shaking. Vibration is also caused by transit vehicles in the subway system, including Muni light-rail vehicles, historic streetcars, and Bay Area Rapid Transit (BART) trains. In general, such vibration is only an issue when there are sensitive receptors located nearby. Since rubber tires and suspension systems mitigate vibrations, rubber tire vehicles such as Muni buses, trucks, and automobiles rarely create substantial vibration absent a bump in the road surface.[10]

Table 3.2-2 Human Response to Different Levels of Ground-borne Noise and Vibration

Vibration Velocity Level	Groundborne Noise Level		Human Response
	Low Frequency[11]	Mid-Frequency[12]	
65 VdB[13]	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying. Low-frequency noise acceptable for sleeping areas; mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only with infrequent events. Low-frequency noise annoying for sleeping areas; mid-frequency noise annoying, even for infrequent events at institutional land uses such as schools and churches.

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed September 2, 2020.

VIBRATION-SENSITIVE RECEPTORS

Receptors that are sensitive to vibration include structures (especially older masonry structures), older utilities, people (especially residents, the elderly, and people experiencing health issues), and equipment (e.g., magnetic resonance imaging equipment and high-resolution lithographic, optical, and electron microscopes).[14] In addition, vibration may disturb nesting and breeding activities for certain wildlife. The primary vibration-sensitive receptors in the project areas are structures, which could be susceptible to damage, and people, who could be susceptible to vibration-related annoyance, especially during nighttime hours.

[10] Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual, FTA Report No. 0123, September 2018, p. 116, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed June 2024.
[11] Approximate noise level when vibration spectrum peak is near 30 hertz.
[12] Approximate noise level when vibration spectrum peak is near 60 hertz.
[13] Vibration decibels (VdB) is the unit used to assess effects of vibrations on people and to distinguish vibration decibels from sound decibels (dB).
[14] Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual, FTA Report No. 0123, September 2018, p. 124, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed February 2025.

3.2.2.2 EXISTING CONDITIONS

EXISTING NOISE SOURCES

The project areas are located in the southern portions of San Francisco and the northern parts of Brisbane and Daly City, along the San Francisco-San Mateo County border. Adjacent land uses consist primarily of residential, commercial, industrial, and public uses.

The primary noise sources on and near the Martin Substation and Daly City Yard consist of vehicle traffic on Geneva Avenue, Bayshore Boulevard, Schwerin Street, and Main Street, and internal roadways, trucks, and loading activities. Other noise sources that marginally contribute to the noise environment nearest to distribution express feeders alignment and local distribution system separation or system reinforcement work consist of vehicle traffic on Geneva Avenue, Alemany Boulevard, Sickles Avenue, Sagamore Street, John Muir Drive, and Harney Way, and internal roadways.

EXISTING GROUNDBORNE NOISE AND VIBRATION SOURCES

The only sources of vibration in the project areas are the Muni T-Third Street light-rail and Caltrain operations in some portions of the system reinforcement areas, and BART rail operations in the local distribution system separation area that parallels I-280. Light-rail passenger trains such as the Muni T-Third Street generate a vibration level of 69 VdB (0.01 in/sec PPV) at a distance of 80 feet[15] from the rail centerline. A vibration velocity level of 75 VdB is considered to be the approximate transition zone between barely perceptible and distinctly perceptible levels for many people.[16]

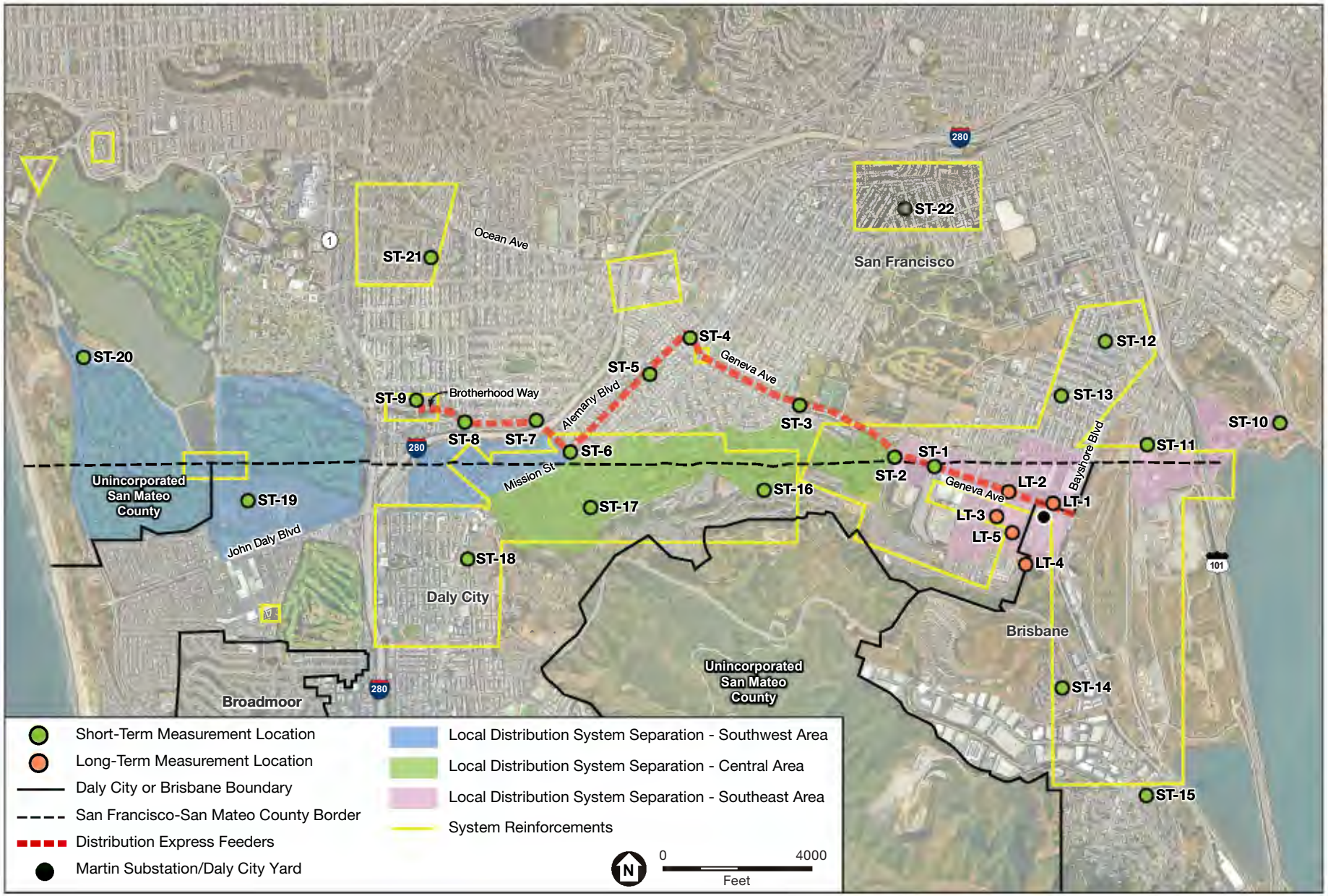
AMBIENT NOISE MEASUREMENTS

Five long-term sound level measurements were conducted around the project areas on February 26 through March 1, 2024, as indicated in **Figure 3.2-1**. Additionally, 21 short-term noise measurements were also collected on February 26 through March 1, 2024, at locations indicated in Figure 3.2-1.[17] The measured sound levels and the sources of sound are shown in **Table 3.2-3** (p. 3.2-8).

SENSITIVE RECEPTORS

Some land uses (and associated users) are considered more sensitive to ambient noise levels than others due to the types of activities typically involved with the land use and the amount of noise exposure (in terms of both exposure duration and insulation from noise). In general, occupants of residences, schools, daycare centers, hotels, hospitals, places of worship, and nursing homes are considered to be sensitive receptors (i.e., people who are sensitive to noise based on their specific activities, age, health, etc.).

[15] U.S. Department of Transportation, FTA, Transit Noise and Vibration Impact Assessment Manual (September 2018), p. 137, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed June 2024.
[16] U.S. Department of Transportation, FTA, Transit Noise and Vibration Impact Assessment Manual (September 2018), p. 120, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed June 2024.
[17] The sound level surveys were conducted using Larson Davis Model LxT2 sound level meters which were calibrated prior to use and operated according to the manufacturer's specifications.



SOURCE: Appendix E; Google Earth Aerial Imagery

PG&E Asset Acquisition Project

Figure 3.2-1
Noise Monitoring Locations

Table 3.2-3 Existing Noise Environment in the Vicinity of the Project Areas

Location[18]	Date and Time Period	Daytime[19] Leq dB	Nighttime[20] Leq dB	L90	Ldn	Noise Sources
LT-1 3175 Geneva Avenue, at Talbert Street	2/27/24 24-hour measurements	66	64	69	69	Vehicle and bus traffic on Geneva Avenue
LT-2 2929 Geneva Avenue, at Schwerin Street	2/27/24 24-hour measurements	72	65	72	71	Vehicle and bus traffic on Schwerin Street and Geneva Avenue
LT-3 792 Schwerin Street, at Otilia Street	2/27/24 24-hour measurements	72	65	72	71	Vehicle traffic on Schwerin Street and Otilia Street
LT-4 Across 100 Main Street	2/29/24 24-hour measurements	63	57	65	64	Vehicle traffic on Main Street
LT-5[21] Residences to the south of Daly City Yard (Midway Village)	2/26/24 10:09 a.m. to 10:24 a.m.	51	-	-	-	Trucks backing up in Daly City Yard and vehicle traffic on Schwerin Street
ST-1[22] 2201 Geneva Avenue	2/26/24 10:39 a.m. to 10:54 a.m.	68.7	NA	NA	NA	Vehicle and bus traffic on Geneva Avenue and Santos Street, amplified music across Santos Street, and nearby pedestrians talking
ST-2 103 Walbridge Street	2/26/24 11 a.m. to 11:15 a.m.	72.3	NA	NA	NA	Vehicle and bus traffic on Geneva Avenue and Carter Street, distant chainsaw used for tree removal
ST-3 600 Prague Street	2/28/24 11:18 a.m. to 11:33 a.m.	68.4	NA	NA	NA	Vehicle and bus traffic on Geneva Avenue and Prague Street, and nearby pedestrians talking
ST-4 820 Geneva Avenue	2/28/24 11:43 a.m. to 11:58 a.m.	69.6	NA	NA	NA	Vehicle and bus traffic on Geneva Avenue and Alemany Boulevard, and nearby pedestrians talking

[18] LT = Long Term. ST = Short Term.
[19] Daytime hours are 7 a.m. to 10 p.m.
[20] Nighttime hours are 10 p.m. to 7 a.m.
[21] No access for long-term measurement at LT-5. Short-term data reported.
[22] NA = data point not applicable to short term measurements.

Table 3.2-3 Existing Noise Environment in the Vicinity of the Project Areas

Location[18]	Date and Time Period	Daytime[19] Leq dB	Nighttime[20] Leq dB	L90	Ldn	Noise Sources
ST-5 98 Ottawa Avenue	2/28/24 12:03 p.m. to 12:18 p.m.	62.5	NA	NA	NA	Trucks backing up in Daly City Yard and vehicle traffic on Schwerin Street
ST-6 996 Huron Avenue	2/28/24 12:28 p.m. to 12:43 p.m.	65.2	NA	NA	NA	Vehicle and bus traffic on Alemany Boulevard and Ottawa Avenue, and nearby pedestrians talking
ST-7 106 Sagamore Street	3/1/24 9:22 a.m. to 9:38 a.m.	71.1	NA	NA	NA	Vehicle and bus traffic on Sagamore Street and on U.S. 280
ST-8 Orizaba Avenue, at Sagamore Street	3/1/24 9:46 a.m. to 10:01 a.m.	72.4	NA	NA	NA	Vehicle and bus traffic on Sagamore Street and Alemany Boulevard
ST-9 116 Arch Street	3/1/24 10:11 a.m. to 10:26 a.m.	64.4	NA	NA	NA	Distant traffic on Brotherhood Way
ST-10 4010 Crescent Court, at Harney Way	2/26/24 12:47 p.m. to 1:02 a.m.	59.9	NA	NA	NA	Vehicle traffic on Harney Way and distant bird vocalization
ST-11 465 Wheeler Avenue	2/26/24 12:19 p.m. to 12:34 p.m.	65.4	NA	NA	NA	Neighborhood vehicle traffic, street sweeper, and distant bird vocalization
ST-12 353 Harkness Avenue	2/26/24 11:42 a.m. to 12:07 p.m.	57.8	NA	NA	NA	Neighborhood vehicle traffic and nearby pedestrians talking
ST-13 241 Leland Avenue	2/26/24 11:29 a.m. to 11:45 a.m.	58.4	NA	NA	NA	Neighborhood vehicle traffic and nearby pedestrians talking
ST-14 163 Cliff Swallow Ct	2/26/24 1:23 p.m. to 1:38 p.m.	59.8	NA	NA	NA	Neighborhood vehicle traffic and nearby pedestrians talking
ST-15 30 Mariposa Street	2/26/24 1:48 p.m. to 2:03 p.m.	56.4	NA	NA	NA	Neighborhood vehicle traffic and distant bird vocalization
ST-16 464 S Hill Boulevard	2/28/24 1:15 p.m. to 1:31 p.m.	60.6	NA	NA	NA	Neighborhood vehicle traffic and distant string trimmer
ST-17 241 Leland Avenue	2/28/24 12:52 p.m. to 1:07 p.m.	59.5	NA	NA	NA	Neighborhood vehicle traffic and nearby pedestrians talking

Table 3.2-3 Existing Noise Environment in the Vicinity of the Project Areas

Location[18]	Date and Time Period	Daytime[19] Leq dB	Nighttime[20] Leq dB	L90	Ldn	Noise Sources
ST-18 500 Bellevue Avenue	3/1/24 1:06 p.m. to 1:22 p.m.	63.3	NA	NA	NA	Vehicle traffic on Hillside Boulevard and Mission Street
ST-19 66 Cliffside Drive	3/1/24 11:57 a.m. to 12:12 p.m.	54.7	NA	NA	NA	Neighborhood vehicle traffic and nearby pedestrians talking
ST-20 615D John Muir Drive	3/1/24 11:22 a.m. to 11:37 a.m.	60.1	NA	NA	NA	Vehicle and bus traffic on John Muir Drive and nearby pedestrians talking
ST-21 701 Urbano Drive, on De Soto Street	3/1/24 10:42 a.m. to 10:58 a.m.	52.1	NA	NA	NA	Neighborhood vehicle traffic and nearby pedestrians talking
ST-22 1750 Silliman Street	2/28/24 9:50 a.m. to 10:05 a.m.	55.8	NA	NA	NA	Neighborhood vehicle traffic and distant bird vocalization

Existing noise-sensitive receptors within 900 feet[23] of the project components are composed of residences, hotels, motels, and the Bayshore Elementary School, as listed below in **Table 3.2-4**. There are no existing hospitals or skilled nursing facilities within 900 feet of the project areas.

Table 3.2-4 Sensitive Receptors within 900 Feet of the Project Components

Type of Sensitive Receptor	Location[24]	Minimum Distance from Project Area Boundaries	Representative Monitoring Location
RECEPTORS NEAREST MARTIN SUBSTATION AND DALY CITY YARD			
Hotel and Motel Uses	3200 block of Geneva Avenue, Daly City	200/20 feet[25]	LT-1
Single Family Residential	3000 and 3100 blocks of Geneva Avenue, Daly City	200 feet	LT-1, LT-2
Bayshore Elementary School	155 Oriente Street, Daly City	300 feet	LT-3
Midway Village Multi-family Residential	Midway Village on 800 block of Schwerin Street, Daly City	150 feet	LT-5
Single Family Residential	100 block Main Street, Daly City	400 feet	LT-4

[23] This distance was selected because typical construction noise levels can affect a sensitive receptor at a distance of 900 feet if there is a direct line-of-sight between a noise source and a noise receptor (i.e., a piece of equipment generating 85 dBA would attenuate to 60 dBA over a distance of 900 feet).
[24] There are no sensitive receptors within areas of unincorporated San Mateo County within 900 feet of project components.
[25] For the project variant, this distance is reduced to 20 feet from trenching of transmission line on Geneva Avenue.

Table 3.2-4 Sensitive Receptors within 900 Feet of the Project Components

Type of Sensitive Receptor	Location[24]	Minimum Distance from Project Area Boundaries	Representative Monitoring Location
RECEPTORS NEAREST TO DISTRIBUTION EXPRESS FEEDER ALIGNMENT			
Hotel and Motel Uses	3200 block of Geneva Avenue, Daly City	15 feet	LT-1
Single Family Residential	3000 and 3100 blocks of Geneva Avenue, Daly City	15 feet	LT-1; LT-2
Single Family Residential	2600 and 2700 blocks of Geneva Avenue, Daly City	15 feet	LT-1
Single and Multi Family Residential	2200 to 2500 blocks of Geneva Avenue, Daly City	15 feet	ST-1
Single and Multi Family Residential	800 to 2100 blocks of Geneva Avenue, San Francisco	15 feet	ST-2; ST-3; ST-4
Single Family Residential	2200 to 2400 blocks of Alemany Boulevard, San Francisco	15 feet	ST-4; ST-5
Single Family Residential	400 to 900 blocks of Huron Avenue, San Francisco	15 feet	ST-5; ST-6
Single Family Residential	100 block of Sickles Avenue, San Francisco	15 feet	ST-6
Single Family Residential	100 to 200 blocks of Sagamore Street, San Francisco	15 feet	ST-7; ST-8
Single Family Residential	Termini of Bright, Head, Victoria, and Ramsell Streets, San Francisco	15 feet	ST-9
Single Family Residential	100 block of Arch Street, San Francisco	120 feet	ST-9
RECEPTORS NEAREST TO LOCAL DISTRIBUTION SYSTEM SEPARATION OR SYSTEM REINFORCEMENT WORK			
Multi Family Residential	Candlestick Point, San Francisco	15 feet	ST-10
Single Family Residential	Little Hollywood, San Francisco	15 feet	ST-11
Single Family Residential	Harkness Avenue, San Francisco	15 feet	ST-12
Single Family Residential	Visitacion Valley, San Francisco	15 feet	ST-13
Single Family Residential	Mission Blue Neighborhood, Brisbane	15 feet	ST-14
Single Family Residential	Central Brisbane	30 feet	ST-15
Single Family Residential	Southern Hills Neighborhood, Daly City	15 feet	ST-16
Single Family Residential	Crocker Neighborhood, Daly City	15 feet	ST-17
Single Family Residential	Hillside Neighborhood, Daly City	15 feet	ST-18
Single Family Residential	Westlake Neighborhood, Daly City	15 feet	ST-19
Multi Family Residential	John Muir Drive, San Francisco	15 feet	ST-20
Single Family Residential	Urbano Drive, San Francisco	15 feet	ST-21
Single Family Residential	Excelsior Neighborhood, San Francisco	15 feet	ST-22

SOURCE: Appendix E; Google Earth (Imagery Date 4/4/2022) for parcel data (address and distance to the site).

3.2.3 Regulatory Framework

3.2.3.1 FEDERAL

In 1972, the Noise Control Act (42 United States Code section 4901 et seq.) was passed by congress to promote limited noise environments in support of public health and welfare. It also established the United States Environmental Protection Agency (U.S. EPA) Office of Noise Abatement and Control to coordinate federal noise control activities. U.S. EPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects, which are summarized in **Table 3.2-5**.

Table 3.2-5 Summary of Noise Levels Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety

Effect	Level	Area
Hearing loss	< 70 dBA[26] (Leq, 24 hour)	All areas
Outdoor activity interference and annoyance	< 55 dBA (Ldn)	Outdoor residential areas and farms as well as other outdoor areas where people spend varying amounts of time and places where quiet is a basis for use
Outdoor activity interference and annoyance	< 55 dBA (Leq, 24 hour)	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	< 45 dBA (Ldn)	Indoor residential areas
Indoor activity interference and annoyance	< 45 dBA (Leq, 24 hour)	Other indoor areas with human activities, such as schools, etc.

SOURCE: U.S. EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.pdf, accessed June 2024.

U.S. EPA found that to prevent hearing loss over the lifetime of a receptor, the yearly average Leq should not exceed 70 dBA, and the Ldn should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance.[27] In 1982, noise control was largely passed to state and local governments.

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Code of Federal Regulations title 40, part 205, subpart B. The federal truck pass-by noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specified test procedures. These requirements are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

While the Transit Noise and Vibration Impact Assessment Manual of the Federal Transit Administration (FTA) is developed for determining significant noise and vibration impacts for transit projects and is not a regulation, it is one of the few federal sources that suggest both a methodology and criteria for assessing

[26] Yearly average equivalent sound levels in decibels; the exposure period that results in hearing loss at the identified level is 40 years.
[27] U.S. Environmental Protection Agency (U.S. EPA), Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, March 1974.

construction noise impacts. The FTA noise impact criteria used to assess construction impacts are identified in **Table 3.2-6**. These criteria are absolute contribution values from construction activity and are independent of existing background noise levels. If the FTA criteria (presented in Table 3.2-6) are exceeded, adverse noise impacts could occur.

Table 3.2-6 Federal Transit Administration (FTA) Construction Noise Impact Criteria

	Maximum 1-Hour dBA Leq[28]	
Land Use	Day	Night
Residential	90	80
Commercial	100	100
Industrial	100	100

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

In addition to building damage, vibration-sensitive receptors may experience annoyance with noise generated by groundborne vibration. As indicated in **Table 3.2-7**, the FTA's general assessment criteria for evaluating potential construction-generated vibration impacts treat annoyance related to interference with interior operations, sleep, and institutional daytime use as a function of the frequency of the vibration event according to three land use categories.

Table 3.2-7 Federal Transit Administration General Assessment Criteria for Groundborne Vibration

	Impact Levels (VdB; relative to 1 micro-inch per second)		
Land Use Category	Frequent Events[29]	Occasional Events[30]	Infrequent Events[31]
Category 1: Buildings where vibration would interfere with interior operations[32]	65	65	65
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

[28] dBA = A weighted decibels; Leq = average or constant sound level; Day = 7 a.m. to 10 p.m.; Night = 10 p.m. to 7 a.m.
[29] "Frequent events" is defined as more than 70 vibration events from the same source per day.
[30] "Occasional events" is defined as 30 to 70 vibration events from the same source per day.
[31] "Infrequent events" is defined as fewer than 30 vibration events from the same source per day.
[32] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define the acceptable vibration levels.

3.2.3.2 STATE

NOISE

The 2016 California Building Code (California Code of Regulations title 24, part 2) requires that walls and floor/ceiling assemblies separating dwelling units from each other, or from public or service areas, have a sound transmission class (STC) of at least 50, meaning they can reduce noise by a minimum of 50 dB.[33] Building Code section 1207.4, Allowable Interior Noise Levels, also specifies a maximum interior noise limit of 45 dBA (Ldn or CNEL) in habitable rooms, and requires that common interior walls and floor/ceiling assemblies meet a minimum STC rating of 50 for airborne noise. It also sets an interior performance standard of 45 dBA from exterior noise sources.

VIBRATION

There are no state regulations related to construction-induced vibration. However, the California Department of Transportation (Caltrans) consolidated vibration criteria from various sources for assessing the potential damage to structures from ground vibration induced by construction equipment, and they are included in their Transportation and Construction Vibration Guidance Manual[34] and summarized in **Table 3.2-8**. As indicated in this table, the building damage criteria for continuous vibration sources are about 50 percent lower than the criteria for transient sources.

Table 3.2-8 Caltrans Vibration Damage Potential Threshold Criteria

Structure Type and Condition	Maximum PPV (in/sec)[35]	
	Transient Sources[36]	Continuous or Frequent Intermittent Sources[37]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

SOURCE: Caltrans, *Transportation and Construction Vibration Guidance Manual*, April 2020.

[33] State Building Code section 1207.2.
[34] Caltrans, Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf, accessed December 2024.
[35] in/sec = inches per second; PPV = peak particle velocity
[36] Transient sources create a single, isolated vibration event, such as blasting or drop balls.
[37] Continuous or frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

3.2.3.3 LOCAL

SAN FRANCISCO GENERAL PLAN

The Environmental Protection Element of the San Francisco General Plan[38] contains Land Use Compatibility Guidelines for Community Noise for determining the compatibility of various land uses with different noise levels (see **Table 3.2-9**). These guidelines, which are similar to the state guidelines set forth by the Governor's Office of Land Use and Climate Innovation (formerly Office of Planning and Research),[39] indicate maximum acceptable noise levels for various land uses. Although this table presents a range of noise levels that are considered compatible or incompatible with various land uses, the maximum satisfactory noise level is 60 dBA (L_{dn}) for residential and hotel uses; 65 dBA (L_{dn}) for school classrooms, libraries, churches, and hospitals; 70 dBA (L_{dn}) for playgrounds, parks, office uses, retail commercial uses, and noise-sensitive manufacturing/ communications uses; and 77 dBA (L_{dn}) for other commercial uses such as wholesale, some retail, industrial/ manufacturing, transportation, communications, and utilities.

The Environmental Protection Element of the General Plan includes the following objectives and policies that pertain to noise: impose traffic restrictions to reduce transportation noise; discourage changes in streets that will result in greater traffic noise in noise-sensitive areas; minimize impact of noise on affected areas; promote site planning, building orientation and design, and interior layout that lessen noise intrusion; promote the incorporation of noise insulation materials in new construction; construct physical barriers to reduce noise transmission from heavy traffic carriers; and promote land uses that are compatible with various transportation noise levels.

SAN FRANCISCO POLICE CODE (NOISE ORDINANCE)

Sections 2907 and 2908 of the San Francisco Police Code regulate construction equipment and construction work at night. Section 2909 of the San Francisco Police Code limits noise from any machine, or device, music or entertainment, or any combination of such sources. Sections 2907 and 2908 are enforced by San Francisco Public Works (Public Works), and section 2909 is enforced by the San Francisco Department of Public Health. San Francisco Department of Building Inspection enforces limits for private projects and Public Works enforces limits for projects on public right of ways (streets, sidewalks, etc.). Summaries of these and other relevant sections are presented below.

San Francisco Police Code section 2907(a) limits noise from construction equipment to 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance. Exemptions to this requirement include: impact tools with approved mufflers, pavement breakers, and jackhammers provided they are equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the Director of Public Works or the Director of Building Inspection as best accomplishing maximum noise attenuation; and construction equipment used in connection with emergency work. Section 2907(b) requires that all exempted impact equipment be used with manufacturer-approved acoustic shields. San Francisco Police Code section 2908 prohibits nighttime construction (between 8 p.m. and 7 a.m.) that generates noise exceeding the ambient noise level by 5 dBA at the nearest property line unless a special permit has been issued by the City and County of San Francisco.

[38] City and County of San Francisco, 1996. *San Francisco General Plan*, Environmental Protection Element. San Francisco Planning Department. Adopted on June 27, 1996. https://generalplan.sfplanning.org/I6_Environmental_Protection.htm#ENV_TRA_11.
[39] Governor's Office of Planning and Research (OPR), 2017. *State of California General Plan Guidelines*.

Table 3.2-9 San Francisco Land Use Compatibility Chart for Community Noise

Satisfactory, with no special noise insulation requirements. Noise levels in this range are considered "Acceptable."

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Noise levels in this range are considered "Conditionally Acceptable."

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Noise levels in this range are considered "Conditionally Unacceptable."

New construction or development should generally not be undertaken. Noise levels in this range are considered "Unacceptable."

SOURCE: San Francisco Planning Department, *San Francisco General Plan*, Environmental Protection Element, adopted on June 27, 1996, https://generalplan.sfplanning.org/I6_Environmental_Protection.htm, accessed June 2024.

San Francisco Police Code section 2909 generally prohibits fixed mechanical equipment noise and music in excess of 5 dBA above the ambient noise level from residential sources, 8 dBA more than the ambient noise level from commercial and industrial sources, and 10 dBA more than the ambient noise level on public property at a distance of 25 feet or more. Specifically, section 2909(b) limits noise from sources, such as machines/devices or music or entertainment venues, or any combination of same, located on commercial/industrial property to 8 dBA above the local "ambient" noise level at any point outside the property line of the commercial/industrial property.

Section 2909(d) identifies the absolute maximum allowable level of interior noise, produced from any combination of mechanical device(s) and audio systems(s) under one ownership or use originating from outside the dwelling unit. The standards in section 2909(d) are 45 dBA between 10 p.m. and 7 a.m. and 55 dBA between 7 a.m. and 10 p.m. The standards may not apply to areas in which the ambient noise level exceeds the limits of the code.

COUNTY OF SAN MATEO GENERAL PLAN

While there is a portion of the southwest area designated for local distribution system separation and system reinforcements that would occur in unincorporated San Mateo County, land uses in this area consist primarily of The Olympic Club golf course and would not be considered noise-sensitive.

Policy 16.16 Construction Techniques Noise Control of the County General Plan directs the county to promote measures which incorporate noise control into the construction of existing and new buildings including, but not limited to, use of dense noise insulating building materials. However, there are no policies within the general plan that address establishing standards or reducing noise from construction activities.

SAN MATEO COUNTY CODE

Noise from construction activities is exempt from San Mateo County interior and exterior noise standards, provided it occurs within hours specified by San Mateo County Code section 4.88.360(e), which are between 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 am. to 5:00 p.m. on Saturdays. Construction is prohibited on Sundays, Thanksgiving, and Christmas.

CITY OF DALY CITY GENERAL PLAN

The Daly City Yard is located in Daly City and many of the closest receptors to the eastern portion of the distribution express feeders are located in Daly City. Therefore, applicable City of Daly City noise standards warrant discussion.

The Noise Element of the City of Daly City General Plan[40] contains the following policies and actions regarding noise and vibration that are salient to the proposed project:

> **Policy NE-2:** Use the State Office of Noise Control Guidelines as a guide to assess development that will need additional noise study and mitigations.
>
> > ***Task NE-2.1*:** Use the Noise Control Guidelines to assess the suitability of a site for new development in combination with the noise contours to accurately identify areas that may need additional noise study and mitigation. Noise mitigations include additional insulation, double glazing of windows

[40] City of Daly City. *Daly City 2030 General Plan*, adopted March 25, 2013. https://www.dalycity.org/DocumentCenter/View/903/Noise-Element-PDF.

and increasing building setbacks from the noise source. Mitigations should also be creative and attractive whenever possible and appropriate. Creative noise mitigation measures can include incorporation of fountains using water to mask freeway noise and noise walls of an appropriate scale painted with decorative murals.

Policy NE-3: *Maintain a CNEL level of not more than 70 dBA Leq in residential areas.*

***Task NE-3.1*:** Continue to enforce the environmental noise requirements of the State Building Code (Title 24).

***Task NE-3.2*:** Encourage noise insulation programs in areas that do not meet the current noise standard and ensure that future development is mitigated appropriately or avoided in areas where the noise levels exceed or is projected to exceed 70 dBA, Leq.

The Daly City 2030 General Plan states that construction noises are regulated through the environmental review process by the Engineering and Planning Division. Typically, construction activities are limited to the daytime hours, 8 a.m. to 5 p.m., and prohibited on weekends and holidays.

DALY CITY MUNICIPAL CODE

The Daly City municipal code does not have any specific restrictions on construction noise. Section 9.22.030 addresses disturbing the peace and has no quantitative limits; it prohibits noise disturbance between 10 p.m. and 6 a.m.

CITY OF BRISBANE GENERAL PLAN

The Community Health and Safety chapter of the City of Brisbane General Plan[41] contains the following policies and actions regarding noise and vibration that are salient to the proposed project:

Policy 176: Minimize the intrusion of unwarranted and intrusive noise on community life.

Policy 177: Maintain ongoing communication with County, State and Federal agencies in an effort to reduce noise impacts from regional uses.

Policy 180: Establish and enforce truck routes and times of operation for haul routes to minimize impacts on residential areas.

Policy 182: Support efforts to reduce vehicle trips and keep smooth traffic flow to the extent that the number of trips and stop-and-start traffic contribute to traffic noise.

Policy 183: Coordinate land uses and construction conditions to minimize noise impacts of the Caltrain corridor and major highway arterials on adjacent land uses.

Policy 184: In conjunction with development applications and other land use decisions, consider the potential for noise generation from, as well as noise impacts on, the project or area.

Program 184a: Use the State Guidelines for land use compatibility to determine noise impacted uses.

[41] City of Brisbane, *General Plan*, 2019, originally adopted June 21, 1994 (as amended through May 18, 2023). https://www.brisbaneca.org/cd/page/general-plan

Program 184b: Require acoustical studies for development applications in areas identified as noise impacted and potential noise generators.

Program 184c: For such projects, require a noise attenuation or a mitigation program to be submitted as a part of the project design.

Policy 187: Enforce noise standards.

Policy 189: In the Municipal Code, continue to restrict noise-producing construction activities to daytime hours of operation.

Program 189a: Continue to incorporate regulations in the Municipal Code to provide a framework to enforce noise standards and impose penalties for violations.

Program 189b: Periodically review the Municipal Code to update regulations based on new information and new technologies.

Program 189c: Periodically hold training sessions for City personnel to provide noise information and review enforcement procedures.

Program 189d: Provide information to citizens on how noise can be controlled and about City regulations and enforcement procedures.

BRISBANE MUNICIPAL CODE

Section 8.28.060 of the Brisbane Municipal Code establishes noise exposure limits for hours for site construction. The Brisbane Municipal Code restricts construction hours between 7 a.m. and 7 p.m. Monday through Friday, and 9 a.m. to 7 p.m. on weekends and holidays for development projects. There are no performance standards or limits applied to construction work performed within the public right-of-way under an encroachment permit.[42] Otherwise, construction, alteration, or repair activities are allowed if authorized by a valid city permit by meeting at least one of the following noise limitations:

A. No individual piece of equipment shall produce a noise level exceeding eighty-three (83) dBA at a distance of twenty-five (25) feet from the source thereof. If the device or other source is housed within a structure on the property, the measurement shall be made outside the structure, but at a distance as close to the equipment or source as possible.

B. The noise level at any point outside of the property plane of the project shall not exceed eighty-six (86) dBA.

Brisbane Municipal Code section 8.28.030 establishes exterior noise standards shown in **Table 3.2-10**. Noise levels may not be more than 10 dBA above the existing ambient noise level for a cumulative period of more than 10 minutes in a given hour, or more than 20 dBA above the ambient level for more than 3 minutes per hour, for single-family and multi-family residential zoning districts. Section 8.28.040 establishes that noise levels may not be more than 10 dBA above the existing ambient level for a cumulative period of more than 10 minutes in a given hour, and may not be more than 20 dBA above the ambient level for more than 3 minutes per hour for commercial and industrial zoning districts.

[42] Ayres, Julia, Principal Planner, City of Brisbane Community Development Department, e-mail communication to Julie Moore, Principal Environmental Planner at the San Francisco Planning Department Division of Environmental Planning, December 18, 2024.

Table 3.2-10 Noise Standards of the Brisbane Municipal Code

Land Use Type	Duration of Noise in Minutes within an Hour	Noise Standard as dBA increase Above Ambient
Single-Family Residential	Anytime	30
	3 minutes	20
	10 minutes	10
Multi-Family Residential	Anytime	30
	3 minutes	20
	10 minutes	10
Commercial / Industrial	Anytime	30
	3 minutes	20
	10 minutes	10

SOURCE: City of Brisbane Municipal Code Section 8.28.030.

Exceptions to requirements of chapter 8.28 (Noise Control) can be permitted by the Brisbane planning director. Specifically, per section 8.28.080 if an applicant demonstrates to the satisfaction of the Brisbane planning director that immediate compliance with the requirements of chapter 8.28 (including sections 8.28.060 and 8.28.030) would be impractical or unreasonable, then the planning director may issue a permit to allow exception from any or all of the provisions contained in chapter 8.28, with appropriate conditions to minimize the public detriment caused by such exceptions. Any such permit is to be as short duration as possible and conditioned by a schedule for compliance and details of methods thereof.

3.2.4 Impacts and Mitigation Measures

3.2.4.1 SIGNIFICANCE CRITERIA

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, as modified by the San Francisco Planning Department (planning department). For the purpose of this analysis, the following criteria were used to determine whether implementing the project would result in a significant effect related to noise and vibration. Implementation of the project or project variant would have a significant effect related to noise and vibration if the project or project variant would:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generate excessive groundborne vibration or groundborne noise levels; or
- For a project located within the vicinity of a private airstrip or an airport land use plan area, or where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, cause an increase of 1.5 dB or greater in aircraft noise, in noise-sensitive areas exposed to 65 CNEL or greater, as compared to existing baseline conditions.

The project is not within the vicinity of a private airstrip or airport land use plan area, or within two miles of a public airport. Therefore, the topic of long-term exposure of people residing or working in the area to excessive airport-related noise levels is not applicable to the project or project variant and is not discussed further in this EIR.

The criteria used in this Draft EIR for assessing the potential effects from the project or project variant are based on City and County of San Francisco, City of Brisbane, City of Daly City, and County of San Mateo regulatory guidance and on criteria developed by state and federal agencies for noise and vibration impacts (refer to **Tables 3.2-11** and **3.2-12** below).

Table 3.2-11 Noise Ordinances Applicable to the Project or Project Variant

Jurisdiction	Noise Source	Municipal Code	Requirement Summary
San Francisco	Construction	Police Code Section 2907	Prohibits noise levels greater than 80 dBA at 100 feet from single equipment per the San Francisco noise ordinance. Does not apply to impact equipment provided that such impact tools and equipment have intake and exhaust mufflers, and that pavement breakers and jack hammers are equipped with acoustically attenuating shields or shrouds.
	Nighttime Construction	Police Code Section 2908	Prohibits construction work between the hours of 8 p.m. of any day and 7 a.m. of the following day to erect, construct, demolish, excavate for, alter, or repair any building or structure if the noise level created thereby is in excess of the ambient noise level by 5 dBA at the nearest property plane, unless a special permit has been applied for and granted.[43]
	Operational Stationary Sources from Industrial or Commercial Land Use	Police Code Section 2909 (b)	Prohibits noise produced by any machine or device, on commercial or industrial property, that results a noise level that exceeds the local ambient by more than 8 dBA at any point outside of the property plane.

[43] Nighttime construction may be allowed if a special permit therefor has been applied for and granted by the Director of Public Works or the Director of Building Inspection. In granting such special permit the Director of Public Works or the Director of Building Inspection shall consider: if construction noise in the vicinity of the proposed work site would be less objectionable at night than during daytime because of different population levels or different neighboring activities if obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during daytime; if the kind of work to be performed emits noises at such a low level as to not cause significant disturbance in the vicinity of the work site, if the neighborhood of the proposed work site is primarily residential in character wherein sleep could be disturbed: if great economic hardship would occur if the work were spread over a longer timers if the work will abate or prevent hazard to life or property; y; and if the proposed night work is in the general public interest. The Director of Public Works or the Director of Building Inspection shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise emissions, as required in the public interest.

Table 3.2-11 Noise Ordinances Applicable to the Project or Project Variant

Jurisdiction	Noise Source	Municipal Code	Requirement Summary
	Nighttime Operational Sources	Police Code Section 2909 (d)	Restricts interior noise to 45 dBA between 10 p.m. and 7 a.m. and 55 dBA between 7 a.m. and 10 p.m. These are the absolute maximum allowable levels of interior noise produced from any combination of mechanical device(s) under one ownership/use originating from outside the dwelling unit.
Daly City	Construction (Daytime)	No Quantitative Standard	None
	Construction (Nighttime) and Operation	Section 9.22.030	Noise disturbance prohibited between 10 p.m. and 6 a.m.
Brisbane	Construction	Section 8.28.060. Exceptions allowed via Section 8.28.080	Except where work is performed within the right-of-way under an encroachment permit (which is exempt), construction work must meet at least one of the following noise limitations: A. No individual piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source B. The noise level at any point outside of the property plane of the project shall not exceed 86 dBA
	Nighttime Construction	Section 8.28.060. Exceptions allowed via Section 8.28.080	Prohibits construction between 7 p.m. and 7 a.m. Monday through Friday and 7 p.m. and 9 a.m. on weekends and holidays.
	Operation	Section 8.28.030. Exceptions allowed via Section 8.28.080	Prohibits noise produced by any machine or device that results a noise level that exceeds the local ambient by more than 10 dBA for 10 minutes or more in a single-family residential zoning district.
San Mateo County[44]	Construction	Section 4.88.360(e)	No quantitative standards. Construction activities allowed between 7 a.m. and 6 p.m. weekdays and 9 a.m. and 5 p.m. Saturdays.

[44] Project or project variant activities in unincorporated San Mateo County would be limited to local distribution system separation and system reinforcements, which do not include operational sources of noise. Therefore, this table only lists construction ordinance requirements for San Mateo County.

Table 3.2-12 Noise and Vibration Analysis Quantitative Criteria

Topic	Quantitative Criteria Applied
QUANTITATIVE CRITERIA APPLIED IN SAN FRANCISCO	
Daytime Construction Noise	Noise levels greater than 80 dBA at 100 feet from single equipment per the San Francisco noise ordinance Combined noise levels[45] greater than 90 dBA for residential and other noise-sensitive uses and 100 dBA for commercial and industrial land uses, using FTA combined equipment approach Combined noise levels[46] greater than 10 dBA above ambient at residential and other noise-sensitive uses, using FTA combined equipment approach
Nighttime Construction Noise	>45 dBA indoor noise levels at night, per recommendations of World Health Organization.[47] San Francisco Police Code section 2908 prohibits nighttime construction (between 8 p.m. and 7 a.m.) that generates noise exceeding the ambient noise level by 5 dBA at the nearest property line unless a special permit has been issued by the City and County of San Francisco.
Construction Roadway Noise	3 dBA or greater increase when sensitive receptors are located in noise-degraded environments 5 dBA or greater increase for commercial/industrial receptors, unless existing noise level exceeds 70 dBA
Operational Stationary Noise	>8 dBA increase at any point outside of the property plane >45 dBA at interior of nearest noise-sensitive receptor at night per San Francisco Noise ordinance >55 dBA at interior of nearest noise-sensitive receptor during the day per San Francisco Noise ordinance
Operational Roadway Noise	3 dBA or greater increase when sensitive receptors are located in noise-degraded environments 5 dBA or greater increase (commercial/industrial receptors, unless existing noise level exceeds 70 dBA)
Construction Vibration	Building damage criteria per Caltrans criteria presented in Table 3.2-8 FTA criteria presented in Table 3.2-7
QUANTITATIVE CRITERIA APPLIED IN DALY CITY AND UNINCORPORATED SAN MATEO COUNTY	
All Topics	The analysis applies the same quantitative criteria as in San Francisco because Daly City and San Mateo County municipal codes do not include quantitative criteria.

[45] The analysis calculates noise levels for the two noisiest pieces of equipment expected to be used simultaneously, consistent with the FTA general assessment approach.
[46] All receptors referred to in this impact analysis except commercial receptors are considered to be noise sensitive for purposes of this criterion. Existing noise-sensitive receptors within 900 feet of the project components are composed of residences, hotels, motels, and the Bayshore Elementary School, as listed in Table 3.2-4. Commercial and industrial receptors are considered sensitive if they are exposed to noise levels above 100 dBA.
[47] This criterion is also consistent with San Francisco's criteria applicable to nighttime noise from operational equipment.

Table 3.2-12 Noise and Vibration Analysis Quantitative Criteria

Topic	Quantitative Criteria Applied
QUANTITATIVE CRITERIA APPLIED IN BRISBANE	
Construction Noise	Construction noise is allowed during the hours of 7 a.m. to 7 p.m. weekdays as long as construction meets at least one of the following criteria: [48] • No individual piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source thereof. • The noise level at any point outside of the property plane of the project shall not exceed 86 dBA. Combined noise levels[49] greater than 90 dBA for residential uses and other noise-sensitive uses and 100 dBA for commercial and industrial land uses, using FTA combined equipment approach Combined noise levels[49] greater than 10 dBA above ambient at residential and other noise-sensitive uses, using FTA combined equipment approach
Operational Noise	For single-family residential, noise levels shall not be more than 10 dBA above ambient for a cumulative period of more than 10 minutes per hour or more than 20 dBA above ambient for more than 3 minutes per hour. For multi-family residential, noise levels shall not be more than 10 dBA above ambient 3 feet from any wall, floor, or ceiling in any dwelling unit for a cumulative period of more than 10 minutes per hour or more than 20 dBA above ambient for more than 3 minutes per hour. For commercial and industrial uses, noise levels shall not be more than 10 dBA above ambient for a cumulative period of more than 10 minutes per hour or more than 20 dBA above ambient for more than 3 minutes per hour.

SOURCES: Appendix E, Noise and Vibration Technical Memorandum.

3.2.4.2 APPROACH TO ANALYSIS

CONSTRUCTION IMPACTS

Construction Equipment Noise (Daytime and Nighttime)

Construction activities, including demolition, excavation, grading, foundation construction, buildout of utilities infrastructure, street improvements, and building construction, generate both noise and vibration that can affect nearby sensitive receptors.[50] Project construction is estimated to occur in phases over the course of approximately three years, starting in 2026, although construction could commence later depending on the project approval and implementation process. However, applying the most condensed construction schedule

[48] Consistent with City of Brisbane practice in planning documents, this analysis focuses on the second criterion.
[49] The analysis calculates noise levels for the two noisiest pieces of equipment expected to be used simultaneously, consistent with the FTA general assessment approach.
[50] All receptors referred to in this impact analysis except commercial receptors are considered to be noise sensitive for purposes of this criterion. Existing noise-sensitive receptors within 900 feet of the project components are composed of residences, hotels, motels, and the Bayshore Elementary School, as listed in Table 3.2-4. Commercial and industrial receptors are considered sensitive if they are exposed to noise levels above 100 dBA.

is conservative (i.e., would result in the noisiest conditions) because it assumes the maximum amount of equipment operations and truck hauling that would occur concurrently.

The analysis estimates construction noise levels using the general assessment approach recommended by the FTA, which recommends calculating noise levels for the two noisiest pieces of equipment expected to be used simultaneously. Therefore, the analysis calculates noise levels from the two loudest pieces of equipment operating at the same time for each construction phase. Construction equipment noise levels were estimated using the Federal Highway Administration's Roadway Construction Noise Model.

This analysis uses two methods to evaluate impacts from noise generated by construction equipment. First, the analysis compares the estimated construction noise levels to standards established in the local general plans or noise ordinances. Table 3.2-11 summarizes the requirements of San Francisco, Brisbane, and Daly City noise ordinances.

Second, the analysis applies the general assessment criteria of the FTA, which specify, for residential land uses, maximum noise levels of 90 dBA during daytime hours and 80 dBA during nighttime hours. For all other land uses the criterion is 100 dBA, during the daytime or nighttime. The planning department also evaluates whether construction noise would result in an increase of 10 dBA over existing noise levels ("ambient + 10 dBA") at sensitive receptors, which generally represents a perceived doubling of loudness. The quantitative criteria are only part of the evaluation of construction noise. The evaluation also considers the duration and intensity of any quantitative noise exceedance. Table 3.2-12 summarizes the noise and vibration analysis quantitative criteria.

To assess nighttime construction noise impacts, the analysis quantitatively evaluates whether construction would generate interior noise levels of 45 dBA or more at sensitive receptor locations. As discussed above, interior noise levels of 45 dBA or lower are generally necessary to prevent sleep disturbance. If estimated interior noise levels meet or exceed 45 dBA, the impact analysis evaluates the frequency, duration, and intensity of that noise above the quantitative standard to determine whether a significant nighttime construction noise impact would occur.

Construction Roadway Noise

During construction, haul trucks and construction vehicles would use roadways in the project vicinity. This analysis uses the Federal Highway Administration's Traffic Noise Prediction Model and existing noise levels along roadways to assess construction worker and truck traffic noise levels.

The following quantitative standards were applied to determine whether construction-related traffic from the project or project variant would result in significant noise impacts: (1) an increase of 3 dBA or more could be significant in places where the existing or resulting noise environment is "conditionally acceptable," "conditionally unacceptable," or "unacceptable," based on the land use compatibility chart (Table 3.2-9 for San Francisco; State Guidelines for land use compatibility for Daly City and Brisbane [see Appendix E]), because such areas are already exposed to higher-than-desired noise levels; and (2) an increase of 5 dBA or more could be significant everywhere else because, as discussed in Section 3.2.2, a 5 dBA increase in noise levels is readily noticeable. Because construction noise is temporary and would cease upon completion of construction activities, if construction traffic would exceed either of these quantitative standards, the impact analysis evaluates the frequency, duration, impacted sensitive receptors, and intensity of that noise above the quantitative standard to determine whether a significant construction noise impact would occur.

For construction truck trips for the Martin Substation separation, distribution express feeders, and new City Substation (project variant), the analysis examines noise increases along Geneva Avenue, Bayshore Boulevard, Alemany Boulevard, John Daly Boulevard, Lake Merced Boulevard, and Schwerin Street (potential staging area access), as these roadways would be used to access the Martin Substation site or the corridors along the distribution express feeders.

For truck trips generated during construction of the local distribution system separation, system reinforcements, operations control center, and operations and maintenance service yards (evaluated at a program level due to the level of detail currently available), the analysis focuses on the estimate of hourly truck trips generated. Impacts are assessed by determining whether the potential exists for a doubling of traffic sound energy and an associated noise increase of 3 dBA.[51]

Groundborne Vibration Levels and Criteria

The types of heavy equipment that produce perceptible levels of vibration include vibratory rollers, hoe rams, bulldozers, caisson drill rigs, large bulldozers, loaded trucks, and pile drivers. The FTA's Transit Noise and Vibration Impact Assessment Manual provides guidance for evaluating vibration impacts from construction, including prediction methods, assessment procedures, and impact criteria. Vibration levels attenuate with distance from the source, similar to noise levels. The analysis identifies potential vibration levels resulting from project or project variant construction at offsite and onsite structures, based on their distance from construction activities. Results from the vibration analysis are compared to the Caltrans Transportation and Construction Vibration Guidance Manual[52] criteria for potential damage to structures, as shown in Table 3.2-8, to assess construction vibration impacts on buildings or structures.

With respect to annoyance from construction-related vibration, a significant vibration impact would occur if the analysis finds that construction-related vibration at night could result in levels that exceed the FTA criteria for vibration effects on people, using the category 2 criteria (residential) presented in Table 3.2-7. Construction activities that would generate vibration, such as sheet pile driving and use of vibratory compaction equipment, are not proposed to occur during nighttime hours. Therefore, this document does not include nighttime vibration annoyance analysis.

With respect to construction-related vibration impacts on vibration-sensitive land uses, a significant impact would occur if the analysis finds that construction-related vibration could result in levels that exceed the FTA category 1 criteria presented in Table 3.2-7.

OPERATIONAL IMPACTS

Operational Stationary Source Noise Levels and Criteria

Operational stationary noise sources of the project and project variant would include electrical transformers (at the Martin Substation or the new City Substation), cooling equipment (associated with the transformers and heating, ventilation, air conditioning [HVAC] equipment for the operations control center), and a backup diesel generator (for the operations control center). The analysis uses modeled existing roadway noise in southeastern San Francisco as the ambient noise level for the operations control center (evaluated at a

[51] A 3 dBA increase is used as the threshold because the existing noise levels in the urbanized areas of the relevant roadways already exceed the "normally acceptable" land use compatibility standard for residential uses.
[52] Caltrans, Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf, accessed June 2024.

program level due to the level of detail currently available).[53] Other project components would not generate noise during operation.

To determine whether equipment at the operations control center or the new City Substation (project variant) would result in the exposure of persons to or would generate noise levels that exceed established noise standards, this analysis compares the project's stationary operational noise levels to the criteria established in section 2909 (b) of the San Francisco Police Code, which generally prohibits increases of 8 dBA or more over ambient noise levels at the property plane.

Operation of fixed mechanical equipment at the operations control center or new City Substation (project variant) is also considered with respect to section 2909(d) of the San Francisco noise ordinance (San Francisco Police Code). The ordinance establishes a standard that no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10 p.m. to 7 a.m. or 55 dBA between the hours of 7 a.m. to 10 p.m. with windows open, except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

The analysis evaluates noise from operation of fixed mechanical equipment at the Martin Substation (installed as part of the Martin Substation separation) by comparing the noise levels to section 8.28.060 of the Brisbane Municipal Code (see Tables 3.2-11 and 3.2-12).

With respect to noise from backup diesel generators, potential impacts are qualitatively assessed when two or fewer generators are proposed for any given building. This qualitative assessment considers the frequency of testing for maintenance purposes.

The California General Plan Guidelines[54] contain a table of recommended adjustments to standards for land use noise compatibility, which apply to noise in urban residential communities near relatively busy roads or industrial areas, such as Geneva Avenue, as well as for sources with a "pure tone character." These adjustments are considered in the analysis of the project and project variant to determine compliance with the relevant noise criteria.

Operational Roadway Noise Levels

To estimate future traffic noise levels along adjacent roadways, the analysis adds trip generation and traffic volume data prepared for the project (refer to Appendix G) to either existing vehicle volumes on Golden Gate Avenue (for workers at 525 Golden Gate Avenue) or the quietest City streets where existing noise levels are 60 dBA or less (for the operations control center or operations and maintenance service yards, evaluated at a program-level due to the level of detail currently available).

The noise levels were calculated using the algorithms of the Federal Highway Administration's Traffic Noise Model.

The CEQA Guidelines do not define the levels at which permanent and temporary increases in ambient noise are considered "substantial." Caltrans identifies an increase in traffic noise of 3 dBA as barely perceptible and an increase of 5 dBA as clearly perceptible. Therefore, permanent increases in ambient noise levels of 5 dBA

[53] San Francisco Planning Department, San Francisco Housing Element 2022 Update Environmental Impact Report, November 2022.
[54] Governor's Office of Planning and Research, State of California 2017 General Plan Guidelines, Appendix D: Noise Element Guidelines, Page 375, 2017. This document is available online at: http://opr.ca.gov/docs/OPR_Appendix_D_final.pdf.Accessed October 6, 2024.

or more are considered a significant noise impact in any existing or resulting noise environment. Additionally, it is widely accepted methodology by both FTA and the Federal Interagency Committee on Noise that thresholds should be more stringent for environments that are already noise impacted.[55] Accordingly, a quantitative analysis is used to assess the potential for noticeable (3 dBA) increases in roadside noise levels, assuming existing residential uses along the primary roadways used are outside of the clearly acceptable land use compatibility category of the general plan. For commercial or industrial receptors, the analysis applies a 5 dBA increase unless the existing noise level exceeds the 70 dBA clearly acceptable land use compatibility category for such uses, in which case the criterion for commercial or industrial receptors is 3 dBA.

To evaluate operational roadway noise levels on Golden Gate Avenue, where existing traffic volumes are known, the analysis considers whether the project would double traffic on Golden Gate Avenue, which would create a 3 dBA increase in noise levels.

Groundborne Vibration

Once construction is complete, the project or project variant would not involve the use of heavy machinery that is associated with large commercial or industrial uses. As such, no sources of excessive groundborne vibration are anticipated as part of operation of the project or project variant.

CUMULATIVE IMPACTS

Section 3.1.5, Approach to Cumulative Impact Analysis and Cumulative Projects, describes the overall approach used in this EIR to conduct the cumulative analysis; refer to Table 3.1-3 and Figure 3.1-1 for descriptions and locations of potential cumulative projects in the vicinity of the project areas.

Cumulative construction noise and vibration impacts are assessed using a list-based approach of cumulative projects located within 900 feet of the project components and expected to be under construction at the same time as the project or project variant. While the specific locations of the operations control center and operations and maintenance service yards are not yet identified, for the cumulative impact analysis they were conservatively assumed to be located near reasonably foreseeable large construction projects in southeastern San Francisco (from Table 3.1-3). Cumulative projects that meet these criteria and could affect the same noise-sensitive receptors (those located adjacent to or near the project areas or along shared construction haul routes) are identified below under Impacts C-NO-1 and C-NO-3.

As relevant, the cumulative impact analysis also considers the effects of project implementation in conjunction with overall citywide growth and other cumulative projects. The cumulative impact analysis considers whether the effects of project implementation, in combination with other cumulative projects, would cause a significant, adverse cumulative impact, and if so, whether the project's contribution to the cumulative impact would be considerable. Both conditions must apply for a project to result in a significant cumulative impact.

Cumulative stationary source noise impacts are assessed qualitatively given that specifics of the contributions of other cumulative projects are not known quantitatively.

[55] Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, p. 2-44.

With respect to traffic noise, project traffic contributions are added to the 2050 roadway noise levels estimated for the San Francisco Housing Element 2022 Update EIR which identified significant and unavoidable cumulative traffic noise impacts along some roadway segments.

3.2.4.3 IMPACT EVALUATION

Impact NO-1: Construction of the project or project variant would generate a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. ***(Significant and Unavoidable with Mitigation)***

The project would involve construction associated with the Martin Substation separation, linear project components (distribution express feeders, local distribution system separation and system reinforcements), the operations control center, operations and maintenance service yards, and modifications to retain access to PG&E facilities at Potrero Substation. The project variant would involve the same construction activities except a new City Substation would be constructed at the Daly City Yard instead of completing the Martin Substation separation.

Project construction in San Francisco would generally proceed Monday through Friday, except holidays, between 7 a.m. and 8 p.m. A generator would likely operate 24 hours per day at launching and receiving pits associated with trenchless tunnelling if needed for construction of the distribution express feeders. Construction in Brisbane and Daly City would generally proceed from 7 a.m. to 7 p.m. on weekdays and from 9 a.m. to 7 p.m. on weekends and holidays. Construction in unincorporated areas of San Mateo County would generally proceed between 7 a.m. and 6 p.m. on weekdays and 9 a.m. and 5 p.m. on Saturdays, consistent with the county's ordinance.

Project or project variant construction would require the use of heavy equipment. During each stage of a given construction phase, there would be a different mix of equipment. Construction activity noise levels at and near the project site would fluctuate depending on the type, number, and duration of use of the various pieces of construction equipment.

This impact discussion is organized by project component and considers whether the various project components would generate a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance. Multiple project components that have similar impacts are discussed together. The linear underground work required for the distribution express feeders, local distribution system separation, and system reinforcements is discussed together, with separate sections for standard trenching and trenchless construction.

Martin Substation Separation, Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation, and Construction Staging

Martin Substation Separation and Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation

The Martin Substation separation would reconfigure the existing PG&E-owned Martin Substation by adding or relocating cable terminations, circuit breakers, cable trenches, revenue meters, and transformer locations within the existing substation fence. Construction work for the Martin Substation separation would occur in Brisbane and is therefore subject to the City of Brisbane noise ordinance. No nighttime construction using

heavy equipment would occur during the Martin Substation separation. Modifications to retain PG&E access to gas facilities at the Martin Substation would require similar or quieter equipment as the Martin Substation separation. As shown in Table 3.2-11, construction activities in Brisbane are required to meet at least one of two noise limitations: either no individual piece of equipment shall produce a noise level exceeding 83 dBA at 25 feet, or the construction noise level shall not exceed 86 dBA at any point outside of the property plane of the project. Most common construction equipment generate noise in excess of 83 dBA at 25 feet, so this analysis considers whether project construction in Brisbane would exceed 86 dBA at any point outside the property plane.

Noise levels from the Martin Substation separation at the property plane and at the nearest off-site sensitive receptor were calculated in the Technical Noise Memorandum (Appendix E) to be 77 dBA and 73 dBA, respectively, both of which would be below the City of Brisbane municipal code standard of 86 dBA at the property plane. Therefore, the Martin Substation separation would not increase noise levels in excess of applicable standards, and the project would have a ***less than significant*** impact.

Construction Staging at Daly City Yard

Due to the limited space at Martin Substation, the Daly City Yard would serve as the primary staging/laydown area for separation work at Martin Substation. No excavation would be required during staging activities, and the area would support storage of construction equipment, material, and stockpiles, as well as employee parking. Loaders and dump trucks would be the loudest equipment used at the construction staging area during construction. As discussed in Table 3.2-11, the Daly City municipal code does not have any restrictions on construction noise. The Daly City 2030 General Plan states that construction noises are regulated through the environmental review process by the Engineering and Planning Division but does not provide quantitative standards. Therefore, staging activities of the project would not conflict with the Daly City noise ordinance or General Plan noise standards, and the project would have a ***less-than-significant*** impact.

Linear Underground Components (Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, and Distribution/Transmission Lines [Project Variant])

The linear underground components consist of the distribution express feeders and the underground work for the local distribution system separation and system reinforcements (the local distribution system separation and system reinforcements are evaluated at a program level due to the level of detail currently available). Under the project variant, new incoming transmission lines would be installed from the Martin Substation to the new City Substation and outgoing distribution and transmission lines from the new City Substation to the existing distribution and transmission system. Typically, equipment used for underground work generate higher noise levels than those used for overhead work; therefore, this analysis presents noise results for underground work associated with the local distribution system separation and system reinforcements. Construction of linear underground components would include excavation of trenches and installation of electric equipment, followed by backfilling and returning the area to existing grade. The distribution express feeders include potential trenchless tunneling in San Francisco near San Jose Avenue, and the associated pits could require overnight dewatering to maintain dry equipment; otherwise, all linear underground components would use the same construction equipment and therefore are evaluated together.

Linear components would be constructed in San Francisco, Daly City, Brisbane, and San Mateo County. However, this analysis evaluates compliance with the requirements of San Francisco Police Code section 2907 for construction noise from linear underground components because the City of Daly City and San Mateo County do not have quantitative construction noise standards and the City of Brisbane

construction noise standards do not apply to construction work in the right-of-way. Section 2907 prohibits noise levels greater than 80 dBA at 100 feet from single equipment.

The analysis also considers compliance with San Francisco Police Code sections 2908 and 2909(d) for the overnight operation of generators at the trenchless construction pits near San Jose Avenue in San Francisco.

Trenching for All Linear Underground Components – Daytime Only

San Francisco Police Code Section 2907

Table 3.2-13 shows the hourly noise levels (L_{max}) produced by common construction equipment at various distances, including 50 feet and 100 feet, between the equipment and noise receptor. It should be noted that L_{max} noise levels associated with the construction equipment would only be generated when equipment is operated at full power.

Table 3.2-13 Maximum Noise Levels from Construction Equipment

Construction Equipment	Noise Level at 15 Feet (dB, L_{max})	Noise Level at 25 Feet (dB, L_{max})	Noise Level at 50 Feet (dB, L_{max})	Noise Level at 100 Feet (dB, L_{max})
Air Compressor	88	84	78	72
Auger Drill Rig	95	90	84	78
Backhoe	88	84	78	72
Cable Pulling Equipment	96	91	85	79
Compactor	94	89	83	77
Concrete Saw	100	89	90	**84**
Crane	91	87	81	75
Dump Truck	87	83	76	70
Excavator	91	87	81	75
Front End Loader	90	85	79	73
Generator	91	87	81	75
Jack Hammer	99	95	89	83
Lift/Bucket Truck	85	81	75	69
Line Truck (Crane-and Augur-Mounted)	91	87	73	67
Paver	88	83	77	71
Plate Compactor	94	89	76	71
Pile Driver (Impact or Vibratory)	112	107	101	95
Pump	91	87	81	75
Roller	91	86	80	74
Street Sweep	92	78	82	76
Tractor	95	90	84	78
Water Wagon (Water Buffalo)	81	76	74	68

SOURCE: Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, 2006.

NOTE: Bolded values are in excess of San Francisco Police Code Section 2907 standard of 80 dBA at 100 feet (excluding impact equipment).

As shown in Table 3.2-13, the only piece of non-impact equipment that would generate noise levels greater than 80 dBA at a distance of 100 feet is a concrete saw. Concrete saws are used for relatively detailed short-term demolition work, such as removing concrete from a specific area of a street or sidewalk. Concrete cutting is a ubiquitous activity performed for utility work throughout San Francisco. Concrete saw operations progress at a rate of approximately 8 feet per minute.[56] Hence, to cut both sides of a trench for a 250-foot block, a concrete saw would need to operate for approximately one hour. While use of a concrete saw within San Francisco generates noise levels in excess of the standard established in the noise ordinance, the limited duration for which it affects a given sensitive receptor does not represent a substantial temporary increase in ambient noise.

Given that all construction equipment except the concrete saw would meet the limits specified in the noise ordinance for non-impact equipment and the limited duration of concrete saw use, linear underground components would be expected to comply with the section 2907 standard. Therefore, trenching for linear underground components would not result in a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, and the impact would be ***less than significant***.

Trenchless Construction Activities for Distribution Express Feeders

Daytime Construction Noise

Construction of the distribution express feeders may include sheet pile driving (vibratory) for trenchless construction pits that could be necessary to cross San Jose Avenue. As shown in Table 3.2-13, vibratory pile drivers generate a noise level of 101 dBA at a distance of 50 feet. This activity would occur in San Francisco. Impact equipment, which includes both vibratory and impact pile drivers, as defined in the San Francisco Police Code, are exempt from section 2907 of the San Francisco Police Code. The trenchless construction pits would also require dewatering until they are ready to be backfilled for which pumps powered by generators would need to be operated 24 hours a day. Both pumps and generators would meet the requirements of San Francisco Police Code Section 2907 (i.e., would generate less than 80 dBA at 100 feet), as indicated in Table 3.2-13. This activity would therefore have a ***less-than-significant*** impact with respect to generation of daytime noise levels exceeding standards found in the local noise ordinance.

Nighttime Construction Noise

At the trenchless construction pits, generators would be required to operate pumps overnight. This would be the only nighttime activity involving heavy construction equipment associated with any project component. San Francisco Police Code section 2908 prohibits construction work between the hours of 8 p.m. of any day and 7 a.m. of the following day if the noise level created exceeds the ambient noise level by 5 dBA at the nearest property plane, unless a special permit has been applied for and granted.

The operation of generators would result in nighttime noise levels of up to 88 dBA Leq[57] at a worst-case distance of 15 feet from the work area to the nearest property boundary, which for conservative analysis purposes is assumed to be a residential use. These generators would operate for the duration of the

[56] Black Diamond, *How Fast Can I Cut Through Concrete?,* May 3, 2019, https://diamondkingtools.com/blog/how-fast-can-i-cut-through-concrete-feet-per-minute/ accessed December 10, 2024.

[57] Variations in noise exposure over time are typically expressed in terms of a steady-state energy level (Leq) that represents the acoustical energy measured over a 24-hour period. For purposes of evaluating noise increases over ambient levels, such as required for compliance with San Francisco Police Code section 2908, Leq is used instead of, for example, Lmax.

trenchless construction work while launching and receiving pits are open, approximately one month. Existing noise levels were monitored to be 71 dBA in this area, largely due to the proximity of vehicle traffic on I-280 and major at-grade arterials. Applying a threshold of 5 dBA in excess of this noise level (76 dBA), the San Francisco Police Code section 2908 criterion could be exceeded if generators are located closer than 65 feet to the nearest property plane. As indicated in Table 3.2-11, Section 2908 allows for nighttime work in excess of 5 dBA at the property plane if a permit is applied for and granted by the Director of Public Works or the Director of Building Inspection. Nevertheless, nighttime generator operation would be a significant impact with respect to exposure of people to, or generation of, noise levels in excess of local standards. Implementation of **Mitigation Measure M-NO-1 (Construction Noise Control for Generator Operations)** would address this potentially significant noise impact. This measure would apply if generators were located closer than 65 feet from the nearest residential property plane and would require SFPUC to select equipment capable of meeting the criterion of section 2908, or provide shielding of enclosures necessary to meet the criterion of section 2908, or a combination of these measures. With implementation of Mitigation Measure M-NO-1, this potential nighttime construction noise impact would be reduced, but may not achieve a sufficient noise reduction to meet San Francisco Police Code section 2908. Therefore, even with implementation of Mitigation Measure M-NO-1, the nighttime construction noise impact would be ***significant and unavoidable with mitigation***.

Mitigation Measure M-NO-1: Construction Noise Control for Generator Operations

This measure applies to: Distribution Express Feeders (if trenchless construction method is used within 65 feet of a residence)

Prior to construction, the SFPUC shall submit documentation to the Environmental Review Officer (ERO) or the ERO's designee demonstrating with reasonable certainty that the nighttime operation of generators associated with dewatering of trenchless construction pits meets San Francisco Police Code section 2908 requirements (i.e., does not create noise exceeding the ambient noise level by 5 dBA at the nearest property plane). The dewatering approach shall be designed to meet a performance standard of no more than 5 dBA above ambient levels by implementing one or more of the following available measures:

1. Select "quiet" generators for dewatering of trenchless construction pits; and/or
2. Provide acoustical enclosures for generators.

Significance after Mitigation: While enclosing or shielding stationary noise sources from neighboring noise-sensitive properties with noise barriers have the potential to reduce noise levels by 5 to 10 dBA,[58] the nighttime noise levels could still exceed the 5 dBA above ambient standard within 65 feet of receptors, and the impact would be ***significant and unavoidable with mitigation***.

Operations Control Center, Operations and Maintenance Service Yards, and Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

The operations control center and operations and maintenance service yards would be located in southeastern San Francisco, although the exact locations of the proposed facilities are not known. Underground utility work would occur at the operations control center. The SFPUC would complete curb cuts and fence installation at operations and maintenance service yards and at Potrero Substation. No nighttime construction work would

[58] Federal Highway Administration, Keeping the Noise Down, Highway Traffic Noise Barriers, February 2001, https://www.fhwa.dot.gov/Environment/noise/noise_barriers/design_construction/keepdown.pdf, accessed on October 4, 2024

be required; therefore, this analysis applies the San Francisco Police Code section 2907 limit of 80 dBA at 100 feet from construction equipment to evaluate daytime construction noise.

As shown in Table 3.2-13, the only piece of non-impact equipment that would generate noise levels greater than 80 dBA at a distance of 100 feet is a concrete saw, which would be used for relatively detailed demolition work, such as opening up a specific area of a street or sidewalk. As discussed above under the linear underground components, concrete saw operations progress at a rate of approximately 8 feet per minute and would take approximately one hour to cut both sides of a trench for a 250-foot block, hence, concrete saw operations to cut a utility trench or driveway would be brief. While use of a concrete saw within San Francisco generates noise levels in excess of the standard established in the noise ordinance, the length of time the activity affects a given sensitive receptor does not represent a substantial temporary increase in ambient noise. Given that all equipment except the concrete saw would meet the limit specified in the noise ordinance, and given the limited duration of concrete saw use, noise levels resulting from the individual pieces of equipment used for construction activities at the operations control center, operations and maintenance service yards, and Potrero Substation would not result in a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, and the impact would be ***less than significant***.

New City Substation (Project Variant)

As a variant of the project, a new, gas-insulated substation (the new City Substation) would be constructed at the Daly City Yard. The components of the project variant would be the same as those of the project except that (1) the project variant would include construction of the new City Substation instead of the separation work at the existing Martin Substation, (2) the distribution express feeders would originate from the new City Substation, and (3) new incoming transmission lines would be installed from the Martin Substation to the new City Substation and outgoing distribution and transmission lines from the new City Substation to the existing distribution and transmission system. Impacts associated with the distribution express feeders and new transmission and distribution lines are evaluated above under Linear Underground Components. The new City Substation and its nearest sensitive receptors are located in Daly City. Construction of the new City Substation would generally proceed from 7 a.m. to 7 p.m. on weekdays and from 9 a.m. to 7 p.m. on weekends and holidays. The Daly City municipal code and General Plan provide no quantitative standards for acceptable construction noise levels, therefore, construction activities of the variant would meet the conditions of the Daly City noise ordinance, and the impact would be ***less than significant***.

Summary

Except for concrete saw use, daytime construction noise from all project components would comply with noise ordinance limits of the cities of Brisbane, San Francisco, Daly City, and San Mateo County. While noise levels at the nearest off-site sensitive receptor during concrete cutting could exceed the City and County of San Francisco standard of 80 dBA at 100 feet, the duration of concrete cutting activity in the vicinity of any sensitive receptor would be limited. While noise from concrete cutting activities would be noticeable, due to the limited duration of concrete cutting activities, daytime construction of the project or project variant would not result in a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance.

Nighttime generator use to maintain dewatering at trenchless construction pits could exceed San Francisco Police Code section 2908 requirements. Implementation of **Mitigation Measure M-NO-1 (Construction**

Noise Control for Generator Operations) would reduce impacts by requiring the SFPUC to select equipment capable of meeting the criterion of Section 2908, or provide shielding of enclosures necessary to meet the criterion of Section 2908, or a combination of these measures. With implementation of Mitigation Measure M-NO-1, this potential nighttime impact would be reduced but may not achieve a sufficient noise reduction to meet San Francisco Police Code section 2908 and the nighttime construction noise impact would be ***significant and unavoidable with mitigation***.

Impact NO-2: Construction of the project or project variant would result in a substantial temporary increase in ambient noise. (*Significant and Unavoidable with Mitigation*)

This analysis evaluates whether project or project variant construction activities would result in an increase in ambient noise levels greater than 10 dBA at the nearest sensitive receptors. This analysis also considers whether project or project variant construction noise would exceed 90 dBA or 80 dBA at residential receptors for daytime or nighttime, respectively, or 100 dBA at a commercial receptor. Additionally, this analysis assesses whether project or project variant construction noise would result in nighttime interior noise levels in excess of 45 dBA in locations where people would reasonably be expected to sleep (residences, hotels, nursing homes). If the project exceeds these noise levels, it is then evaluated if the project construction would result in a substantial temporary increase in ambient noise.

The following subsections summarize the results of the assessment of each construction phase for all project components. The resultant noise levels (adjusted for equipment usage and distance) at the most affected sensitive receptor locations are identified and then compared to the relevant criteria. **Table 3.2-14**, below, provides a summary of noise levels that would be generated by construction of the project components as described in detail in Appendix E. For components with multiple construction phases (such as Martin Substation separation), Table 3.2-14 presents noise levels from the loudest construction phase.

Martin Substation Separation, Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation, and Construction Staging

Daytime Construction Noise

Construction activities using heavy equipment for Martin Substation separation or modifications to retain PG&E access to Martin Substation would occur during daytime hours. Nearby offsite sensitive receptors in the vicinity of Martin Substation separation work would be in Daly City and include residences across Geneva Avenue, Mylo Hotel, Geneva Motel, Bridgepoint Inn Daly City, Bayshore Elementary School, residences across Schwerin Street, Midway Village, and residences across Main Street. Of these locations, the nearest sensitive receptor would be residences in the 3100 block of Geneva Avenue at approximately 200 feet from the proposed work areas at the Martin Substation.

As shown in Table 3.2-14, daytime construction noise levels from the two loudest equipment (concrete saw and jack hammer) used during Martin Substation separation construction would not exceed the FTA's 90 dBA criterion for daytime construction noise at any residential sensitive receptor. In addition, the two loudest equipment would generate noise levels of 96 dBA Leq at 15 feet, which is the approximate distance to the nearest commercial receptor (at the corner of Geneva Avenue and Bayshore Boulevard) and therefore Martin Substation separation would not exceed the 100 dBA criterion at any commercial receptor.

Table 3.2-14 Summary of Estimated Noise Levels at Sensitive Receptors During Project Construction

Component	Construction Phase or Activity	Location	Loudest Two Pieces of Equipment	Combined Equipment Noise Level at 50 Feet (dBA Leq)	Distance to Nearest Sensitive Receptor (Feet)[59]	Attenuated Noise Level at Nearest Sensitive Receptor (dBA Leq)	Exceed 90 or 100 dBA Leq at Nearest Sensitive Receptor?[60]
Martin Substation	Site Excavation	Brisbane	Concrete Saw/ Jack Hammer	90	115/200[61]	77/74[62]	No
					15 (commercial)[62]	96	No
	Staging at Daly City Yard	Daly City	Loader/ Dump Truck	79	350	60	No
Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements (Linear Underground Construction)	Trenchless Construction: Sheet Pile Driving	San Francisco	Vibratory Pile Driver/Tractor	101	15	104	Yes
	Standard Trenching: Trench Opening	San Francisco, Daly City, Brisbane	Concrete Saw/ Jack Hammer	90	15	96	Yes
	Standard Trenching: Excavation	San Francisco, Daly City, Brisbane	Excavator/ Tractor	78	15	92	Yes
Operations Control Center, Service Yards	Trench Opening	San Francisco	Concrete Saw/Jack Hammer	90	60/15[63]	84/96	Yes
Modifications to Retain Access at Potrero Substation	Trench Opening	San Francisco	Crane/Jack Hammer	82	300	67	No
New City Substation (Project Variant)	Site Excavation	Daly City	Tractor/ Impact Pile Driver	101	200	82	No

SOURCES: Appendix E, Noise and Vibration Technical Memorandum.

[59] The approximate distances are measured from the nearest edge of the construction activity to the nearest receptor property line. Unless otherwise noted, all receptors are residential and therefore considered sensitive receptors for purposes of analysis.
[60] As stated in Table 3.2-12, a criterion of 90 dBA is applied for residential and other noise-sensitive uses and 100 dBA for commercial and industrial land uses.
[61] Work area would be 115 feet from the property plane and 200 feet from the nearest sensitive receptor (across Geneva Avenue).
[62] Commercial and industrial receptors are considered sensitive if they are exposed to noise levels above 100 dBA.
[63] Work area could be 60 feet from a sensitive receptor across the street or 15 feet from an adjacent sensitive receptor.

Table 3.2-15 presents construction noise levels from Martin Substation separation at nearby sensitive receptor locations. Modifications to retain PG&E access to non-electrical facilities at Martin Substation would require similar or quieter equipment as Martin Substation separation, and therefore only the noise levels from the Martin Substation separation are shown. Daytime construction noise levels would result in an increase of greater than 10 dBA over ambient noise levels at the Midway Village residences for all phases, primarily because the existing ambient noise levels in this area are low. Increases at all other sensitive receptors would be less than 10 dBA.[64] Because construction noise from Martin Substation could result in an increase of greater than 10 dBA over existing levels at Midway Village residences, **Mitigation Measure M-NO-2 (Construction Noise Control for the Martin Substation and New City Substation**), is identified to reduce temporary increases in noise levels.

Mitigation Measure M-NO-2: Construction Noise Control for the Martin Substation and New City Substation

This measure applies to: Martin Substation Separation, New City Substation (Project Variant)

The SFPUC shall submit a project-specific construction noise control plan to the Environmental Review Officer (ERO) or the ERO's designee for approval prior to the start of construction for the Martin Substation separation and the new City Substation. The construction noise control plan shall apply to construction activities at the Martin Substation and the new City Substation. The construction noise control plan shall be prepared by a qualified acoustical engineer, with input from the construction contractor, and include noise control measures that meet a performance target of construction activities not resulting in a noise level greater than 90 dBA 1-hour L_{eq}, and 10 dBA above the ambient noise level at noise sensitive receptors (residences, hospitals, convalescent homes, schools, churches, hotels and motels). The SFPUC shall ensure that requirements for the development and implementation of the construction noise control plan are included in contract specifications.

The construction noise control plan shall include, but not be limited to, the following measures to reduce construction noise levels and meet a performance target of construction activities not resulting in a noise level greater than 90 dBA 1-hour L_{eq}, and 10 dBA above the ambient noise level at noise sensitive receptors:

- Use construction equipment that is in good working order, and inspect mufflers for proper functionality;
- Select "quiet" construction methods and equipment (e.g., improved mufflers, use of intake silencers, engine enclosures);
- Use construction equipment with lower noise emission ratings whenever possible, particularly for air compressors;
- Prohibit the idling of inactive construction equipment for more than five minutes;
- Locate stationary noise sources (such as compressors) as far from nearby noise sensitive receptors as possible, and muffle such noise sources;
- Avoid placing stationary noise-generating equipment (e.g., generators, compressors) within noise-sensitive buffer areas (as determined by the acoustical engineer) immediately adjacent to neighbors;

[64] As shown in Table 3.2-14, the nearest commercial receptor would be exposed to noise levels less than 100 dBA and therefore is not considered sensitive.

- Enclose or shield stationary noise sources from neighboring noise-sensitive properties with noise barriers to the extent feasible; and
- Install temporary barriers, barrier-backed sound curtains and/or acoustical panels around working powered impact equipment and, if necessary, around the project site perimeter, where needed. When temporary barrier units are joined together, the mating surfaces shall be flush with each other. Gaps between barrier units, and between the bottom edge of the barrier panels and the ground, shall be closed with material that completely closes the gaps, and dense enough to attenuate noise.

The construction noise control plan shall include the following measures, with input from SFPUC Public Outreach, including notifying the public of construction activities, complaint procedures and monitoring of construction noise levels:

- Designation of an on-site construction noise manager for the project;
- Notification of neighboring noise sensitive receptors within 300 feet of the project construction area at least 30 days in advance of high-intensity noise-generating activities (e.g., pier drilling, pile driving, and other activities that may generate noise levels greater than 90 dBA at noise sensitive receptors or 100 dBA at commercial receptors) about the estimated duration of the activity;
- A procedure for notifying the planning department of any noise complaints within one week of receiving a complaint;
- A list of measures for responding to and tracking complaints pertaining to construction noise. Such measures may include the evaluation and implementation of additional noise controls at sensitive receptors; and
- Conduct noise monitoring (measurements) at the beginning of major construction phases (e.g., demolition, grading, excavation) and during high-intensity construction activities to determine the effectiveness of noise attenuation measures and, if necessary, implement additional noise control measures. Noise monitoring locations shall be approved in the noise control plan by the planning department. The program shall be set up to alert the construction manager or other designated person(s) when noise levels exceed allowable limits (10 dBA above established ambient levels or 90 dBA). If noise levels are found to exceed applicable noise limits due to construction-related activities, corrective action shall be taken, such as moving specific construction activities if feasible, fixing faulty or poorly operating equipment, or installing stationary or portable barriers.

The construction noise control plan shall include the following additional measures during pile-driving activities:

- When pile driving is to occur within 600 feet of a noise-sensitive receptor, implement “quiet” pile-driving technology (such as pre-drilling of piles, sonic pile drivers, auger cast-in-place, or drilled-displacement, or the use of more than one pile driver to shorten the total pile-driving duration or other applicable methods [only if such measure is preferable to reduce impacts to sensitive receptors]), where feasible in consideration of geotechnical and structural requirements and conditions; and
- Where the use of driven impact piles cannot be avoided due to geotechnical and structural requirements and conditions, properly fit impact pile driving equipment with an intake and exhaust muffler and a sound-attenuating shroud, as specified by the manufacturer.

Table 3.2-15 Summary of Construction Noise Levels for the Martin Substation Separation Compared to the Temporary Substantial Increase Over Ambient Noise Threshold

Nearest Offsite Sensitive Receptor	Distance to Receptor (feet)[65]	Existing Monitored Daytime Noise Level (dBA L_{eq})	Construction Phase	Loudest Two Noise Sources	Estimated Construction Noise Level (dBA L_{eq})	Resultant Noise Level (Existing + Construction) (dBA L_{eq})	Increase over Existing (dBA L_{eq})	Exceed 10 dBA Above the Ambient Noise Level?[66]
Residences at Midway Village (LT-5)	460	51	Site Excavation	Jack Hammer/ Concrete Saw	65	65	+14	**Yes**
			Concrete Foundations	Tractor/ Generator	65	65	+14	**Yes**
			Backfill and Grading	Tractor/ Generator	65	65	+14	**Yes**
			Placement of Facilities	Jack Hammer/ Generator	64	64	+13	**Yes**
			Equipment and Gate Installation	Jack Hammer/ Tractor	63	63	+12	**Yes**
Residences at 3100 Block of Geneva Avenue (LT-1)	200	66	Site Excavation	Jack Hammer/ Concrete Saw	73	74	+8	No
			Concrete Foundations	Tractor/ Generator	73	74	+8	No
			Backfill and Grading	Tractor/ Generator	73	74	+8	No
			Placement of Facilities	Jack Hammer/ Generator	72	73	+7	No
			Equipment and Gate Installation	Jack Hammer/ Tractor	70	73	+7	No

[65] The approximate distances are measured from the nearest edge of the construction activity to the nearest sensitive receptor property line.
[66] **Bolded** values exceed the 10 dBA over ambient criterion during daytime hours.

Table 3.2-15 Summary of Construction Noise Levels for the Martin Substation Separation Compared to the Temporary Substantial Increase Over Ambient Noise Threshold

Nearest Offsite Sensitive Receptor	Distance to Receptor (feet)[65]	Existing Monitored Daytime Noise Level (dBA L_{eq})	Construction Phase	Loudest Two Noise Sources	Estimated Construction Noise Level (dBA L_{eq})	Resultant Noise Level (Existing + Construction) (dBA L_{eq})	Increase over Existing (dBA L_{eq})	Exceed 10 dBA Above the Ambient Noise Level?[66]
Residences at 800 Block of Schwerin Street (LT-3)	820	72	Site Excavation	Jack Hammer/ Concrete Saw	60	72	<1	No
			Concrete Foundations	Tractor/ Generator	58	72	<1	No
			Backfill and Grading	Tractor/ Generator	58	72	<1	No
			Placement of Facilities	Jack Hammer/ Generator	59	72	<1	No
			Equipment and Gate Installation	Jack Hammer/ Tractor	60	72	<1	No
Residences at 100 Block of Main Street (LT-4)	850	63	Site Excavation	Jack Hammer/ Concrete Saw	61	65	+2	No
			Concrete Foundations	Tractor/ Generator	60	65	+2	No
			Backfill and Grading	Tractor/ Generator	60	65	+2	No
			Placement of Facilities	Jack Hammer/ Generator	59	65	+2	No
			Equipment and Gate Installation	Jack Hammer/ Generator	57	64	+1	No

Significance after Mitigation: This measure would implement a construction noise control plan to include all feasible measures to meet a performance target of construction activities not resulting in a noise level greater than 10 dBA above the ambient noise level at noise sensitive receptors. These methods include: enclosing or shielding stationary noise sources from neighboring noise-sensitive properties with noise barriers and installation of temporary barriers, barrier-backed sound curtains and/or acoustical panels around working powered impact equipment and, if necessary, around the project site perimeter; and locating stationary noise-producing equipment as far from noise-sensitive receptors as possible.[67] Construction noise may, at times, still exceed 90 dBA 1-hour Leq or 10 dBA above the ambient noise level, given the existing low ambient levels at the Midway Village receptors. While this mitigation measure would substantially reduce the intensity of construction noise, due to the 33-month duration of construction activity and low existing ambient noise levels, the construction noise impact of Martin Substation separation would be ***significant and unavoidable with mitigation***.

Due to the limited space at Martin Substation, the Daly City Yard would serve as the primary staging/laydown area for separation work at the Martin Substation. No excavation would be required during staging activities, and the area would support storage of construction equipment, material, and stockpiles, and employee parking. Prior to any work or staging at the Daly City Yard, existing trailers and other PG&E equipment would need to be relocated. The noise level generated during staging activities would be 60 dBA Leq, approximately 9 dBA over the existing ambient noise level at the nearest sensitive receptor (Midway Village) located approximately 350 feet from the Daly City Yard.[68] Construction staging activity noise levels would not result in an increase of greater than 10 dBA over existing noise levels at the nearest receptors. For these reasons, the impact of construction staging on ambient noise levels would be ***less than significant***.

Nighttime Construction Noise

Night work may be required at Martin Substation to stay on schedule. Tasks such as outage switching, cable splicing, electrical connections, low voltage wiring, and relay modifications would be completed at night. These tasks typically use hand tools, various electrical testing and metering devices, and task lighting powered by electricity. These tools and meters are not noise-intensive and may be completed at night without substantial disturbance to the public. Construction activities using heavy machinery, pile driving, and other major construction work would occur only during normal daytime hours (construction in Brisbane would generally proceed from 7 a.m. to 7 p.m. on weekdays and from 9 a.m. to 7 p.m. on weekends and holidays). For these reasons, this nighttime construction noise impact would be ***less than significant***.

Linear Underground Components (Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements)

Construction activities associated with the linear underground components would include excavation of trenches and installation of electric equipment, followed by backfilling and returning the area to existing grade. All linear underground components would use the same construction equipment for trenching and therefore are evaluated together. Additionally, the distribution express feeders include potential trenchless tunneling in San Francisco near San Jose Avenue, which would require sheet pile driving and overnight dewatering of associated pits using pumps powered by generators to maintain dry equipment. These trenchless construction activities are individually addressed below.

[67] Federal Highway Administration, Keeping the Noise Down, Highway Traffic Noise Barriers, February 2001, https://www.fhwa.dot.gov/Environment/noise/noise_barriers/design_construction/keepdown.pdf, accessed on October 4, 2024
[68] Refer to Table 16 of Appendix E, Noise and Vibration Technical Memorandum.

During construction of linear underground components, the nearest sensitive receptors would include single- and multi-family residences and hotel and motel uses located as close as approximately 15 feet from in-road construction of linear underground components. Although exact locations of local distribution system separation and system reinforcements are not known, this is likely the shortest distance between the public right-of-way and residences.

Trenching for All Linear Underground Components

As shown in Table 3.2-14, at an assumed worst-case distance of 15 feet to the nearest residential sensitive receptor, use of a concrete saw and jack hammer during trenching could generate a noise level of 96 dBA which would increase noise by more than 10 dBA over the 63 to 71 dBA Leq ambient noise level. However, the duration of exposure for any given sensitive receptor is limited because concrete cutting progresses relatively quickly (approximately 8 feet per minute). Once the trench is open, excavation work would generate noise levels of 92 dBA which would also increase noise at sensitive receptors by more than 10 dBA over ambient at an assumed worst-case distance of 15 feet. At a rate of 40 feet per day, excavation work would affect a receptor for a relatively short period (approximately two weeks). As construction approaches and passes each receptor, exposure would typically occur when work is conducted within approximately 280 feet[69] of a given receptor. In addition, the short-term noise of trenching construction activities is ubiquitous for in-street utility work conducted throughout urbanized areas and this noise is typical for an urban noise environment. Therefore, while increased noise levels from linear underground components would, at times, be substantial, due to the limited duration of exposure to any given receptor, construction noise from trenching for the linear underground components would result in a ***less-than-significant*** impact.

Trenchless Construction Activities for Distribution Express Feeders

Daytime Construction Noise

One launching pit and one receiving pit would be needed if trenchless construction work for the distribution express feeders crossing San Jose Avenue is needed. Shoring of these pits would require installation of sheet piles using a vibratory pile driver which would take about five days to complete per pit. The exact locations of the pits have yet to be determined but noise from pile driving would exceed the FTA 90 dBA daytime noise criteria for any receptor within 85 feet of pile driving activity.[70] With respect to the FTA 100 dBA criterion applicable to commercial uses, this criterion would be exceeded for any commercial receptor within 26 feet of pile driving activity. Additionally, the 10 dBA over ambient criterion would be exceeded for receptors in the area within 250 feet of pile driving activity.

Although noise levels generated by sheet pile driving could exceed these quantitative criteria, the duration of the exceedance (five days or less per pit) would be limited. In addition, the short-term noise of utility work is common throughout urbanized areas and the associated noise is typical for an urban noise environment. Noise from boring/directional drilling would result from operation of an auger drill, that would be shielded within the bottom of the launch pit which would substantially attenuate drill noise (84 L_{max} at 50 feet). A reduction of 15 dBA may reasonably be expected from an earthen berm[71], effectively reducing noise to 69 dBA. The trenchless construction pits would also require dewatering using pumps powered by generators

[69] Within 280 feet, noise from excavation would attenuate to 67 dBA Leq which would be a less than 10 dBA increase for all receptors.
[70] Appendix E, Noise and Vibration Technical Memorandum.
[71] https://www.mvcommission.org/sites/default/files/docs/Noise%20Mitigation%20Information%20-%20Federal%20Highway%20Admin%20DOT.pdf#:~:text=A%20berm%20can%20provide%20noise%20attenuation%20of,and%20fences%20which%20are%20used%20as%20barriers.

until they are ready to be backfilled. The auger drill, which would operate within the launch pit, and the generator would be the loudest two pieces of equipment once the pits are constructed and generate a combined noise level of 89 dBA, which would not exceed 90 dBA but would be greater than 10 dBA over ambient. Pits would remain open for about one month.

As discussed above in Impact NO-1 with respect to generator operations, **Mitigation Measure M-NO-1** (**Construction Noise Control for Generator Operations)** would reduce impacts from generator noise by using a combination of pit locations and shielding, as appropriate. Reducing the generator noise contribution to the combined construction noise levels would reduce the increase in construction noise to 10 dBA above existing daytime conditions; therefore, with implementation of **Mitigation Measure M-NO-1** the daytime noise impact from equipment associated with trenchless construction pits would be reduced to ***less than significant with mitigation***.

Nighttime Construction Noise

Dewatering of the trenchless construction pits would be needed 24 hours a day until they are ready to be backfilled. Therefore, generators would operate overnight during this period which, along with nighttime separation work involving use of hand tools and various electrical testing and metering devices, would be the only nighttime work associated with these project components. The quantitative criteria that apply to nighttime construction work (other than San Francisco Police Code section 2908 discussed in Impact NO-1) include whether such work would result an interior noise level in excess of 45 dBA at nearby receptors where people would reasonably be expected to sleep.

Pumps would be powered by generators that could result in nighttime noise levels of up to 88 dBA Leq at a worst-case distance of 15 feet, assuming a standard generator. Applying an exterior-to-interior noise reduction of 15 dBA attributable to standard building construction materials and windows open[72] results in an estimated interior noise level of 73 dBA. This noise level would exceed the nighttime criterion of 45 dBA which could be exceeded if pumps are located closer than 350 feet to residential uses. The duration of this impact would be approximately 1 month. Implementation of **Mitigation Measure M-NO-1** (**Construction Noise Control for Generator Operations)**, identified above in Impact NO-1 with respect to nighttime construction work in excess of the standards of Police Code section 2908, would reduce this impact for the reasons discussed in Impact NO-1. With Implementation of Mitigation Measure M-NO-1 (Construction Noise Control for Generator Operations), this potential nighttime impact would be reduced, but may not achieve a sufficient noise reduction to avoid generating interior noise levels above 45 dBA at sensitive receptor locations for about one month. Therefore, with implementation of Mitigation Measure M-NO-1 the nighttime construction noise impact would be ***significant and unavoidable with mitigation***.

Mitigation Measure M-NO-1: Construction Noise Control for Generator Operations (Impact NO-1)

Operations Control Center, Operations and Maintenance Service Yards, and Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

Construction work for the operations control center, the operations and maintenance service yards, and Potrero Substation modifications would occur in San Francisco. The locations of the operations control

[72] U.S. EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.pdf, accessed June 2024.

center and operations and maintenance service yards are not presently known but could be within an industrial-zoned area adjacent to residential receptors.

While the existing building selected for the operations control center may require exterior utility construction work (approximately two months or less), the vast majority of work would be interior renovations. Interior renovation work would generally not require off-road construction equipment and noise would be shielded within the buildings' enclosures. Exterior construction would primarily consist of excavation to upgrade utility connections for the building. This would involve equipment and work durations similar to the standard trenching equipment for the linear underground components discussed above (approximately 40 feet per day).

The closest receptors to the operations control center exterior work could be adjacent or across the street. At these proximities the highest construction noise levels could be 84 to 96 dBA for operations control center construction (see Table 3.2-14), depending on distance. These highest noise levels would result from limited trench opening activities using concrete saws or jackhammers. Once the trench is open, excavation work would generate noise levels of 92 dBA which would also increase noise at sensitive receptors by more than 10 dBA at an assumed worst-case distance of 15 feet. At a rate of 40 feet per day, excavation work would affect a receptor for a relatively short period (days to weeks). Construction noise associated with the operations control center exterior work could occasionally exceed the 90 dBA criterion at an immediately adjacent sensitive receptor and could, occasionally, exceed 10 dBA over the existing ambient noise level, depending on location. However, the duration of peak exposure would be limited, as trench opening activities are only anticipated to occur for less than a week at the operations control center while the remainder of the work would primarily be interior. The exterior work would be typical for city streets and the loudest equipment would be used for only portions of the day.

Construction at the operations and maintenance service yards and Potrero Substation would consist of minor site modifications, such as fencing and driveway additions or improvements. Construction at the service yards could potentially be adjacent to a sensitive receptor and noise levels could, at times, exceed 90 dBA, depending on the equipment used. However, construction of fencing would reasonably be expected to be of relatively short duration (approximately two weeks) and would not result in a substantial temporary increase in ambient noise at potential adjacent receptors.

Receptors would be 300 feet or farther away from the Potrero Substation site. At this distance the noise levels from construction equipment would be 67 dBA, which is similar to existing ambient noise levels in the area.[73] Some receptors would also be shielded by existing intervening three-story structures that would reasonably be expected to reduce construction noise. During construction of the project or project variant, ambient noise levels at receptors that are not shielded by existing buildings would increase by 2.5 dBA, which would be less than 10 dBA over the existing ambient noise level. Furthermore, the duration of construction would be limited to a total of approximately 2 weeks.

Given the limited duration of the noise exposure at any given receptor, the impacts of noise from construction of the operations control center, operations and maintenance service yards, and Potrero Substation modifications would be ***less than significant***.

[73] San Francisco Planning Department, Potrero Power Station Mixed-Use Development Project Draft Environmental Impact Report, October 2018, p. 4.F-8.

New City Substation (Project Variant)

Construction of the new City Substation (project variant) would include activities similar to those of the Martin Substation separation, with the addition of pile driving during site excavation and preparation, which is estimated to occur over a 15-week period. **Table 3.2-16** shows the noise levels that would be generated during the five primary phases of construction for the new City Substation. As shown in Table 3.2-16, the estimated noise levels generated by construction of the new City Substation (project variant) would range from 70 to 82 dBA Leq at the nearest sensitive receptors. Construction noise levels would not exceed the 90 dBA criteria for daytime construction noise at a residential receptor or 100 dBA at a commercial receptor but would result in an increase of greater than 10 dBA over existing noise levels at the Midway Village receptors for all construction phases. **Mitigation Measure M-NO-2 (Construction Noise Control for the Martin Substation and New City Substation)** is identified to reduce temporary increases in noise levels. However, pile driving for the project variant would substantially increase noise levels well beyond the 10 dBA over ambient standard and the ambient noise level is low; therefore mitigation to achieve a 21 dBA reduction would likely not be feasible. In addition, while the duration of pile driving would be limited to one construction phase, noise level exceedances would also occur during all subsequent phases (total duration of 26 months). While this mitigation measure would substantially reduce the intensity of construction noise, due to the 26-month duration of construction activity and low existing ambient noise levels, the construction noise impact of the new City Substation (project variant) would be ***significant and unavoidable with mitigation***.

Construction Roadway Noise

Project construction would generate haul and vendor truck trips. The analysis of construction roadway noise focuses on the estimate of hourly truck trips generated and the degree to which they would add to the existing noise levels measured at representative locations in each area. If the contribution of hourly construction trucks would be equivalent to the existing measured daytime noise level, then the potential exists for a doubling of sound energy and an increase of 3 dBA. A 3 dBA increase is applied because the roadways examined are arterial roadways where existing noise levels already exceed the general plan's normally acceptable noise exposure category for residential land uses. Caltrans characterizes an increase in traffic noise of 3 dBA as barely perceptible.

The number of daily truck trips associated with project construction activities is provided in Appendix E. The number of average daily truck trips associated with all project components except the distribution express feeders and new City Substation (project variant) would be 16 or fewer daily one-way trips which, when spread across a workday would be two truck trips per hour or fewer. This number of truck trips would not double roadways volumes on local roadways and therefore would not increase roadway noise levels by any noticeable amount.

The potential exists for simultaneous construction work on the distribution express feeders, local distribution system separation, and system reinforcements in areas along the county border. The construction work for the distribution express feeders, local distribution system separation, and system reinforcement combined would generate 56 daily one-way truck trips and 34 daily one-way worker trips. Distributing these trips over the assumed 10-hour workday results in 5.6 truck trips and 3.4 worker trips per hour. These additional construction trips would be reasonably expected to coincide with the active work in a particular area at a given point in time for no more than one month. Noise measurements conducted along the distribution express feeders alignment (ST-1 through ST-9) indicate that the lowest noise levels occur along Alemany Boulevard at ST-5 with a recorded value of 63 dBA. Alemany Boulevard would be affected by the project's construction noise.

Table 3.2-16 Exterior Noise at Offsite Sensitive Uses from Construction of the New City Substation (Project Variant)

Nearest Offsite Sensitive Receptor	Distance to Receptor (feet)[74]	Existing Monitored Daytime Noise Level (dBA L_{eq})	Construction Phase	Loudest Two Noise Sources	Estimated Construction Noise Level (dBA L_{eq})	Resultant Noise Level (Existing + Construction) (dBA L_{eq})	Increase over Existing (dBA L_{eq})	Exceed 10 dBA Above the Ambient Noise Level?[75]
Residences at Midway Village (LT-5)	200	51	Site Excavation and Preparation	Tractor/ Pile Driver	82	82	+31	**Yes**
			Concrete Foundations	Tractor/ Generator	70	70	+19	**Yes**
			Backfill and Grading	Tractor/ Generator	70	70	+19	**Yes**
			Placement of Facilities	Jack Hammer/ Generator	71	71	+20	**Yes**
			Equipment and Gate Installation	Tractor/ Generator	70	70	+19	**Yes**
Bayshore Elementary School (LT-3)	300	72	Site Excavation and Preparation	Tractor/ Pile Driver	79	80	+8	No
			Concrete Foundations	Tractor/ Generator	66	73	+1	No
			Backfill and Grading	Tractor/ Generator	66	73	+1	No
			Placement of Facilities	Jack Hammer/ Generator	68	74	+2	No
			Equipment and Gate Installation	Tractor/ Generator	66	73	+1	No

SOURCE: Appendix E, Noise and Vibration Technical Memorandum

[74] The approximate distances are measured from the nearest edge of the construction activity to the nearest sensitive -receptor property line.
[75] **Bolded** values exceed the 10 dBA over ambient criterion during daytime hours.

Approximately six additional hourly heavy-duty trucks and three worker vehicles would contribute an additional 50 dBA to this roadway (see Appendix E), resulting in an increase of 0.3 dBA to the hourly noise level which would be a less than 3 dBA increase. All other roadways have greater existing ambient noise levels and would experience an even smaller increase in noise.

Simultaneous construction work could occur on the Martin Substation separation or the new City Substation (project variant), the distribution express feeders, the local distribution system separation and system reinforcements in the same general area of eastern Geneva Avenue and could contribute truck and worker traffic to the designated construction truck haul routes. Consequently, an aggregate analysis of all truck and worker trips along the designated haul routes was conducted. Estimated construction traffic associated with the new City Substation (project variant) is higher than traffic for the Martin Substation separation; for this reason, the analysis uses construction traffic associated with the new City Substation (project variant).

Construction work for the new City Substation (project variant), distribution express feeders, local distribution system separation, and system reinforcements combined would generate 110 daily one-way truck trips and 44 worker trips. Distributing these trips over the assumed 10-hour workday results in approximately 11 truck trips and 4 worker trips per hour and could occur for up to approximately two months (the estimated duration of local distribution system separation or system reinforcements work in one area). Existing noise on Geneva Avenue near the proposed construction access to the new City Substation was measured as 72 dBA. The approximately 11 additional hourly heavy-duty trucks and 4 worker vehicles would contribute an additional 53 dBA to this roadway (see Appendix E), resulting in an increase of 0.5 dBA to the hourly noise level, which would be a less than 3 dBA increase.

Average daily construction trips for each of these project components were allocated to the designated haul routes and the resulting noise level contributions were added to the existing measured or modeled levels along these roadways to assess whether noise levels would increase by 3 dBA or more. The result of this modeling is explained in detail in Appendix E. All roadways are predicted to experience an increase of less than 1 dBA and, thus, the impact from increases in roadway noise from construction trips would be ***less than significant***.

Summary

Construction activities could increase noise levels in excess of 10 dBA over ambient for work conducted for the Martin Substation separation, the new City Substation (project variant), and generator use to maintain dewatering at trenchless construction pits associated with the distribution express feeders. Implementation of **Mitigation Measure M-NO-2 (Construction Noise Control for the Martin Substation and New City Substation)** and **Mitigation Measure M-NO-1 (Construction Noise Control for Generator Operations)** would reduce temporary increases in noise levels.

Mitigation Measures M-NO-2 and M-NO-1 would reduce construction noise associated with the Martin Substation separation; however, daytime construction noise levels would not be reduced to a less-than-significant level. Additionally, it is unlikely that the necessary reduction in daytime noise level could be achieved for the new City Substation (project variant). Therefore, even with implementation of Mitigation Measure M-NO-2, daytime construction noise levels associated with the Martin Substation separation or the new City Substation (project variant) would exceed 10 dBA above the ambient noise level over a 33 or 26-month period, respectively. For these reasons, the construction noise impact of the Martin Substation separation or the new City Substation (project variant) would be ***significant and unavoidable with mitigation***.

Implementation of Mitigation Measure M-NO-1 would reduce temporary increases in ambient noise during trenchless construction for the distribution express feeders, including to levels below daytime noise criteria, but may not achieve a sufficient noise reduction to avoid generating nighttime interior noise levels above 45 dBA at sensitive receptor locations. Thus, the construction noise impact associated with dewatering at the trenchless construction pits would be ***significant and unavoidable with mitigation*** for both the project and the project variant.

Impact NO-3: Project or project variant operations would cause a substantial permanent increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project, in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (*Significant and Unavoidable with Mitigation*)

Martin Substation Separation

Two new transformers installed as part of the Martin Substation separation would emit noise during operation. Transformer noise consists of two components: a pure-tone or "hum" noise and noise from cooling fans.[76] The California General Plan Guidelines[77] contains a table of recommended adjustments to standards for land use noise compatibility. For noisy urban residential communities near relatively busy roads or industrial areas, such as Geneva Avenue, a -5 dBA correction is recommended (i.e., when evaluating whether a noise source would increase ambient noise levels, reduce the estimated noise of the new source by 5 dBA), while for sources with a "pure tone character," a +5 dBA correction is recommended. Because these two conditions cancel out each adjustment, no adjustment is warranted to analyze the transformer noise associated with the project to determine compliance with the relevant noise criteria. Based on the type of transformers proposed, each transformer could generate a noise level up to 55 dBA at 6 feet;[78] when combined, two transformers would generate noise levels of 58 dBA.[79]

All sensitive receptors within 900 feet of Martin Substation are located in Daly City. As stated in Table 3.2-12, the City of Daly City does not have quantitative operational noise standards. Because the new or modified stationary sources at Martin Substation would exist within Brisbane, the analysis applies the City of Brisbane standards.[80] The most stringent restriction of the Brisbane Municipal Code prohibits noise produced by any machine, animal or device or any combination of same, in any commercial or industrial zoning district from generating a noise level more than 10 dBA above the local ambient to any receiver for a cumulative period of more than 10 minutes in any hour.

The exact location of new transformers on the Martin Substation site is currently unknown, but for the purposes of this noise analysis it is assumed to be no closer than 6 feet to the property line at Geneva Avenue. The ambient L90 noise level recorded at the northern property line (LT-2) was 48 dBA. Assuming the

[76] Substation transformers would include cooling fans that would operate approximately five hours each day between May 1 and October 31.
[77] Governor's Office of Planning and Research, State of California 2017 General Plan Guidelines, Appendix D: Noise Element Guidelines, Page 375, 2017. This document is available online at: http://opr.ca.gov/docs/OPR_Appendix_D_final.pdf.Accessed October 6, 2024.
[78] National Electrical Manufacturers Association. 2019. NEMA Standards Publication TR 1-2013 (R2019) Transformers, Step Voltage Regulators and Reactors.
[79] OMNI calculator, sound pressure distance attenuation calculator. Available at: https://www.omnicalculator.com/physics/distance-attenuation
[80] This analysis conservatively applies the most stringent standard of Section 8.28.030 of the Brisbane Municipal Code (greater than 10 dBA above local ambient to any receiver for more than 10 minutes in any hour). Noise from transformers is assumed to be steady-state (more than 10 minutes in a given hour). This standard is consistent with the San Francisco Police Code Section 2909 (c) standard which is the same standard regardless of the duration in an hour.

two proposed transformers would operate at 58 dBA at a distance of 6 feet, the transformer noise level at receptors at a distance of 6 feet from the closest property line of Martin Substation to the north would be 58 dBA. Therefore, transformer noise from the project would not exceed 10 dBA over the ambient noise level at the closest property line. Given that buildings attenuate noise by at least 15 dBA with windows open, transformer noise also would not result in an interior noise level at the nearest residence in excess of 45 dBA. The operational noise impact of the Martin Substation separation would, therefore, be ***less than significant***.

Operations Control Center

Although the location of the operations control center within southeastern San Francisco is unknown, the SFPUC would likely install a backup generator and HVAC equipment at the operations control center. Because the location of the operations control center is currently unknown, the analysis conservatively assumes noise-sensitive uses would be adjacent to the operations control center.

The proposed backup diesel generator would be operated no more than the permitted limit of 50 hours per year for maintenance purposes. The analysis assumes that these maintenance operations would be restricted to daytime hours. Therefore, noise from operation of the generator would not result in a substantial temporary or permanent increase in noise levels because the testing would be for limited amounts of time once a month and would occur during daytime hours. The rest of this analysis focuses on noise from the HVAC systems at the operations control center.

It is likely that the operations control center would be located within an existing building that has existing HVAC equipment. However, if the HVAC equipment is replaced as part of the project, then the potential exists for the replacement HVAC system to have increased cooling demand. Noise from HVAC equipment and exhaust fans can produce sound levels ranging between 70 and 75 dBA at 50 feet, depending on the size of the unit.[81] However, any fixed stationary noise sources, such as any changes to building HVAC equipment would be required to comply with San Francisco Police Code section 2909. San Francisco Police Code section 2909 (b) generally prohibits fixed mechanical equipment noise in excess of 8 dBA more than the ambient noise level from commercial sources. Modeled ambient roadway noise in southeastern San Francisco ranges from 60 Ldn or less to over 80 Ldn.[82] Typical HVAC equipment and exhaust fans can produce sound levels ranging from 70 to 75 dBA at 50 feet, which could be more than 8 dBA higher than ambient noise in potential operations control center locations (where existing noise could be 60 dBA or lower at night). With implementation of **Mitigation Measure M-NO-3a (Operational Noise Analysis and Attenuation for Stationary Noise Sources)**, which requires HVAC enclosures or other modifications to ensure compliance with San Francisco Police Code section 2909, the impact of operational noise from the operations control center would be ***less than significant with mitigation***.

> **Mitigation Measure M-NO-3a: Operational Noise Analysis and Attenuation for Stationary Noise Sources**
>
> *This measure applies to: Operations Control Center*
>
> Prior to construction at the operations control center, the SFPUC shall submit documentation to the Environmental Review Officer (ERO) or the ERO's designee, demonstrating with reasonable certainty that the proposed approach to the replacement or renovation of HVAC equipment

[81] Hoover and Keith, Noise Control for Buildings and Manufacturing Plants, Equipment and Products, 1981.
[82] San Francisco Planning Department, San Francisco Housing Element 2022 Update Environmental Impact Report, November 2022.

meets the noise limits specified in section 2909 of the San Francisco Police Code (i.e., an 8 dB increase above the ambient noise level at the property plane for noise from commercial or industrial uses; and interior noise limits of 55 dBA and 45 dBA for daytime and nighttime hours inside any sleeping or living room in a nearby dwelling unit on a residential property assuming windows open, respectively). Acoustical treatments required to meet the San Francisco Police Code may include but are not limited to:

- Enclosing noise-generating mechanical equipment;
- Installing relatively quiet models of air handlers, exhaust fans, and other mechanical equipment;
- Using mufflers or silencers on equipment exhaust fans;
- Orienting or shielding equipment to protect noise sensitive receptors (residences, hospitals, convalescent homes, schools, churches, hotels and motels, and sensitive wildlife habitat) to the greatest extent feasible;
- Increasing the distance between noise-generating equipment and noise-sensitive receptors; and/or
- Placing barriers around the equipment to reduce noise.

Significance after Mitigation: Less than significant.

Operations and Maintenance Service Yards

The City would secure 150,000 to 200,000 square feet of maintenance and storage facilities to house equipment, trucks, and parking and to provide offices for workers in an existing building. Modifications such as fencing would be needed to securely store equipment and material in the storage yards. Approximately 183 staff would work at the operations and maintenance service yards. Operational hours would generally be 6 a.m. to 4 p.m. Occasionally, maintenance tasks would be needed during system outages or in emergencies that would require nighttime activity in the operations and maintenance service yards. Operational noise sources within the service yards would be limited to vehicle movements and equipment loading similar to other commercial or industrial uses in the area and, therefore, would not substantially increase ambient noise. Occasionally, a backhoe or forklift would be used to load spools or poles onto trucks. Operations would be required to comply with San Francisco Police Code section 2909(b) which limits noise generation on commercial and industrial properties to no more than 8 dBA over existing ambient levels at any point outside the property plane.

Similar to the operations control center, the operations and maintenance service yards locations are currently unknown, and therefore, the analysis conservatively assumes noise-sensitive uses would be adjacent to the operations and maintenance service yards. Based on backhoe noise generation of 78 dBA at 50 feet, early morning use of such equipment could result in an exterior noise level greater than 60 dBA that would exceed the interior noise level standard of 45 dBA at residential uses located at distances of 400 feet or less without the presence of a solid barrier or wall.[83] Therefore, nighttime operation activities at the operations and maintenance service yards could exceed the standard in the noise ordinance if activities occur within 400 feet of residences, a potentially significant impact. With implementation of **Mitigation Measure M-NO-3b (Operational Noise Analysis and Attenuation for Service Yards)**, which requires loading areas to be

[83] Assuming an exterior to interior noise reduction of 15 dB with windows open.

located or enclosed with barriers or other modifications to ensure compliance with San Francisco Police Code section 2909, the impact of operational noise from service yards would be reduced.

Mitigation Measure M-NO-3b: Operational Noise Analysis and Attenuation for Service Yards

This measure applies to: Operations and Maintenance Service Yards, if service yard property is within 400 feet of residences and loading operations would occur before 7 a.m.

Prior to occupation and operation of new service yards, the SFPUC shall submit documentation to the Environmental Review Officer (ERO) or the ERO's designee, demonstrating with reasonable certainty that loading operations prior to 7 a.m. within 400 feet of residences can meet the noise limits specified in section 2909 of the San Francisco Police Code (i.e., an 8 dB increase above the ambient noise level at the property plane for noise from commercial or industrial uses; and interior noise limits of 55 dBA and 45 dBA for daytime and nighttime hours inside any sleeping or living room in a nearby dwelling unit on a residential property assuming windows open, respectively). Acoustical treatments required to meet the San Francisco Police Code may include but are not limited to:

- Enclosing noise-generating stationary mechanical equipment;
- Orienting or shielding equipment to protect noise sensitive receptors (residences, hospitals, convalescent homes, schools, churches, hotels and motels) to the greatest extent feasible;
- Increasing the distance between noise-generating equipment and noise-sensitive receptors; and/or
- Placing barriers around the equipment or along the property boundary to reduce noise.

Significance after Mitigation: Given that, at a distance of 50 feet, noise from backhoe operations could result in a nighttime interior noise levels of greater than 60 dBA (assuming 15 dBA reduction from exterior to interior with windows open), which would be 18 dBA in excess of the City's 45 dBA standard, it is possible that enclosures or barriers would be insufficient to reduce operational noise levels to attain the 45 dBA interior standard. Given that operations of a backhoe or other equipment common to service yards could occur during nighttime hours (before 7 a.m.) and result in the potential for sleep disturbance, and given the uncertainty of the location of the service yard in this programmatic analysis, the impact of operational noise from service yards is considered ***significant and unavoidable with mitigation***.

New City Substation (Project Variant)

Proposed above-ground components at the new City Substation, which would be located at Daly City Yard, include two switchgear buildings, four 115 kV and two 230 kV transformers, and new transmission and distribution lines. Of the proposed equipment, only the six new transformers would emit noise during operations. Based on the type of transformers proposed, each transformer could generate noise levels up to 55 dBA at 6 feet.[84] When combined, six transformers would generate noise levels of 63 dBA at 6 feet.

[84] National Electrical Manufacturers Association. 2019. NEMA Standards Publication TR 1-2013 (R2019) Transformers, Step Voltage Regulators and Reactors.

All receptors within 900 feet of the Daly City Yard are located in Daly City. Because the City of Daly City does not have quantitative operational noise standards, the City and County of San Francisco's thresholds are applied for assessing impacts of the operational noise from stationary sources within Daly City. San Francisco Police Code section 2909(b) generally prohibits fixed mechanical equipment noise and music in excess of 8 dBA above the ambient noise level from commercial or industrial sources. San Francisco Police Code section 2909 (d) restricts interior noise to 45 dBA between 10 p.m. and 7 a.m. and 55 dBA between 7 a.m. and 10 p.m. These are the absolute maximum allowable levels of interior noise produced by any combination of mechanical device(s) under one ownership or use originating from outside the dwelling unit.

The proposed footprint of the new City Substation would be approximately 200 feet from the closest property line of the Daly City Yard to the south. The ambient L90 noise level measured near the southern Daly City Yard property line (LT-5) was 41 dBA. At this distance transformer noise at the southern property line would be reduced to 30 dBA. The transformer noise would increase the existing ambient noise level by less than 1 dB during operations. Therefore, transformer noise from the new City Substation (project variant) would not exceed 8 dBA over the ambient noise level at the closest property plane. Exterior transformer noise of 30 dBA also would not result in an interior noise level at the nearest residence in excess of 45 dBA. Therefore, the operational noise impact of the new City Substation would be ***less than significant***.

Operational Roadway Noise

New employees and maintenance activities would generate new traffic trips that could increase noise levels along roadways used to access work locations. New employee trips would be based at 525 Golden Gate Avenue (existing SFPUC offices), the operations control center, and service yard. However, no location has presently been identified for the operations control center and service yard components.

For traffic noise impact assessment, a quantitative analysis is used to assess the potential for noticeable (3 dBA) increases in roadside noise levels, assuming existing residential uses along the primary roadway used to access the operations control center or operations and maintenance service yards are outside of the clearly acceptable land use compatibility category of the general plan. For commercial/industrial receptors, the analysis applies a 5 dBA increase unless the existing noise level exceeds the 70 dBA clearly acceptable land use compatibility category for such uses, in which case the criterion for commercial/industrial uses is 3 dBA.

525 Golden Gate Avenue

With the project, up to 183 additional workers would commute to SFPUC headquarters offices on Golden Gate Avenue. This worker increase would generate 183 additional person trips to the SFPUC headquarter offices on Golden Gate Avenue per day, via multiple commuting methods. The Travel Demand Memorandum for the project indicates that these additional workers would result in an additional 15 peak hour vehicle trips per day.[85] These trips are compared to the existing volumes on Golden Gate Avenue to determine whether there would be a doubling in traffic, which would result in a 3 dBA noise increase.

Peak hour traffic volumes on Golden Gate Avenue are documented to be 599 vehicles.[86] The project's addition of 15 peak hour trips would increase traffic volumes by 3 percent. This increased traffic volume is well below the doubling of traffic volumes needed to produce a 3 dBA increase in traffic noise (i.e., a

[85] Refer to Table 17 of the Travel Demand Memorandum in Appendix G.
[86] SFMTA Corridor Counts 2014-2022 Spreadsheet.

doubling of traffic volumes, or a 100 percent increase). Therefore, traffic noise associated with the additional workers at 525 Golden Gate Avenue would be ***less than significant***.

Operations Control Center

Up to 35 workers per 24-hour day would commute to the operations control center per day, spread across three shifts, resulting in 20 peak hour vehicle trips.[87] The operations control center would be located in an industrial, commercial or mixed-use district that could be adjacent to residential uses.

The traffic noise analysis assumed a potential property location where the existing traffic noise background is the lowest identified within the southeastern part of San Francisco (60 dBA or less).[88] In areas where the ambient noise level is and remains below the applicable noise compatibility standard, an increase of 5 dBA or more would be considered a clearly perceptible increase. The roadway segments analyzed for the operations control center assumed a location in southeastern San Francisco. As described in detail in Appendix E, the addition of the project's traffic volumes would result in traffic noise increases of less than 1 dBA and less than the applicable criterion of 5 dBA. Operations control center traffic noise impacts would therefore be ***less than significant***.

Operations and Maintenance Service Yards

The service yard is anticipated to have 183 employees who are conservatively assumed to arrive and depart during the same peak hour and therefore would generate 156 peak hour vehicle trips.[89] Similar to the analysis of the operations control center, this traffic noise analysis assumes a potential property location where the existing ambient traffic noise is the lowest identified within the southeastern part of San Francisco (60 dBA or less).

As described in detail in Appendix E, the addition of the project's traffic volumes would result in traffic noise increases of 2 dBA, less than the applicable 5 dBA criterion. Traffic noise impacts from the operations and maintenance service yards would therefore be ***less than significant***.

Summary

With implementation of **Mitigation Measure M-NO-3a (Operational Noise Analysis and Attenuation for Stationary Noise Sources)**, which requires HVAC enclosures or other modifications to ensure compliance with San Francisco Police Code section 2909, the impact of operational noise from the operations control center would be less than significant.

With implementation of **Mitigation Measure M-NO-3b (Operational Noise Analysis and Attenuation for Service Yards)**, which requires buffer distances or other modifications such as barriers to ensure compliance with San Francisco Police Code section 2909, the impact of operational noise from the operations and maintenance service yards would be reduced. However, given that operations of a backhoe or other equipment common to service yards could occur during nighttime hours (before 7 a.m.) and result in the

[87] Refer to Travel Demand Memorandum in Appendix G.
[88] San Francisco Planning Department, San Francisco Housing Element 2022 Update Environmental Impact Report, November 2022.
[89] For the service yard, it was assumed that each worker would generate four daily trips, two commuter trips (one inbound and one outbound) to the site, plus two service related trips (one inbound and one outbound) during the work period. Only the commuter trips have been assumed to occur during the peak hours.

potential for sleep disturbance if the operations and maintenance service yards are located within 400 feet of residences, the impact would be ***significant and unavoidable with mitigation***.

Impact NO-4: The project or project variant could generate excessive groundborne vibration or groundborne noise levels. ***(Less than Significant with Mitigation)***

This analysis evaluates whether project or project variant construction activities would result in vibration levels that would exceed the 0.25 in/sec PPV criterion for historic structures, the 0.30 in/sec PPV criterion for older residential structures or the 0.50 in/sec PPV criterion for modern industrial or commercial buildings, as appropriate. Project or project variant construction activities during nighttime hours would not involve vibration generating equipment such as pile drivers, rollers, or bulldozers. Therefore, there would be no nighttime construction-related vibration impacts with respect to human annoyance.

Project or project variant operation does not include equipment that could generate excessive groundborne vibration or groundborne noise.

Martin Substation Separation

To complete the Martin Substation separation, the SFPUC would use equipment that could generate vibration. **Table 3.2-17** lists vibration levels for the types of vibration-generating equipment that would be used during project construction. Table 3.2-17 presents the reference vibration level at 25 feet as published by the FTA as well as the estimated distances to the closest onsite and off-site structures near the Martin Substation separation site. Vibratory rollers used by SFPUC are typically smaller than those used for large-scale (i.e., freeway or airport runway paving) compacting activities. SFPUC uses 12-ton or smaller rollers to perform vibratory compaction in urban streets. A 12-ton roller has been demonstrated to result in a vibration level of 0.433 in/sec PPV at 4.6 feet.[90]

Table 3.2-17 Vibration Levels from Construction Equipment at Martin Substation

Equipment[91]	Estimated Peak Particle Velocity (PPV; inches per second)			Estimated Peak Particle Velocity (PPV) at Offsite Structures (inches per second)	
	At 8 Feet (Martin Substation Building)	At 25 Feet (Reference)	At 60 Feet	At 200 Feet (Geneva Avenue Residences)	At 500 Feet (Midway Village/Martin Substation Warehouse)
Vibratory Roller (12 ton)	0.249	0.067	0.026	0.007	0.002
Jack Hammer	0.123	0.035	0.013	0.004	0.001

SOURCE: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual* (September 2020); Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual* (2018); Appendix E, Noise and Vibration Technical Memorandum

[90] Appendix E, Noise and Vibration Technical Memorandum.

[91] It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Buses and trucks rarely create vibration that exceeds 70 VdB (0.012 in/sec PPV) unless there are bumps due to frequent potholes in the road (Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, FTA Report No. 0123, 2018, p. 113). Therefore, while loaded trucks could temporarily generate vibration while passing individual buildings, loaded trucks are not expected to generate excessive groundborne vibration.

Impact on Buildings

As shown in Table 3.2-17, the maximum vibration level at offsite structures would be well below the most stringent criteria of 0.25 in/sec PPV for historic structures. However, there are two onsite historic structures, one within the Martin Substation yard (Martin Substation building) and one within the Daly City Yard (Martin Substation warehouse). Under the project, construction work at Martin Substation could occur adjacent to the Martin Substation building, while the Martin Substation warehouse would be located more than 500 feet from work areas for the Martin Substation. Use of a vibratory roller within 8 feet of the Martin Substation building could exceed 0.25 in/sec PPV and result in building damage at the Martin Substation building. Equipment operations for construction staging at the Daly City yard would primarily consist of loaders, forklifts and trucks and would not include vibration-generating equipment. Implementation of **Mitigation Measure M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction)** would reduce the potential for damage to the Martin Substation building should work occur within 8 feet of the building, and the impact would be ***less than significant with mitigation***.

Mitigation Measure M-NO-4a: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction

This measure applies to: Martin Substation Separation; New City Substation (Project Variant); Distribution Express Feeders if and where trenchless methods are used; Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation; Operations Control Center; and Operations and Maintenance Service Yards

Prior to construction, the SFPUC shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the ERO or the ERO's designee for approval if construction would occur within buffer distances specified below. The plan shall identify all feasible means to avoid damage to potentially affected buildings. The SFPUC shall ensure that the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in the construction contract specifications.

Buffer Distances: SFPUC construction contract specifications shall require contractors to avoid use of vibratory equipment within the following buffer distances from buildings, to the extent feasible:

Component	Equipment	Buffer from Buildings
Martin Substation separation	12-ton vibratory roller	8 feet
New City Substation (Project Variant)	12-ton vibratory roller	8 feet
New City Substation (Project Variant)	Impact pile driver	60 feet
Distribution Express Feeders at trenchless construction pits only	Sheet pile driver (i.e., vibratory hammer)	60 feet
Operations Control Center excavation	12-ton vibratory roller	8 feet
Operations and Maintenance Service Yards	Jackhammer	8 feet

If the equipment buffers in the table above can be met, the remainder of this measure is not applicable. If the above vibratory equipment must be used within the vibration buffer distances above, the following additional measures shall be required.

Pre-construction Survey. Prior to the start of any ground-disturbing activity, SFPUC shall undertake a pre-construction survey to identify the age and photo-document the existing condition of potentially affected buildings at and within the above vibration buffer distances and shall document existing damage, such as cracks and loose or damaged features (as allowed by property owners). The survey shall be done by a qualified professional (e.g., a licensed engineer or acoustical consultant). If nearby affected buildings are potentially historic, the pre-construction survey shall additionally include descriptions and photographs of all identified historic and potentially historic buildings by a qualified historic preservation professional including all façades, roofs, and details of the character-defining features that could be damaged during construction. The SFPUC shall submit the survey for review and approval prior to the start of vibration-generating construction activity.

Vibration Management and Monitoring Plan. The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable:

- Maximum Vibration Level. Based on the anticipated construction methods and condition of the affected buildings and/or structures on adjacent properties, a qualified acoustical/vibration consultant, in coordination with a qualified historic preservation professional if applicable, shall establish a maximum vibration level that shall not be exceeded at each building/structure on adjacent properties, based on existing conditions, character-defining features, soil conditions, and anticipated construction practices. Common criteria are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings (i.e., non-engineered timber and masonry buildings), a PPV of 0.3 inch per second for older residential structures (i.e., engineered concrete and masonry (no plaster), and a PPV of 0.5 inch per second for new residential structures and modern industrial/commercial buildings (reinforced concrete, steel or timber (no plaster)).
- Buffer Distances. The plan shall identify buffer distances to be maintained based on vibration levels and site conditions between the operation of vibration-generating construction equipment and the potentially affected building and/or structure to avoid damage to the extent possible.
- Vibration-generating Equipment. The plan shall identify all vibration-generating equipment to be used during construction at applicable locations and identify potential alternative equipment and techniques that could be implemented if construction vibration levels are observed to meet or exceed the established criterion based on soil conditions. Such methods may include one or more of the following:
  - Use a smaller 8-ton roller, a vibratory roller with reduced vibration amplitude settings, or hand-held “jumping jack” compactor
  - Incorporate non vibratory shoring methods and/or “quiet” pile-driving technologies into project construction (such as pre-drilled shafts drilled shafts, hydraulic pile driving methods, sonic pile drivers, auger cast-in-place, variable speed vibratory, micro-piling, or drilled-displacement), as feasible; and/or as needed to meet established criteria.

  - Ensure appropriate excavation shoring methods to prevent the movement of adjacent structures.

- Vibration Monitoring. The plan shall identify the method and equipment for vibration monitoring to ensure that construction vibration levels do not exceed the established criteria identified in the plan.
  - Should construction vibration levels be observed to meet or exceed the criteria established in the plan, the contractor(s) shall halt the vibration-generating construction activity causing the exceedance and put alternative construction techniques identified in the plan into practice.
  - If vibration has damaged nearby buildings and/or structures that are not historic, a qualified professional shall prepare a damage report documenting the features of the building and/or structure that has been damaged.
  - If vibration has damaged nearby buildings and/or structures that are historic, the historic preservation consultant or other qualified professional shall immediately notify the ERO or the ERO's designee and prepare a damage report documenting the features of the building and/or structure that has been damaged.
- Repair Damage. The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their preconstruction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site and, for historical buildings, remediated in compliance with Secretary of the Interior's Standards for the Treatment of Historic Properties, in consultation with the qualified historic preservation professional and planning department preservation staff.

Vibration Monitoring Results Report. After construction is complete, SFPUC shall submit to the ERO or the ERO's designee a final report documenting the monitoring records, building and/or structure condition summaries, descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures.

Significance after Mitigation: Less than significant

Impact of Nighttime Construction

Night work may be required at Martin Substation to stay on schedule. Tasks such as outage switching, cable splicing, electrical connections, low voltage wiring, and relay modifications could be completed at night to help stay on schedule. These tasks would typically use hand tools, various electrical testing and metering devices, and task lighting. These tools and meters do not generate vibration. These tasks may be completed at night without substantial disturbance to the public. Construction tasks using heavy machinery, and other major construction work would occur only during normal daytime hours (Construction in Brisbane would generally proceed from 7 a.m. to 7 p.m. on weekdays and from 9 a.m. to 7 p.m. on weekends and holidays). For these reasons, the nighttime construction vibration impact at Martin Substation would be ***less than significant***.

Linear Underground Components (Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements)

Trenching for All Linear Underground Components

Trenching work would use compaction equipment (vibratory rollers), jackhammers, and loaded haul trucks that could generate low levels of groundborne vibration. Vibratory rollers used by SFPUC for street work are smaller than those used for large scale compacting activities. Specifically, SFPUC uses 12-ton rollers or smaller to perform vibratory compaction in City streets. A 12-ton roller has been demonstrated to result in a vibration level of 0.433 in/sec PPV at 4.6 feet.[92] **Table 3.2-18** shows levels of vibration generated by proposed equipment for the linear underground components. Typical sidewalk widths in San Francisco are 10 feet. As shown, existing structures located within 8 feet of trenching for the distribution express feeders, local distribution system separation, or system reinforcements could be exposed to potentially significant groundborne vibration during construction activities.

Table 3.2-18 Vibration Levels for Construction Equipment for Linear Trenching

Equipment[93]	Estimated Peak Particle Velocity (PPV; inches per second)				
	At 8 Feet (Residential Streets in Brisbane, Daly City, and San Francisco)	At 25 Feet (FTA Reference Level)	At 32 Feet	At 50 Feet	At 60 Feet
Jackhammer	0.123	0.035	0.027	0.016	0.013
Vibratory roller (12-ton)	0.249	0.067	0.051	0.031	0.026
Pile driver (vibratory) *Trenchless construction only*	2.28	0.644	0.495	0.303	0.246

SOURCE: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual* (September 2020); Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual* (2018)

Vibration impacts related to damage to structures within 8 feet of vibratory rollers during linear underground construction would be potentially significant. With implementation of **Mitigation Measure M-NO-4b (Paving Vibration Minimization)** the potential for building damage to adjacent structures would be reduced to ***less than significant with mitigation***.

> **Mitigation Measure M-NO-4b: Paving Vibration Minimization**
>
> *This measure applies to: Distribution Express Feeders, Local System Separation, System Reinforcements*
>
> SFPUC construction contract specifications shall require contractors to avoid use of 12-ton vibratory rollers within 8 feet of buildings, to the extent feasible. If 12-ton roller would be used within the vibration buffer distance of 8 feet, prior to construction, the SFPUC or its designee shall conduct a pre-construction assessment of all structures within 8 feet of the work area. If vibratory rollers are

[92] Appendix E, Noise and Vibration Technical Memorandum
[93] It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Buses and trucks rarely create vibration that exceeds 70 VdB (0.012 in/sec PPV) unless there are bumps due to frequent potholes in the road (Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, FTA Report No. 0123, 2018, p. 113). Therefore, while loaded trucks could temporarily generate vibration while passing individual buildings, loaded trucks are not expected to generate excessive groundborne vibration.

required within 8 feet of structures, a smaller 8-ton roller, or vibratory roller with reduced vibration amplitude settings, shall be required. Equipment or setting selection must be adequate to ensure that a peak particle velocity [PPV] of 0.25 inch per second is not met or exceeded.

A post-construction condition assessment by a qualified structural engineer or other professional with similar qualifications (e.g., civil engineer, acoustical engineer) shall be required for all buildings where a 12-ton roller or larger would occur within the vibration buffer distance if damage is reported by the property owner. Any damage shall be reported to the ERO or the ERO's designee and any damage to building(s) and/or structures(s) shall be remediated to their pre-construction condition (as allowed by property owners) and, for historic buildings, remediated in compliance with Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic preservation professional and planning department preservation staff.

Significance after Mitigation: Less than significant

Vibration from construction for linear trenching may also affect underground structures and gas pipelines. In the absence of a city-adopted significance criterion for groundborne vibration affecting utilities, the planning department is relying on the criteria recommended by the American Association of State Highway and Transportation Officials for underground optical-fiber cables, which is 4.0 in/sec PPV.[94] Underground or restrained concrete structures can withstand vibration of 10.0 in/sec PPV before the appearance of threshold cracks.[95] As shown in Table 3.2-18, vibration from standard trenching equipment would be below these levels, and the impact would be ***less than significant***.

Trenchless Construction Activities for Distribution Express Feeders

Daytime Construction

With respect to sheet pile driving for the trenchless construction pits, pit locations closer than 60 feet to historic structures have the potential to exceed the most stringent 0.25 in/sec PPV criterion for historic structures, pit locations 50 feet or closer would have the potential to exceed the 0.30 in/sec PPV criterion for older residential structures and pit locations closer than 32 feet would have the potential to exceed the 0.50 in/sec PPV criterion for modern industrial or commercial buildings. The pits on either side of San Jose Avenue could be within 60 feet of surrounding structures and therefore, vibration impacts related to damage to structures would be potentially significant. Implementation of **Mitigation Measure M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction)** would be required to reduce the potential for building damage to adjacent structures. The impact would be ***less than significant with mitigation***.

As noted above, the American Association of State Highway and Transportation Officials criterion for underground optical-fiber cables is 4.0 in/sec PPV.[96] Underground or restrained concrete structures can withstand vibration of 10.0 in/sec PPV before the appearance of threshold cracks.[97] For pile driving to exceed these criteria, pile driving activities would have to occur closer than 5 and 2.5 feet, respectively. Protocols

[94] American Association of State Highway and Transportation Officials (AASHTO), 2004. Standard Recommended Practice for Evaluation of Transportation-Related Earthborn Vibrations.
[95] Ibid.
[96] American Association of State Highway and Transportation Officials (AASHTO), 2004. Standard Recommended Practice for Evaluation of Transportation-Related Earthborn Vibrations.
[97] Ibid.

require preconstruction surveying for identification of underground utilities prior to ground breaking. These surveys would include marking utility locations and avoiding the potential for accidental damage or vibratory impacts on these underground facilities. A review of PG&E's existing underground gas pipeline maps[98] indicates that the nearest pipeline to the trenchless construction locations is at Alemany Boulevard and Sickles Avenue south of I-280. Because the trenchless construction activities would be over 200 feet away from the pipeline the applicable criterion would not be met or exceeded at the pipeline the impact would be ***less than significant***.

Additionally, construction-period vibration can adversely affect the operations of vibration-sensitive equipment (e.g., magnetic resonance imaging equipment; high-resolution lithographic, optical and electron microscopes). Neither the site reconnaissance conducted by field technicians during noise measurement activities nor a review of satellite imagery in Google Earth reveal the presence of hospitals, research laboratories, or recording studios within 500 feet[99] of the project boundary. Thus, vibration impacts on vibration-sensitive equipment would be ***less than significant***.

Operations Control Center and Operations and Maintenance Service Yards

The location of the operations control center is not presently known. The building selected for the operations control center would require exterior utility construction work. Closure of utility trenches may use vibratory compaction. Vibration levels could exceed 0.25 in/sec PPV if vibratory rollers were to be used within 8 feet of an historic structure.

The locations of the operations and maintenance service yards are not presently known but would be within a commercial or industrial-zoned area and may be adjacent to residential uses. Construction at the operations and maintenance service yards would consist of minor site modifications, such as fencing and driveway additions or improvements. Of the equipment used for these project components, a jackhammer could generate vibration at levels greater than 0.25 in/sec PPV within less than 8 feet of an historic structure.

Implementation of **Mitigation Measure M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction)** during exterior construction at the operations control center and operations and maintenance service yards would reduce the potential for building damage. Construction vibration impacts associated with exterior work at the operations control center and construction at the operations and maintenance service yards would be ***less than significant with mitigation***.

Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

Construction at the Potrero Substation would occur at least 50 feet from the nearest potentially historic building. Construction at the Potrero Substation would consist of minor site modifications, such as fencing and driveway additions or improvements, which could require use of a jackhammer. Table 3.2-18 shows vibration levels generated by a jackhammer at various distances. Due to the distance between work at Potrero Substation and the nearest sensitive buildings, the project or project variant would not generate groundborne vibration that could damage buildings at Potrero Substation, a ***less-than-significant*** impact.

[98] https://www.pge.com/en/about/pge-systems/gas-systems.html#tabs-fc6b80548f-item-727cbee02b-tab
[99] At a distance of 500 feet, vibrations generated by a pile driver would be attenuated to below the threshold for impacts to vibration-sensitive equipment of 65 VdB or 0.14 PPV.

Construction at the Potrero Substation could occur in areas near existing underground gas lines.[100] As noted above, the American Association of State Highway and Transportation Officials criterion for underground optical-fiber cables is 4.0 in/sec PPV.[101] Underground or restrained concrete structures can withstand vibration of in/sec 10.0 PPV before the appearance of threshold cracks.[102] A jackhammer would not generate vibration above 4.0 in/sec PPV. In addition, protocols require preconstruction surveying for identification of underground utilities prior to ground breaking. These surveys would include marking utility locations and avoiding the potential for accidental damage or vibratory impacts on these underground facilities. The applicable criterion would not be met or exceeded at nearby gas pipelines and the impact would be ***less than significant***.

New City Substation (Project Variant)

Site preparation for the new City Substation at the Daly City Yard would include pile driving. Other construction activities would include the use of compaction equipment (vibratory rollers), jackhammers, and loaded haul trucks. These construction activities have the potential to generate low levels of groundborne vibration. With respect to pile driving, the nearest off-site structures would be 200 feet away south of the project variant site (at Midway Village) and sufficiently distant to avoid potential structural impacts. Two onsite structures are present within the Daly City Yard, the closest of which is a modern industrial/ commercial building approximately 70 feet from the proposed substation footprint. At this distance, vibrations from pile driving would be reduced to 0.21 in/sec PPV and therefore would be below all Caltrans vibration criteria for modern buildings. The footprint of the new City Substation would be approximately 200 feet from the Martin Substation warehouse which would be sufficiently distant to avoid a vibration level of 0.25 in/sec PPV applicable to historic structures and therefore pile driving would not result in excessive groundborne vibration.

Trenching work in Geneva Avenue associated with the outgoing distribution and transmission lines from the new City Substation to the existing distribution and transmission system in Bayshore Boulevard would occur within approximately 40 feet of the Martin Substation building, or as close as 15 feet from the nearest structures on Geneva Avenue. Use of a vibratory roller would be required during paving activities. At 40 feet vibration levels would be below 0.25 in/sec PPV, which is the criterion applicable to historic structures. Use of 12-ton vibratory rollers for trenching within 8 feet of buildings could exceed 0.25 in/sec PPV. Therefore, vibration impacts related to damage to structures along Geneva Avenue would be potentially significant. With implementation of **Mitigation Measure M-NO-4b (Paving Vibration Minimization)** the potential for building damage to adjacent structures would be ***less than significant with mitigation***. Trenching activities for the incoming transmission lines from Martin Substation to the new City Substation would be approximately 80 feet from the nearest structures across Geneva Avenue and therefore would be sufficiently distant to preclude vibration impacts.

Summary

Implementation of **Mitigation Measure M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction)** and **Mitigation Measure M-NO-4b (Paving Vibration Minimization)** would require the SFPUC to establish vibration limits not to be exceeded within a certain

[100] https://www.pge.com/en/about/pge-systems/gas-systems.html#tabs-fc6b80548f-item-727cbee02b-tab
[101] American Association of State Highway and Transportation Officials (AASHTO), 2004. Standard Recommended Practice for Evaluation of Transportation-Related Earthborn Vibrations.
[102] Ibid.

distance of building(s) and/or structure(s), monitor vibration levels during construction, and repair any vibration-related damage to its pre-construction condition. With implementation of these mitigation measures, the impact of the project or project variant would be ***less than significant with mitigation***.

3.2.4.4 CUMULATIVE IMPACTS

Impact C-NO-1: Construction of the project or project variant, in combination with cumulative projects, would result in a substantial temporary increase in ambient noise levels at noise-sensitive receptors above levels existing without the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies or a substantial temporary increase in ambient noise. ***(Significant and Unavoidable with Mitigation)***

Construction Equipment Noise During Daytime Hours

Table 3.1-3 in Section 3.1.5, Approach to Cumulative Impact Analysis and Cumulative Projects, lists the cumulative projects considered in this analysis. As discussed under Impact NO-2, Martin Substation separation activities or construction of the new City Substation (project variant) could increase ambient noise by more than 10 dBA during daytime construction. Cumulative construction noise impacts could occur if other project construction occurs within 900 feet of receptors affected by the project or project variant.

Martin Substation separation construction or construction of the new City Substation (project variant) could occur concurrently with the following cumulative projects within 900 feet of sensitive receptors affected by work at Martin Substation or Daly City Yard: Baylands North, Midway Village Redevelopment, and Cormorant Battery Storage Facility. Construction activities under the proposed project combined with construction of these cumulative projects have the potential to result in a combined temporary increase in ambient noise. Construction of multiple projects consecutively could increase the duration of construction noise levels that would be 10 dBA above the ambient noise level or 90 dBA at sensitive receptors or above standards presented in Table 3.2-12. Depending on the intensity of construction noise levels, the frequency at which construction noise exceeds criteria, the frequency of overlapping construction activities, and the duration of activity, noise from Martin Substation separation or the new City Substation along with cumulative project construction activities could be a significant cumulative impact. The project or project variant would make a cumulatively considerable contribution to a significant cumulative impact related to construction noise. As discussed in Impact NO-2, implementation of **Mitigation Measure M-NO-2 (Construction Noise Control for the Martin Substation and New City Substation)** would reduce the project's contribution to substantial noise increases during Martin Substation separation, but would not reduce the noise from construction of the project or new City Substation (project variant) to less-than-significant levels. Therefore, the project or project variant's contribution to the cumulative construction noise impact would also be ***significant and unavoidable with mitigation***.

As discussed under Impact NO-2, although daytime construction noise from the distribution express feeders, local distribution system separation, system reinforcements, or operations control center could result in an increase of greater than 10 dBA over existing levels at the nearest sensitive receptors within Brisbane, Daly City and San Francisco, the duration of these activities would be brief so as not to represent a substantial increase in ambient noise. Local distribution system separation and system reinforcements work could occur within 900 feet of all cumulative projects listed in Table 3.1-3 in Section 3.1.5, Approach to Cumulative Impact

Analysis and Cumulative Projects, and therefore could result in a temporary, significant cumulative construction noise impact. Due to the short-term duration of construction activities at any one location, the project's contribution to the temporary cumulative increase in ambient noise during daytime construction of the distribution express feeders, local distribution system separation, system reinforcements, or utility work at the operations control center would not be cumulatively considerable and the impact would be ***less than significant***.

Modifications to retain PG&E access to non-electrical facilities at Potrero Substation could occur concurrently with the Potrero Power Station Mixed-Use Development project and the Pier 70 Waterfront Site project. Activities from all three projects could occur within 900 feet of sensitive receptors. Construction activities under the project or project variant combined with construction of these cumulative projects have the potential to result in a combined temporary increase in ambient noise at the nearest sensitive receptors although, as discussed in Impact NO-2, intervening structures would likely attenuate construction noise. The project or project variant in combination with cumulative projects could have a potentially significant cumulative construction noise impact. Due to the short-term duration of construction activities at the Potrero Substation, the project or project variant's contribution to the temporary cumulative increase in ambient noise during daytime construction at Potrero Substation would not be cumulatively considerable and the impact would be ***less than significant***.

Construction Roadway Noise

Construction truck traffic generated by cumulative projects could be significant and the potential exists for a significant cumulative roadway noise impact from construction traffic. However, as indicated in Impact NO-2, construction traffic from the project or project variant would only result in an increase of 0.5 dBA; therefore, the project or project variant would not make a cumulatively considerable contribution to a significant noise impact related to construction roadway noise and the impact would be ***less than significant***.

Construction Equipment Noise During Nighttime Hours

For nighttime construction noise impacts, it is assumed that some of the cumulative projects listed in Table 3.1-3 in Section 3.1.5, Approach to Cumulative Impact Analysis and Cumulative Projects, could require nighttime construction that may occur concurrently with generator use for the project or project variant. Cumulative nighttime noise from the project or project variant and cumulative projects could be substantial and exceed thresholds, which would be a significant cumulative noise impact. The project or project variant would make a cumulatively considerable contribution to a significant cumulative impact related to nighttime noise. With implementation of Mitigation Measure M-NO-1 (Construction Noise Control for Generator Operations) the project or project variant's contribution to substantial noise increases during nighttime generator use would be ***significant and unavoidable with mitigation***.

Impact C-NO-2: The project or project variant, in combination with cumulative projects, would not cause a substantial permanent increase in ambient noise levels at noise-sensitive receptors above levels existing without the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (*Less than Significant*)

The following project or project variant components would generate noise during operation: transformers at the Martin Substation (or, under the project variant, at the new City Substation); stationary equipment at the

operations control center; activities in the operations and maintenance service yards; and localized traffic increases near 525 Golden Gate Avenue, the operations control center and the operations and maintenance service yards. In the following analysis project or project variant contributions to cumulative stationary source noise impacts are assessed qualitatively given that specifics of the contributions of other cumulative projects are not known quantitatively. With respect to traffic noise, project or project variant traffic contributions are added to the 2050 roadway noise levels estimated for the San Francisco Housing Element 2022 Update EIR which identified significant and unavoidable cumulative traffic noise impacts along some roadway segments.

Stationary Noise Sources – Martin Substation Separation and New City Substation (Project Variant)

Martin Substation separation operations could occur concurrently with operational noise from the following cumulative projects within 900 feet of sensitive receptors affected by work at Martin Substation or Daly City Yard: Baylands North, Baylands Specific Plan, Midway Village Redevelopment, and Cormorant Battery Storage Facility. All of these cumulative projects would have the potential to result in a project-level or cumulative operational noise impact. Operational noise from Baylands North, Baylands Specific Plan, and Midway Village Redevelopment would primarily be the result of mechanical equipment operations (e.g., HVAC equipment). Cormorant Battery Storage Facility would include power inverters and power transformers which could generate noise during operations.

As discussed in the project-level analysis, new transformers at Martin Substation and the new City substation (project variant) would contribute minimally to the surrounding noise environment. Because transformers are predicted to contribute 30 dBA or less to existing ambient noise levels at the most highly impacted receptors in an area where the existing noise level currently exceeds 60 dBA, operational noise from Martin Substation or the New City Substation would not contribute considerably to cumulative operational noise sources associated with cumulative development listed in Table 3.1-3 and this impact would be ***less than significant***.

Stationary Noise Sources – Operations Control Center and Operations and Maintenance Service Yards

The locations of the operations control center and operations and maintenance service yards are not currently known. With regard to operation of stationary mechanical equipment associated with cumulative projects, noise from these types of equipment is generally only noticeable in a localized area near the source. Both the operations control center and operations and maintenance service yards would likely be located within the southeastern portion of San Francisco. If one or more individual cumulative projects are developed near the operations control center or operations and maintenance service yards, these projects would be required to comply with the noise limits specified in San Francisco Police Code section 2909. Therefore, the proposed project in combination with other cumulative projects would not result in a significant cumulative impact related to noise from the operations control center or operations and maintenance service yards, a ***less-than-significant*** impact.

Cumulative Traffic Noise

The traffic noise analysis assumed that the operations control center or operations and maintenance service yards could be located in an area where the existing traffic noise background is the lowest identified (60 dBA or less) within the southeastern portion of San Francisco. The 2050 modeled roadway noise levels developed

for the San Francisco Housing Element 2022 Update EIR indicate that by 2050, noise levels for some roadways in southeastern San Francisco would increase from the less than 60 dBA category to between the 60 to 65 dBA category, and residential uses along such roadways could transition from the "clearly acceptable" land use noise compatibility condition to the "conditionally acceptable" condition. The 2050 modeled roadway noise levels near 525 Golden Gate Avenue indicate that noise levels would remain similar to 2020 conditions. The San Francisco Housing Element 2022 Update EIR indicated that, on average, roadway noise within the South Bayshore Planning District would decrease, yet some roadways within the district would experience a noise increase that would exceed 3 dBA and, overall, citywide traffic noise was a significant and unavoidable impact. Therefore, the project or project variant in combination with cumulative development could result in a significant cumulative traffic noise impact. However, noise from operations control center-related traffic and traffic associated with workers at 525 Golden Gate Avenue would increase noise levels by less than 1 dBA, and noise from service yard-related traffic would increase noise levels by 2 dBA.[103] The project-related increase would represent a negligible proportion of overall road noise in 2050.[104] Therefore, the project or project variant would not make a cumulatively considerable contribution to a significant cumulative traffic noise impact, a ***less-than-significant*** impact.

Mitigation: None required.

Impact C-NO-3: The project or project variant, in combination with cumulative projects, would not generate excessive groundborne vibration or groundborne noise levels. (*Less than Significant*)

Vibration impacts are based on instantaneous PPV levels, and worst-case groundborne vibration levels from construction are generally determined by whichever individual piece of equipment generates the highest vibration levels. Unlike the analysis for average noise levels, in which noise levels of multiple pieces of equipment can be combined to generate a maximum combined noise level, instantaneous peak vibration levels do not combine in this way. Vibration from multiple construction sites, even if they are located close to one another, would not combine to raise the maximum PPV. For this reason, the impact of construction vibration from multiple development projects located near one another would not combine to further increase vibration levels. In essence, vibration effects are highly localized. Thus, vibration impacts resulting from construction of multiple future development projects that may occur simultaneously with the proposed project would not combine so as to increase vibration impacts on existing adjacent buildings or structures. Therefore, the project or project variant in combination with cumulative projects would not result in a significant cumulative impact related to vibration, a ***less-than-significant*** impact.

Mitigation: None required.

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[103] Appendix E, Noise and Vibration Technical Memorandum
[104] Appendix E, Noise and Vibration Technical Memorandum

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3.3 Air Quality

3.3.1 Introduction

This section discusses the existing air quality conditions in the project area, identifies the regulatory framework for air quality management, and analyzes the potential for the proposed project to affect air quality conditions, both regionally and locally, including impacts from emissions generated on a temporary basis from construction activities. The analysis evaluates whether the project's estimated emissions would be significant under applicable air quality standards and identifies feasible mitigation measures for significant adverse impacts to the extent feasible. This section also includes an assessment of potential odor impacts and an analysis of cumulative air quality impacts. Supplemental air quality information supporting the analysis in this section is provided in EIR Appendix F, Air Quality Technical Memorandum.

The analysis presented below is based on a review of existing air quality conditions in the San Francisco Bay Area (bay area) and air quality regulations administered by the U.S. Environmental Protection Agency (U.S. EPA), the California Air Resources Board (CARB), and the Bay Area Air Quality Management District (Air District). This analysis includes methodologies identified in the Air District's current California Environmental Quality Act (CEQA) Air Quality Guidelines[1] and its companion documentation, and Air Quality and Greenhouse Gas Analysis Guidelines from the San Francisco Planning Department.[2]

3.3.2 Environmental Setting

The project is within the San Francisco Bay Area air basin (air basin), which includes all of San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa counties, and the southern and southwestern portions of Sonoma and Solano counties, respectively. The Air District is the regional agency responsible for air quality planning in the air basin.

3.3.2.1 CLIMATE AND METEOROLOGY

The air basin's moderate climate steers storm tracks away from the region for much of the year, although storms generally affect the region from November through April. San Francisco's proximity to the onshore breezes stimulated by the Pacific Ocean provides for generally good air quality in the project areas and San Francisco as a whole.

Temperatures in the project vicinity average in the mid-50s annually, generally ranging from the low 40s on winter mornings to mid-70s during summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of San Francisco Bay. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from November through April. Precipitation may vary widely from year to year as a shift in annual storm tracks of a few hundred miles can mean the difference between a wet year and drought conditions.

[1] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, April 2023, *http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines*, accessed July 10, 2024.

[2] San Francisco Planning, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, https:// citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

Atmospheric conditions—such as wind speed, wind direction, and air temperature gradients—interact with the physical features of the landscape to determine the movement and dispersal of air pollutants regionally. The project areas are located within the Peninsula climatological subregion. Marine air traveling through the Golden Gate is a dominant weather factor affecting dispersal of air pollutants within the region. Wind measurements collected in San Francisco indicate a prevailing wind direction from the west and an average annual wind speed of 10.6 miles per hour.[3] Increased temperatures create the conditions in which ozone formation can increase.

3.3.2.2 AMBIENT AIR QUALITY – CRITERIA AIR POLLUTANTS

As required by the federal Clean Air Act of 1970, the U.S. EPA initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. The U.S. EPA calls these pollutants "criteria air pollutants" because the agency has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are the six criteria air pollutants originally identified by U.S. EPA. Since that time, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less (PM_{10}) and particulate matter of 2.5 microns in diameter or less ($PM_{2.5}$). Most of the criteria air pollutants are directly emitted; however, ozone is a secondary pollutant that is formed in the atmosphere by chemical reactions between nitrogen oxides (NOx) and reactive organic gases (ROG). In addition to the criteria air pollutants that have been identified by the U.S. EPA, California has identified four additional criteria air pollutants – visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

The Air District and CARB maintain an air quality monitoring network that provides information on ambient concentrations of criteria air pollutants at various locations in the bay area. **Table 3.3-1** presents a 6-year summary for the period 2018 to 2023 of the highest annual criteria air pollutant concentrations collected at the air quality monitoring station operated and maintained by the Air District at 16th and Arkansas streets in San Francisco's Potrero Hill neighborhood. Table 3.3-1 also compares measured pollutant concentrations with the National Ambient Air Quality Standards (national air quality standards) and California Ambient Air Quality Standards (California air quality standards) for each of the criteria air pollutants. Concentrations shown in bold indicate an exceedance of the standard for the air basin. Table 3.3-1 shows monitoring data for those pollutants for which the air basin is designated as non-attainment. See Section 3.3.3, Regulatory Framework, for further discussion of the attainment status of the air basin with respect to the national and California air quality standards for specific pollutants.

It should be noted that the ambient air quality standards—both federal and state—are expressed as airborne concentrations of various pollutants. Compliance with the standards is on a regional basis. In the bay area, compliance is demonstrated by ongoing measurements of pollutant concentrations at more than 30 air quality monitoring stations operated by the Air District covering all nine bay area counties. An exceedance of an ambient air quality standard at any one of the stations counts as a regional exceedance.

[3] Western Regional Climate Center, Average Wind Speeds, *https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_speed_avg*, accessed July 10, 2024.

Table 3.3-1 Summary of San Francisco Air Quality Monitoring Data (2018–2023)

Pollutant	Most-Stringent Applicable Standard	Number of Days Standards Were Exceeded[a] and Maximum Concentrations Measured					
		2018	2019	2020	2021	2022	2023
OZONE							
Days 1-Hour Standard Exceeded		0	0	0	0	0	0
Maximum 1-Hour Concentration (ppm)	>0.090 ppm[b]	0.065	0.091	0.088	0.074	0.070	0.057
Days 8-Hour Standard Exceeded		0	1	0	0	0	0
Maximum 8-Hour Concentration (ppm)	>0.070 ppm[c]	0.049	**0.073**	0.055	0.054	0.060	0.046
CARBON MONOXIDE (CO)							
Days 1-Hour Standard Exceeded		0	0	0	0	0	0
Maximum 1-Hour Concentration (ppm)	>20 ppm[b]	1.9	1.2	1.8	1.2	1.5	4.4
Days 8-Hour Standard Exceeded		0	0	0	0	0	0
Maximum 8-Hour Concentration (ppm)	>9 ppm[b]	1.6	1.0	1.6	0.9	1.0	1.9
SUSPENDED PARTICULATES (PM_{10})							
Days 24-Hour Standard Exceeded		0	0	2	0	0	0
Maximum 24-Hour Concentration ($\mu g/m^3$)	>50 $\mu g/m^3$[b]	43.0	42.0	**105.0**	33.0	36.0	44.9
FINE PARTICULATES ($PM_{2.5}$)							
Days 24-Hour Standard Exceeded		14	0	8	0	0	0
Maximum 24-Hour Concentration ($\mu g/m^3$)	>35 $\mu g/m^3$[c]	**177.4**	25.4	**147.3**	22.4	29.0	16.7
Annual Average ($\mu g/m^3$)	>12 $\mu g/m^3$[b,c]	11.7	7.7	10.5	N/A	6.8	N/A
NITROGEN DIOXIDE (NO_2)							
Days 1-Hour Standard Exceeded		0	0	0	0	0	0
Maximum 1-Hour Concentration (ppm)	>0.100 ppm[c]	0.069	0.061	0.047	0.049	0.046	0.044

SOURCES: California Air Resource Board, Top 4 Summary for the San Francisco Arkansas Street monitoring site, 2018–2022, https://www.arb.ca.gov/adam/topfour/topfour1.php;
U. S. EPA, AirData Air Quality Monitors for Arkansas Street monitoring site, 2018 - 2022, https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5 – for CO values

ABBREVIATIONS:

N/A = data not available; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

NOTES:

Bold values are in excess of applicable standard.

a. Number of days exceeded is for all days in a given year, except for particulate matter. PM_{10} is monitored every 6 days. Therefore, the number of days exceeded is out of approximately 60 annual samples.
b. California/State air quality standard not to be exceeded.
c. National/Federal air quality standard not to be exceeded.

The national and California air quality standards were set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. As explained by CARB, "An air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without any harmful effects on people or the environment."[4] That is, if a region is in compliance with the ambient air quality standards, its regional air quality can be considered protective of public health. The national air quality standards are statutorily required to be set by the U.S. EPA at levels that are "requisite to protect the public health."[5] Therefore, the closer a region is to attaining a particular national standard, the lower the human health impact is from that pollutant.

A brief description of the sources and health effects of exposure to criteria air pollutants is provided below.

OZONE

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG (also sometimes referred to as volatile organic compounds [VOCs] by some regulating agencies) and NOx. The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the bay area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional criteria air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

Table 3.3-1 shows that, according to published data, the national eight-hour standard of 7 parts per hundred million was exceeded once in San Francisco in 2019. There were no exceedances of the national 1-hour ozone standard between 2018 and 2022.

CARBON MONOXIDE

CO is an odorless, colorless gas usually formed as a result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in Table 3.3-1, the national and state air quality standards for CO were not exceeded between 2018 and 2022.

PARTICULATE MATTER (PM_{10} AND $PM_{2.5}$)

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from man-made and natural sources. Particulate matter regulated by the state and federal Clean Air Acts is measured in two size ranges: PM_{10} for particles less than 10 microns in diameter, and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the bay area, motor vehicles generate about one-half of the air basin's

[4] California Air Resources Board, California Ambient Air Quality Standards, https://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm, accessed July 10, 2024.
[5] 42 U.S. Code Section 7409, National Primary and Secondary Ambient Air Quality Standards.

particulates, through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the air board, studies in the United States and elsewhere "have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks," and studies of children's health in California have demonstrated that particle pollution "may significantly reduce lung function growth in children." CARB also reports that statewide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits and avoid hundreds of thousands of episodes of respiratory illness in California. Among the criteria air pollutants that are regulated, particulates appear to represent a serious ongoing health hazard. In 1999, the Air District reported in its CEQA Air Quality Guidelines that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the bay area. High levels of particulate matter can exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increased emergency room visits and hospital admissions.

$PM_{2.5}$ is of particular concern because epidemiologic studies have demonstrated that people who live near freeways and high-traffic roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections, and decreased pulmonary function and lung development in children.[6] New studies are also showing that long-term average exposure to $PM_{2.5}$ is associated with an increased risk of death from the novel coronavirus 2019 disease (COVID-19) in the United States. One study found that an increase of 1 microgram per cubic meter ($\mu g/m^3$) in $PM_{2.5}$ is associated with an 8 percent increase in the COVID-19 death rate.[7] Exposure to wildfire smoke (which includes $PM_{2.5}$) experienced by Californians in 2020 also could have contributed to increased cases of COVID-19.[8] Note that these studies all demonstrate a correlational relationship between exposure to $PM_{2.5}$ and increases in the COVID-19 death rate, not a causal relationship.

Table 3.3-1 shows that the state 24-hour PM_{10} standard of 50 $\mu g/m^3$ was exceeded on two monitored days between 2018 and 2022. The federal 24-hour $PM_{2.5}$ standard was exceeded on 14 measured days in 2018 and eight measured days in 2020. The state annual average standard was not exceeded between 2018 and 2022.

NITROGEN DIOXIDE

NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. Table 3.3-1 shows that the current federal standard for NO_2 was not exceeded at the San Francisco station between 2018 and 2022.

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[6] San Francisco Department of Public Health, Assessment and Mitigation of Air Pollutant Health Effect from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review, May 2008, p. 7, https://default.sfplanning.org/temp/Air%20Quality%20For%20EP%20and%20Consultants/Air%20Quality%20References/DPH%202008.pdf#:~:text=assessment%20and%20mitigation%20of%20air%20pollution, accessed September 29, 2022.

[7] X. Wu, R. C. Nethery, B. M. Sabath, D. Braun, and F. Dominici, Exposure to Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis, Science Advances, November 4, 2020, https://www.science.org/doi/pdf/10.1126/sciadv.abd4049?fbclid=IwAR3nP17tSeV5aFswiD5DP-0oBVw_iERS2KjH9tKmWhhKIxKUgZVBlgBfty8, accessed July 10, 2024.

[8] Xiaodan Zhou, Kevin Josey, Leila Kamareddine, Miah C. Caine, Tianjia Liu, Loretta J. Mickley, Matthew Cooper, and Francesca Dominici, Excess of COVID-19 Cases and Deaths due to Fine Particulate Matter Exposure During the 2020 Wildfires in the United States, Science Advances, August 13, 2021, https://www.science.org/doi/pdf/10.1126/sciadv.abi8789 , accessed July 10, 2024.

The U.S. EPA also has established requirements for a new monitoring network to measure NO_2 concentrations near major roadways in urban areas with a population of 500,000 or more. Sixteen new near-roadway monitoring sites are required in California, three of which are in the bay area. These monitors are located in Berkeley, Oakland, and San Jose. The Oakland station commenced operation in February 2014, the San Jose station commenced operation in March 2015, and the Berkeley station commenced operation in July 2016. The new monitoring data has not resulted in a need to change area attainment designations.[9]

SULFUR DIOXIDE

SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease.[10] SO_2 monitoring was terminated at the San Francisco station in 2009 because the state standard for SO_2 is being met in the bay area, and pollutant trends suggest that the air basin will continue to meet this standard for the foreseeable future. SO_2 is not monitored in the bay area because the air basin has never been designated as non-attainment for SO_2.

LEAD

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses and cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which put children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California. On October 15, 2008, the U.S. EPA strengthened the national ambient air quality standard for lead by lowering it from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$. The U.S. EPA revised the monitoring requirements for lead in December 2010. These requirements focus on airports and large urban areas resulting in an increase in 76 monitors nationally.[11] Lead monitoring stations in the bay area are located at Palo Alto Airport, Reid-Hillview Airport (San Jose) and San Carlos Airport. Non-airport locations for lead monitoring are located in Redwood City and San Jose.

AIR QUALITY INDEX

The U.S. EPA developed the Air Quality Index scale to make the public health impacts of air pollution concentrations easily understandable. The Air Quality Index, much like an air quality "thermometer," translates daily air pollution concentrations into a number on a scale between 0 and 500. The numbers in the scale are divided into six color-coded ranges, with numbers 0–300 as outlined below:

- **Green (0–50)** indicates "good" air quality. No health impacts are expected when air quality is in the green range.

[9] Bay Area Air Quality Management District, 2022 Annual Air Monitoring Network Plan, June 2022, https://www.baaqmd.gov/about-air-quality/air-quality-measurement/ambient-air-monitoring-network, accessed September 16, 2022.
[10] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, May 2017, p. C-16, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed July 10, 2024.
[11] U.S. EPA, Fact Sheet: Revisions to Lead Ambient Air Quality Monitoring Requirements, https://www.epa.gov/sites/default/files/2016-03/documents/leadmonitoring_finalrule_factsheet.pdf, accessed July 10, 2024.

- **Yellow (51–100)** indicates air quality is "moderate." Unusually sensitive people should consider limited prolonged outdoor exertion.
- **Orange (101–150)** indicates air quality is "unhealthy for sensitive groups." Active children and adults, and people with respiratory disease, such as asthma, should limit outdoor exertion.
- **Red (151–200)** indicates air quality is "unhealthy." Active children and adults, and people with respiratory disease, such as asthma should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
- **Purple (201–300)** indicates air quality is "very unhealthy." Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit outdoor exertion.

The Air Quality Index numbers refer to specific amounts of pollution in the air and are based on the federal air quality standards for ozone, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. In most cases, the federal standard for these air pollutants corresponds to the number 100 on the scale above. If the concentration of any of these pollutants rises above its respective standard, it can be unhealthy for the public. In determining the air quality forecast, local air districts use the anticipated concentration measurements for each of the major pollutants, converts them into Air Quality Index numbers, and determines the highest Air Quality Index for each zone in a district.

Readings below 100 on the Air Quality Index scale would not typically affect the health of the general public (although readings in the moderate range of 50 to 100 may affect unusually sensitive people). Levels above 300 rarely occur in the United States, and with the exception of recent wildfires[12] readings above 200 have not occurred in the bay area in decades. Wildfires appear to be occurring with increasing frequency in California and the bay area as the climate changes (since 2000, 19 of the state's 20 largest wildfires and 18 of the state's 20 most destructive fires on record have occurred).[13,14]

As a result, the Air Quality Index in several neighboring counties downwind of the bay area also reached the "very unhealthy" and "hazardous" designations, ranging from values of 201 to above 350. During those periods, the Air District issued "Spare the Air" alerts and recommended that individuals stay inside with windows closed and refrain from significant outdoor activity.

Air Quality Index statistics over recent years indicate that air quality in the bay area is predominantly in the "Good" or "Moderate" categories and healthy on most days for most people. Historical Air District data in **Table 3.3-2** show that the air basin experienced air quality in the purple level (very unhealthy) on one day, in the red level (unhealthy) on 14 days, and the orange level (unhealthy for sensitive groups) on 47 days, between 2019 and 2023. Some of these days are attributable to the increasing frequency of wildfires.

[12] Readings above 200 occurred during October 2017 and November 2018 wildfires north of San Francisco and the August/September 2020 complex wildfires that occurred throughout the bay area.

[13] CAL FIRE, Stats & Events, Top 20 Largest California Wildfires, October 2, 2024, https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/calfire-website/our-impact/fire-statistics/top-20-largest-ca-wildfires.pdf?rev=097f901c128347149e2614f2fca4f546&hash=27DDE83DFEF9A69E67C73765892A2B75, accessed October 10, 2024.

[14] CAL FIRE, Stats & Events, Top 20 Most Destructive California Wildfires, March 27, 2024, https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/calfire-website/our-impact/fire-statistics/top-20-destructive-ca-wildfires.pdf?rev=9e4974c273274858880c2dd28292a96f&hash=29E21CBFCE8D9885F606246607D21CEB, accessed October 10, 2024.

Table 3.3-2 Air Quality Index Statistics for the San Francisco Bay Area Air Basin

Air Quality Index Statistics for air basin	Number of Days by Year				
	2019	2020	2021	2022	2023
Unhealthy for Sensitive Groups (Orange)	10	13	9	8	7
Unhealthy (Red)	0	13	1	0	0
Very Unhealthy (Purple)	0	1	0	0	0

SOURCE: Bay Area Air Quality Management District, Response to ESA's Public Records Request on Air Quality Index, January 29, 2025.

3.3.2.3 TOXIC AIR CONTAMINANTS AND LOCAL HEALTH RISKS AND HAZARDS

In addition to criteria air pollutants, individual projects may directly or indirectly emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects to human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs do not have ambient air quality standards but instead are regulated by the Air District using a risk-based approach to determine which sources and pollutants to control as well as the degree of control. A health risk assessment (HRA) is an analysis in which human health exposure to TACs is estimated and considered together with information regarding the toxic potency of the substances to provide quantitative estimates of health risks.[15]

Exposure assessment guidance published by the Air District in January 2016 adopts the assumption that residents would be exposed to air pollution 24 hours per day, 350 days per year, for 30 years.[16] Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

Exposures to $PM_{2.5}$ are strongly associated with mortality, respiratory diseases, and reductions in lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease.[17] In addition to $PM_{2.5}$, diesel particulate matter (DPM) is also of concern. CARB identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.[18] The estimated cancer risk from

[15] In general, a health risk assessment is required if the air district concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant of the project that would emit TACs is required to conduct a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.

[16] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards, April 2023, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4, accessed July 10, 2024.

[17] San Francisco Department of Public Works, Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review, May 6, 2008.

[18] California Air Resources Board, Fact Sheet: The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-Fueled *Engines*, October 1998, https://ww2.arb.ca.gov/sites/default/files/classic/toxics/dieseltac/factsht1.pdf, accessed July 10, 2024.

exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

In addition to monitoring criteria air pollutants, both the Air District and CARB operate TAC monitoring networks in the air basin. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in ambient air and therefore tend to produce the most substantial risk. The nearest Air District ambient TAC monitoring station to the project areas is the station at 16th and Arkansas streets in San Francisco. **Table 3.3-3** shows ambient concentrations of carcinogenic TACs measured at the Arkansas Street station for the year 2022, the most recent year for which complete data is available, as well as the estimated cancer risks from a lifetime exposure (70 years) for these substances. When TAC measurements at this station are compared to ambient concentrations of various TACs for the bay area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the region.

Table 3.3-3 Annual Average Ambient Concentrations of Carcinogenic Toxic Air Contaminants Measured at Air District Monitoring Station in 2022, 10 Arkansas Street, San Francisco

Substance	Concentration	Cancer Risk per Million
GASEOUS TACS	**(PPB)**	
Acetaldehyde	0.41	6
Benzene	0.10	26
1,3-Butadiene	0.022	24
Carbon Tetrachloride	0.062	48
Formaldehyde	1.15	24
Perchloroethylene	0.008	0.9
Methylene Chloride	0.071	0.7
Chloroform	0.014	1
Trichloroethylene	0.01	0.3
PARTICULATE TACS	**(NG/M^3)**	
Chromium (Hexavalent)	0.083	35
Total Risk for All TACs		***165.9***

SOURCE: California Air Resources Board, Ambient Air Toxics Summary, 2022, http://www.arb.ca.gov/adam/toxics/sitesubstance.html, accessed July 8, 2024

ABBREVIATIONS:
TACs = toxic air contaminants; ppb = part per billion; ng/m^3 = nanograms per cubic meter

ROADWAY-RELATED POLLUTANTS

Motor vehicles are responsible for a large share of air pollution, especially in California, and in San Francisco specifically. Vehicle tailpipe emissions contain diverse forms of particles and gases and also contribute to particulates by generating road dust and through tire wear. Epidemiologic studies have demonstrated that people living in proximity to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in

children. Air pollution monitoring conducted in conjunction with epidemiologic studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and NO_2. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet.[19]

DIESEL PARTICULATE MATTER

The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources, such as trucks and buses, are among the primary sources of diesel emissions, and as a result concentrations of DPM are higher near heavily traveled highways. CARB estimated average bay area cancer risk from exposure to DPM, based on a population-weighted average ambient DPM concentration, at about 520 in 1 million as of the year 2012,[20] which is much higher than the risk associated with any other TAC routinely measured in the region. Based on guidance from the Office of Environmental Health Hazard Assessment (OEHHA), PM_{10} is the surrogate for whole diesel exhaust, or DPM.[21]

Despite notable emission reductions, CARB recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, CARB's position is that infill development, mixed-use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.[22] Also see San Francisco Health Code article 38 discussed under Section 3.3.3, Regulatory Framework.

3.3.2.4 SENSITIVE RECEPTORS

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, population subgroups with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and populations with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases such as asthma and chronic obstructive pulmonary disease. The factors responsible for variation in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, lower income residents may be more likely to live in substandard housing and be more likely to live near industrial or roadway sources of air pollution.

The Air District defines sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with

[19] California ARB, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005, https://ww2.arb.ca.gov/sites/default/files/2023-05/Land%20Use%20Handbook_0.pdf, accessed July 10, 2024.
[20] California Air Resources Board, Summary: Diesel Particulate Matter Health Impacts, https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts#:~:text=Diesel%20engine%20emissions%20are%20believed%20to, accessed July 12, 2024.
[21] Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual – Appendix D, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015gmappendicesaf.pdf, accessed July 12, 2024.
[22] California ARB, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005, https://ww2.arb.ca.gov/sites/default/files/2023-05/Land%20Use%20Handbook_0.pdf, accessed July 10, 2024.

illnesses. Examples include schools, hospitals and residential areas.[23] Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions. However, consistent with its permitting requirements, the Air District recommends that projects also consider worker receptors in their air quality assessment.

Existing sensitive receptors in the vicinity of Martin Substation and Daly City Yard include the Midway Village multifamily residential development approximately 150 feet from the nearest project area; hotel, motel and single family residential uses located approximately 200 feet[24] from the nearest project area; and the Bayshore Elementary School located approximately 300 feet from the nearest project area. Receptors in the vicinity of the distribution express feeders alignment include residential uses as close as 15 feet from the alignment. Residential uses are also located as close as 15 feet from the local distribution system separation and system reinforcements areas. Refer to Table 3.2-3 in Section 3.2, Noise and Vibration, of this EIR for a detailed list of sensitive receptors in the vicinity of all project components. However, guests at the hotels and motels included in this table are not considered sensitive from an air quality perspective due to the limited duration they would spend at these locations. Therefore, the air quality analysis presented in this section does not analyze hotel and motel guests as receptors. Worker receptors at these uses are included in this analysis.

SAN FRANCISCO MODELING OF AIR POLLUTANT EXPOSURE ZONES

In an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with the Air District to inventory and assess air pollution and exposure from mobile, stationary, and area sources within San Francisco. This analysis is known as the 2020 Citywide Health Risk Assessment (2020 Citywide HRA), and is documented in the *San Francisco Citywide Health Risk Assessment: Technical Support Documentation*.[25] Areas with poor air quality, referred to as the Air Pollutant Exposure Zone (APEZ), are identified based on the following health-protective criteria:[26] (1) excess cancer risk greater than 100 per one million population from the contribution of emissions from all modeled sources; or (2) cumulative annual average $PM_{2.5}$ concentrations greater than 9 µg/m^3. The APEZ is expanded in certain geographic health vulnerable[27] areas of San Francisco, primarily the Bayview, Tenderloin, and much of the South of Market area, to be more protective, with the areas included in the APEZ based on a standard for cancer risk that is 10 percent more stringent than elsewhere in San Francisco (i.e., areas where the excess cancer risk exceeds 90 in one million). Only the western half of the distribution express feeders alignment are located

[23] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards, April 2023, p. E-13, PDF page 22, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4, accessed July 10, 2024.

[24] For the project variant, this distance to the nearest hotel and motel uses is reduced to 15 feet from trenching of transmission line on Geneva Avenue.

[25] San Francisco Department of Public Health, San Francisco Planning Department, & Ramboll, San Francisco Citywide Health Risk Assessment: Technical Support Documentation, February 2020, https://www.sfdph.org/dph/files/EHSdocs/AirQuality/Air_Pollutant_Exposure_Zone_Technical_Documentation_2020.pdf, accessed July 10, 2024.

[26] San Francisco Planning Department, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025.

[27] Health vulnerable areas were identified as those bay area zip codes in the worst quintile of bay area Health Vulnerability Scores. San Francisco Department of Public Health and San Francisco Department of Planning, San Francisco Citywide Health Risk Assessment: Technical Support Documentation, February 2020, https://www.sfdph.org/dph/files/EHSdocs/AirQuality/Air_Pollutant_Exposure_Zone_Technical_Documentation_2020.pdf, accessed July 10, 2024.

within areas mapped as within San Francisco's APEZ. The remaining alignment location in San Francisco is not mapped within the APEZ.[28]

The APEZ also includes all parcels within 1,000 feet of freeways and roadways used by more than 100,000 vehicles per day. The APEZ is based on modeling that was prepared using a 20-meter by 20-meter receptor grid covering San Francisco. The following summarizes the evidence supporting the APEZ criteria followed by a discussion of major sources of emissions within and near the project area.

EXCESS CANCER RISK

The greater than 100 per one million persons exposed (100 excess cancer risk) criterion for defining the APEZ is based on the U.S. EPA's guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.[29] As described by the Air District, the U.S. EPA considers a cancer risk of 100 per 1 million to be within the "acceptable" range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants rulemaking,[30] the U.S. EPA states that it "… strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million; and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100 per one million excess cancer risk is also consistent with the ambient cancer risk in the most pristine portions of the bay area based on the Air District's regional modeling.[31]

FINE PARTICULATE MATTER

In April 2011, the U.S. EPA published *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*. In this document, the U.S. EPA concludes that the then current federal annual $PM_{2.5}$ standard of 15 µg/m^3 should be revised to a level within the range of 13 to 11 µg/m^3, with evidence strongly supporting a standard within the range of 12 to 11 µg/m^3. In December 2012, the U.S. EPA strengthened the annual $PM_{2.5}$ standard from 15 to 12 µg/m^3 and issued final area designations based on that standard. The APEZ for San Francisco is based on the health protective annual average $PM_{2.5}$ standard of 11 µg/m^3, as supported by the U.S. EPA's particulate matter policy assessment, although lowered to 10 µg/m^3 to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs. On February 7, 2024, U.S. EPA further strengthened the primary (health-based) annual $PM_{2.5}$ standard from 12 to 9 µg/m^3 to provide increased public health protection, consistent with the available health science.[32] In

[28] San Francisco Department of Public Health and San Francisco Department of Planning, San Francisco Citywide Health Risk Assessment: Technical Support Documentation, February 2020, https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=2ec4f5b2368081acba7ca67aea1c803b558c585c5266ccd51a3479d4a9f8f649&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed July 10, 2024.

[29] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards, April 2023, p. A-42, PDF page 49, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4, accessed July 10, 2024.

[30] 54 Federal Register 38044, September 14, 1989.

[31] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards, April 2023, p. A-42, PDF page 49, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4, accessed July 10, 2024.

[32] U.S. EPA, Reconsideration of the National Ambient Air Quality Standards for Particulate Matter, March 6, 2024, https://www.federalregister.gov/documents/2024/03/06/2024-02637/reconsideration-of-the-national-ambient-air-quality-standards-for-particulate-matter, accessed July 10, 2024.

February 2025, the planning department issued updated guidelines in alignment with the U.S. Environmental Protection Agency. The APEZ for San Francisco is based on a health protective annual average $PM_{2.5}$ standard of 9.0 µg/m^3 citywide.[33]

3.3.2.5 AIR POLLUTION SOURCES

Air pollution sources evaluated in the 2020 Citywide HRA and contributing to emissions within and near the project areas include primarily stationary source and vehicle emissions on local roadways. The Air District's inventory of permitted stationary sources of emissions indicates that there are nineteen permitted sources (generators, gasoline dispensing facilities and other sources) within 1,000 feet of the project alignment including the existing generator at Martin Substation. Traffic on surrounding streets, primarily Interstate 280, Alemany Boulevard, and Geneva Avenue, also contribute to tailpipe emissions from gasoline-powered passenger vehicles and some diesel delivery trucks, in addition to entrained road dust ($PM_{2.5}$).

3.3.2.6 ODORS

The ability to detect odors varies considerably among the population and can be subjective. People may have different reactions to the same odor. For example, an odor such as coffee roasting may be offensive to one person but perfectly acceptable to another. Reactions to odors can range from psychological to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). An unfamiliar odor is also more easily detected and is more likely to cause complaints than a familiar one.

Sources that may typically generate odors include wastewater treatment and pumping facilities; landfills, transfer stations, and composting facilities; petroleum refineries, asphalt batch plants, chemical (including fiberglass) manufacturing, and metal smelters; painting and coating operations; rendering plants; coffee roasters and food processing facilities; and animal feed lots and dairies. There are no sources of odor in the immediate vicinity of the project areas shown on Figure 2-1. The Southeast Water Pollution Control Plant is located in southeast San Francisco.

3.3.3 Regulatory Framework

3.3.3.1 FEDERAL

CRITERIA AIR POLLUTANTS

The 1970 Clean Air Act requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled in order to achieve all national air quality standards by the deadlines specified in the act. These ambient air quality standards are intended to protect the public health and welfare and specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weakened from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above these standards before adverse health effects are observed. **Table 3.3-4** presents the current national air quality standards.

[33] San Francisco Planning Department, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025.

Table 3.3-4 State and National Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	State[34]		National[35]	
		Standard	Attainment Status	Standard	Attainment Status
Ozone	1 hour	0.09 ppm	**N**	NA	—[36]
	8 hours	0.07 ppm	**N**[37]	0.070 ppm	**N**
Carbon monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hours	9 ppm	A	9 ppm	A
Nitrogen dioxide (NO_2)	1 hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.030 ppm	NA	0.053 ppm	A
Sulfur dioxide (SO_2)	1 hour	0.25 ppm	A	0.075	A
	24 hours	0.04 ppm	A	0.14	A
	Annual	NA	NA	0.03 ppm	A
Particulate matter (PM_{10})	24 hours	50 µg/m^3	**N**	150 µg/m^3	U
	Annual[38]	20 µg/m^3	**N**	NA	NA
Fine particulate matter ($PM_{2.5}$)	24 hours	NA	NA	35 µg/m^3	**N**
	Annual	12 µg/m^3	**N**	12 µg/m^3	U/A[39,40]
Sulfates	24 hours	25 µg/m^3	A	NA	NA
Lead	30 days	1.5 µg/m^3	A	NA	NA
	Cal. quarter	NA	NA	1.5 µg/m^3	A
Hydrogen sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility-reducing particles	8 hours	—[41]	A	NA	NA

SOURCE: Bay Area Air Quality Management District, Air Quality Standards and Attainment Status, last updated January 5, 2017, https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status, accessed July 10, 2024.

ABBREVIATIONS:

A = Attainment; **N** = Non-attainment; U = Unclassified; NA = Not Applicable, no applicable standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter

[34] State ambient air quality standards for ozone, CO (except Lake Tahoe), SO_2 (one-hour and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

[35] National ambient air quality standards other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The eight-hour ozone standard is attained when the three-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour PM_{10} standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour $PM_{2.5}$ standard is attained when the three-year average of the 98th percentile is less than the standard.

[36] U.S. EPA revoked the one-hour national standard for ozone on June 15, 2005.

[37] This state eight-hour standard for ozone was approved in April 2005 and became effective in May 2006.

[38] The state annual standard for PM_{10} is the annual geometric mean; the national annual standard for PM_{10} is the annual arithmetic mean.

[39] In December 2012, the U.S. EPA strengthened the national annual average standard for $PM_{2.5}$ from 15 to 12 µg/m^3. In December 2014, the U.S. EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ national air quality standard. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

[40] The national annual average standard for $PM_{2.5}$ was further lowered to 9 µg/m^3 in February 2024. Attainment designations with respect to this new standard have not yet been finalized.

[41] Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Under amendments to the federal Clean Air Act, the U.S. EPA has classified air basins or portions thereof as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether the national air quality standards have been achieved. The current attainment status for the air basin, with respect to national standards, is summarized in Table 3.3-4. In general, the air basin experiences low concentrations of most pollutants when compared to national standards, except for $PM_{2.5}$ and ozone, for which standards are exceeded periodically.

In October 2015, U.S. EPA revised the primary and secondary national air quality standards for ozone to 0.070 ppm to provide increased protection of public health.[42] In December 2017, the U.S. EPA designated the bay area as a marginal non-attainment region for the 2015 ozone standard. The air basin is in attainment for other criteria air pollutants, with the exception of the 24-hour standards for PM_{10} and $PM_{2.5}$, for which the bay area is designated as “Unclassified” and non-attainment, respectively. “Unclassified” is defined by the Clean Air Act as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. The air basin is designated as an attainment area with respect to the national annual average standard for $PM_{2.5}$ of 12 $\mu g/m^3$. The national annual average standard for $PM_{2.5}$ was further lowered by the U.S. EPA to 9 $\mu g/m^3$ in February 2024; however, attainment designations with respect to this lower standard have not been finalized.

The Clean Air Act also requires each state to prepare a State Implementation Plan. The Clean Air Act Amendments of 1990 added requirements for states with non-attainment areas to revise their State Implementation Plans to incorporate additional control measures to reduce air pollution. The State Implementation Plan is modified periodically to reflect current emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. U.S. EPA is responsible for reviewing all State Implementation Plans to determine whether they conform to the mandates of the Clean Air Act, and to determine whether implementing the State Implementation Plans would achieve air quality goals. In addition, U.S.EPA sets federal vehicle and stationary source emissions standards and provides research and guidance in air pollution programs.

HAZARDOUS AIR POLLUTANTS

TACs have been regulated as hazardous air pollutants under federal air quality law since the 1977 federal Clean Air Act Amendments. The most recent federal Clean Air Act Amendments (1990) reflect a technology-based approach for reducing TACs. The first phase involves requiring facilities to install Maximum Achievable Control Technology. The Maximum Achievable Control Technology standards vary depending on the type of emitting source. U.S. EPA has established Maximum Achievable Control Technology standards for over 20 facilities or activities, such as perchloroethylene dry cleaning and petroleum refineries. The second phase of control involves determining the residual health risk represented by air toxics emissions sources after implementation of Maximum Achievable Control Technology standards.

3.3.3.2 STATE

CALIFORNIA CLEAN AIR ACT

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had

[42] U.S. EPA, National Ambient Air Quality Standards for Ozone, Federal Register Vol. 80, No. 206, October 26, 2015, https://www.govinfo.gov/content/pkg/FR-2015-10-26/pdf/2015-26594.pdf, accessed July 10, 2024.

already established its own air quality standards when federal standards were established, and because of the unique meteorological challenges in California, there are many differences between the state and national ambient air quality standards, as shown in Table 3.3-4. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code section 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or non-attainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 3-3.4, the air basin is designated as "non-attainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards. The air basin is designated as "attainment" for other pollutants.

The basic goal of the California Clean Air Act is to achieve health-based state ambient air quality standards by the earliest practicable date. It requires regions that violate the state ozone standard to prepare attainment plans to attain the standard. The Air District is subject to California Clean Air Act requirements for "serious" areas [Secs. 40921.5(a)(2), 40919]. Regional air quality plans are required to achieve a reduction in district-wide emissions of 5 percent per year for ozone precursors (California Health & Safety Code section 40914). However, if an air district is unable to achieve a 5 percent annual reduction, then the air district is required to adopt a control strategy to implement "all feasible measures" on an expeditious basis [Sec. 40914(b)(2)]. No non-attainment area in the state has been able to demonstrate a 5 percent reduction in ozone precursor pollutants each year. Consequently, air districts throughout the state, including the bay area, have opted to adopt "all feasible measures" as expeditiously as possible to meet the requirements of the Act.

The 1977 Clean Air Act Amendments require that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled to achieve all standards specified in the Clean Air Act. For areas that are designated "non-attainment" with respect to a standard, the Clean Air Act specifies future dates for achieving compliance with the national air quality standards and mandates that states submit and implement a State Implementation Plan for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. Similarly, the 1988 California Clean Air Act also requires development of air quality plans and strategies to meet state air quality standards in areas designated as non-attainment (except for areas designated as non-attainment for the state PM standards). Maintenance plans are required for attainment areas that had previously been designated non-attainment to ensure continued attainment of the standards.

TOXIC AIR CONTAMINANTS

Two principal laws provide the foundation for state regulation of TACs from stationary sources. In 1983, the state legislature adopted Assembly Bill 1807, which established a process for identifying TACs and provided the authority for developing retrofit air toxics control measures on a statewide basis. Air toxics from stationary sources in California are also regulated under Assembly Bill 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Regulation of TACs from mobile sources has traditionally been implemented through emissions standards for on-road motor vehicles (imposed on vehicle manufacturers) and through specifications for gasoline and diesel fuel sold in California (imposed on fuel refineries and retailers), rather than through land use decisions, air quality permits, or regulations addressing how motor vehicles are used by the general public.

In 2005, CARB approved a regulatory measure to reduce emissions of toxic and criteria air pollutants by limiting the idling of new heavy-duty diesel vehicles. The regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than 5 consecutive minutes or periods aggregating more than 5 minutes in any one hour. Buses or vehicles also must turn off their engines upon stopping at a school and must not turn on their engines more than 30 seconds before beginning to depart from a school. Also, Senate Bill 352 was adopted in 2003 and limits locating public schools within 500 feet of a freeway or busy traffic corridor.

ON-ROAD DIESEL TRUCKS AND OFF-ROAD DIESEL EQUIPMENT

To reduce emissions from non-road diesel equipment, EPA established a series of increasingly strict emission standards for new off-road diesel engines. (40 Code of Federal Regulations Parts 1039, 1065, and 1068; Cal. Code Regs., tit. 13, section 2025.) Tier 1 standards were phased in on newly manufactured equipment from 1996 through 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in on newly manufactured equipment from 2001 through 2006. Tier 3 standards were phased in on newly manufactured equipment from 2006 through 2008. Tier 4 standards, which require advanced emission control technology to attain them, were phased in between 2008 and 2015.

CARB has also adopted rules for new diesel trucks and for off-road diesel equipment. Along with rules adopted by the U.S. EPA, these regulations have resulted in substantially more stringent emissions standards for new diesel trucks and new off-road diesel equipment, such as construction vehicles. Haul truck regulations also mandate fleet turnover to ensure that by January 1, 2023, nearly all on-road diesel trucks will have 2010 model year engines or equivalent (i.e. Tier 4). (13 Cal. Code Regs. section 1956.8)

AUTOMOBILE FUEL EFFICIENCY STANDARDS

The Corporate Average Fuel Economy Standards were first enacted in 1975 to improve the average fuel economy of cars and light duty trucks. The current Corporate Average Fuel Economy Standards for model years 2024-2026 require new passenger and light duty vehicles sold in the US to average at least 40 miles per gallon (mpg). This is a nearly 43 percent increase from the previous standard of approximately 28 mpg. Current proposals seek to increase this to 49 mpg after 2026. Furthermore, the rate of electric vehicle adoption rate is occurring faster than anticipated. California has reached 1.5 million electric vehicle sales 2 years ahead of its planned 2025 target for the sales milestone. As of 2024, approximately 25 percent of new car sales in California are electric vehicles.

3.3.3.3 REGIONAL AND LOCAL REGULATIONS

BAY AREA AIR QUALITY PLANNING

The Air District is the regional agency with jurisdiction over the nine-county region located in the air basin. The Association of Bay Area Governments, the Metropolitan Transportation Commission, county transportation agencies, cities and counties, and various non-governmental organizations also participate in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs. The Air District is responsible for attaining or maintaining air quality in the region within federal and state air quality standards. Specifically, the Air District has the responsibility to monitor ambient air pollutant levels throughout the region and to develop and implement strategies to attain the applicable federal and state standards. The Air District has permit authority over most types of stationary emission sources and can require stationary sources to

obtain permits, and can impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The Air District also regulates new or expanding stationary sources of TACs and requires air toxic control measures for many sources emitting TACs.

The Air District's *2017 Clean Air Plan: Spare the Air, Cool the Climate* was adopted on April 19, 2017 by the Air District in cooperation with the Metropolitan Transportation Commission, the San Francisco Bay Conservation and Development Commission, and the Association of Bay Area Governments to provide a regional strategy to improve bay area air quality and meet public health goals.[43] The control strategy described in the 2017 Clean Air Plan includes a wide range of control measures designed to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reduce greenhouse gas (GHG) emissions to protect the climate.

The 2017 Clean Air Plan addresses four categories of pollutants: ground-level ozone and its key precursors, ROG and NOx; PM, primarily $PM_{2.5}$, and precursors to secondary $PM_{2.5}$; air toxics; and GHG emissions. The control measures are categorized based on the economic sector framework including stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, and water measures.

AIR DISTRICT RULES

The Air District rules that would be most applicable to the proposed project and variant pertain mostly to permits for emergency generators and include Rules 2-1, 2-2, and 2-5. The Air District regulates stationary-source emissions of TACs through Rule 2-1 (General Permit Requirements), Rule 2-2 (New Source Review), and Rule 2-5 (New Source Review of Toxic Air Contaminants). Under these rules, all stationary sources that have the potential to emit TACs above a certain level are required to obtain permits from the Air District. These rules provide guidance for the review of new and modified stationary sources of TAC emissions, including evaluation of health risks and potential measures to reduce TAC emissions or exposure to TAC emissions.

Sources must apply Best Available Control Technology to reduce emissions, and the Air District recently updated its Best Available Control Technology requirement for emergency generators greater than 1,000 horsepower (hp) to achieve EPA Tier 4 standards.[44]

SAN FRANCISCO CONSTRUCTION DUST CONTROL ORDINANCE

Health Code article 22B and San Francisco Building Code section 106.A.3.2.6 collectively constitute the Construction Dust Control Ordinance (adopted in July 2008). The ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures. For projects over one-half acre and within 1,000 feet of sensitive receptor(s) (e.g., residences and group living quarters, schools, child care centers, and hospitals and other health-care facilities), such as the project or project variant, and other projects as deemed necessary by the Director of the San Francisco Department of Public Health (health department), the Construction Dust Control Ordinance requires that the

[43] Bay Area Air Quality Management District, 2017 Clean Air Plan: Spare the Air, Cool the Climate, April 19, 2017, https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed July 10, 2024.
[44] Bay Area Air Quality Management District, Best Available Control Technology for Emergency Backup Engines greater than or equal to 1,000 brake-horsepower, 2021, https://www.baaqmd.gov/permits/apply-for-a-permit/engine-permits, accessed July 10, 2024.

project sponsor submit a Dust Control Plan, with a goal of minimizing visible dust, for approval by the health department prior to issuance of a building permit. Such larger projects must also identify a compliance monitor and that person must be available at all times during construction activities.

Dust suppression activities may include watering of all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by the San Francisco Public Works Code article 21, section 1100 et seq.

Pursuant to Health Code article 22B, section 1247, all departments, boards, commissions, and City agencies that authorize construction or improvements on land under their jurisdiction under circumstances where no building, excavation, grading, foundation or other permits are required to be obtained under the building code shall adopt rules and regulations to ensure that the same dust control requirements that are set forth in this article are followed.

SAN FRANCISCO CLEAN CONSTRUCTION ORDINANCE

The City's Clean Construction Ordinance (San Francisco Environment Code, chapter 25, and San Francisco Administrative Code, section 6.25, as amended March 2015) is applicable to City-funded projects that require the use of heavy off-road equipment for 20 days or more that are located within 1,000 feet of any residence, school, childcare center, health facility, or similar sensitive receptor. The ordinance requires implementation of measures to reduce diesel emissions generated at publicly funded construction sites. Specifically, for projects located within the APEZ, the ordinance requires the use of diesel engines that meet or exceed either the U.S. EPA or CARB Tier 2 off-road emission standards, and that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy. Additionally, the ordinance prohibits the use of portable diesel engines where alternative sources of power are available (i.e., requires use of available utility-provided electricity in lieu of a diesel generator), limits idling of diesel engines, requires that equipment be properly maintained and tuned, and mandates submittal to the authorizing City department of a Construction Emissions Minimization Plan prior to the start of work. Waivers to the equipment requirements may be granted only if compliance is not feasible or in case of emergency. For projects outside the APEZ, the ordinance requires the use of biodiesel fuel grade B20[45] or higher for off-road diesel equipment and use of Tier 2 or similar off-road equipment.

SAN FRANCISCO HEALTH CODE ARTICLE 38

San Francisco adopted Health Code article 38 in 2008, and amended it in 2014, to protect new sensitive uses from existing sources of air pollution by requiring enhanced ventilation and filtration systems in certain areas of San Francisco. The 2014 amendments make the health code and building code consistent with the results of the air quality modeling undertaken to identify the City's APEZ. As revised in 2014, article 38 applies to all development that includes "sensitive uses," as defined in the health code, including all residential units; adult, child and infant care centers; schools; and nursing homes. The revised article 38 considers all existing known sources of TACs and $PM_{2.5}$, and requires "enhanced ventilation," including filtration of outdoor air, for all such projects located in the APEZ. The filtration requirement of article 38 specifies minimum efficiency reporting value 13 or equivalent, based on American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2, and requires the health department to confer with other City departments and

[45] B20 biodiesel is a blend of biodiesel and petroleum diesel in which between 6 and 20 percent of the blended fuel is biodiesel.

report to the San Francisco Board of Supervisors concerning technologies it has identified or evaluated that may comply with the requirements of the health code. Article 38 also requires periodic updating of the APEZ map (about every 5 years) to account for changes in sources of TACs and $PM_{2.5}$ emissions or updated health risk quantification methodologies. The 2020 Citywide HRA was used to prepare the most recent 2020 APEZ map update; article 38 applies within the APEZ.

As mentioned earlier, the western half of the distribution express feeders alignment in San Francisco would be located within areas that meet the APEZ criteria. The remaining alignment to the east in San Francisco does not meet the APEZ criteria.

SAN FRANCISCO GENERAL PLAN AIR QUALITY ELEMENT

The San Francisco General Plan Air Quality Element[46] includes the following objectives:

- **Objective 1:** Adhere to state and federal air quality standards and regional programs.
- **Objective 2:** Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan.
- **Objective 3:** Decrease the air quality impacts of development by coordination of land use and transportation decisions.
- **Objective 4:** Improve air quality by increasing public awareness regarding the negative health effects of pollutants generated by stationary and mobile sources.
- **Objective 5:** Minimize particulate matter emissions from road and construction sites.
- **Objective 6:** Link the positive effects of energy conservation and waste management to emission reductions.

SAN FRANCISCO GREEN BUILDING CODE

San Francisco adopted a green building code in 2008; in 2010, it adopted the California Green Building Standards code but with modifications. The current code is the 2022 San Francisco Green Building Code,[47] which combines all mandatory elements from the 2022 California Green Building Standards as well as stricter local requirements. Section 5.103.1.3 of the San Francisco Building Code prescribes requirements for construction waste management. Permit applicants must submit documentation verifying the diversion of a minimum 75 percent of the project's construction and demolition waste, as calculated to meet Leadership in Energy and Environmental Design Materials and Resources category (LEED MR) Prerequisite Construction and Demolition Waste Management Planning and LEED MR Credit Construction and Demolition Waste Management. Permit applicants must also meet the requirements of San Francisco Environment Code chapter 14 and San Francisco Building Code chapter 13B (Construction and Demolition Debris Recovery Program). The waste management plan necessary to meet this requirement shall be updated as necessary and shall be accessible during construction for examination by the Department of Building Inspection.

[46] City and County of San Francisco, San Francisco General Plan – Air Quality Element, as amended through January 31, 2023.
[47] City and County of San Francisco, Green Building Code – 2022 Edition, November 10, 2002, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_building/0-0-0-87478, accessed July 11, 2024.

REGULATION OF ODORS

The Air District's regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. The regulation limits the "discharge of any odorous substance which causes the ambient air at or beyond the property line … to be odorous and to remain odorous after dilution with four parts of odor-free air." The Air District must receive odor complaints from 10 or more complainants within a 90-day period in order for the limitations of this regulation to go into effect. If this criterion has been met, an odor violation can be issued by the Air District if a test panel of people can detect an odor in samples collected periodically from the source.

3.3.4 Impacts and Mitigation Measures

This section analyzes potential air quality impacts from the proposed project and variant. It describes the methods used to determine the impacts and the thresholds that were used to conclude whether an impact would be significant. Mitigation measures are identified as necessary to reduce or avoid significant impacts.

3.3.4.1 SIGNIFICANCE CRITERIA

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, as modified by the San Francisco Planning Department. For the purpose of this analysis, the following criteria were used to determine whether implementing the project or the project variant would result in a significant impact related to air quality. Implementation of the project or project variant would have a significant effect related to air quality if the project or project variant would:

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations;
- Conflict with or obstruct implementation of the applicable air quality plan; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

3.3.4.2 APPROACH TO ANALYSIS

The purpose of the air quality analysis is to assess potential criteria pollutant emissions and health risks and hazards that would result from the construction and operation of the project or project variant consistent with guidelines and methods from air quality agencies, specifically: the planning department,[48] Air District, CARB, OEHHA, and U.S. EPA. The thresholds of significance used as the basis for determining air quality impacts under CEQA are discussed below and are based on substantial evidence identified in the Air District's Significance Thresholds Justification Report included as Appendix A of its 2022 CEQA Air Quality Guidelines and guidance from the San Francisco Planning Department.[49]

[48] San Francisco Planning, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, http://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

[49] San Francisco Planning, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, http://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

CONSISTENCY WITH THE CLEAN AIR PLAN

The most recently adopted air quality plan for the air basin is the *2017 Clean Air Plan: Spare the Air, Cool the Climate*.[50] The 2017 Clean Air Plan is a road map that demonstrates how the San Francisco Bay Area will achieve compliance with the state ozone standards as expeditiously as practicable and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. Consistency with the 2017 Clean Air Plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan, the third bulleted significance criterion identified above. This analysis is presented in Impact AQ-1.

In determining consistency with the 2017 Clean Air Plan, this analysis considers whether the project or project variant would (1) support the primary goals of the 2017 Clean Air Plan, (2) include applicable control measures from the 2017 Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the 2017 Clean Air Plan.

REGIONAL CRITERIA AIR POLLUTANTS

The study area for the evaluation of regional air quality impacts is the air basin. The regional criteria air pollutant analysis estimated construction and long-term operational emissions that would be generated by the project or project variant. The construction and operational emissions quantified include emissions from construction-related equipment and vehicles (worker vehicles, vendor and haul trucks), operational vehicle trips, and an emergency backup diesel generator.

As described under Section 3.3.3, Regulatory Framework, the air basin experiences low concentrations of most pollutants when compared to federal or state standards and is designated as either in attainment or unclassified for most criteria air pollutants, with the exception of ozone, $PM_{2.5}$, and PM_{10}, for which the air basin is designated as non-attainment for either the state or federal standards. For this reason, the Air District has identified significance thresholds for criteria air pollutants and precursors of concern in the air basin: ROG, NOx, $PM_{2.5}$, and PM_{10}.

Table 3.3-5 identifies criteria air pollutant significance thresholds adopted by the Air District followed by a discussion of the proposed project and variant's sources of criteria air pollutants and analysis methods. Projects with criteria air pollutant emissions below these significance thresholds would not result in a cumulatively considerable net increase in non-attainment criteria air pollutants within the air basin, the first bulleted significance criterion identified in Significance Criteria. This analysis is presented in Impacts AQ-2 and AQ-3.

By definition, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in nonattainment of air quality standards. Instead, a project's individual emissions are considered to contribute to the existing, cumulative air quality conditions. If a project's contribution to cumulative air quality conditions is considerable, then the project's impact on air quality would be considered significant.[51]

[50] Bay Area Air Quality Management District, 2017 Clean Air Plan: Spare the Air, Cool the Climate, April 19, 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed July 10, 2024.
[51] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, May 2017, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed September 29, 2022.

Table 3.3-5 Criteria Air Pollutant Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lb/day)	Average Daily Emissions (lb/day)	Maximum Annual (tons/year)
ROG	54	54	10
NO_X	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Construction Dust Ordinance or other best management practices	Not Applicable	

SOURCE: Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, April 2023, *https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en*, accessed July 10, 2024.

ABBREVIATIONS:
lb/day = pounds per day; ROG = reactive organic gases; NOx = nitrogen oxides; PM = particulate matter; $PM_{2.5}$ = PM less than 2.5 microns in diameter; PM_{10} = PM less than 10 microns in diameter

As explained by the Air District in its 2009 report justifying the above criteria air pollutant significance thresholds (included as Appendix A of the 2022 CEQA Guidelines), the thresholds for the ozone precursors ROG and NOx are tied to the Air District's offset requirements for ozone precursors, based on the air basin's non-attainment status with the federal ozone standard. Therefore, such an approach is appropriate "to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevention of a regionally cumulative significant impact (e.g., worsened status of nonattainment)."[52] The ambient air quality standards have been established by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. Therefore, attainment can be considered protective of public health, thereby providing a strong link between a mass emission threshold and avoidance of health effects. For PM_{10} and $PM_{2.5}$, the Air District established significance thresholds based on the federal New Source Review program for new stationary sources of pollution, which contains stricter thresholds than the Air District's offset program for these pollutants. "These thresholds represent the emission levels above which a project's individual emissions would result in a considerable adverse contribution to the [San Francisco Bay Area Air Basin's] existing air quality conditions." As with ROG and NOx, these thresholds likewise provide a connection between a mass emission threshold and avoidance of health effects. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Fugitive dust emissions are primarily associated with construction activities. Studies have shown that the application of best management practices at construction sites can significantly control fugitive dust,[53] and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[54] San Francisco's Construction Dust Control Ordinance requires a number of fugitive dust control measures to

[52] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines Appendix A: Thresholds of Significance Justification, April 2023, pp. A-46, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9, accessed July 10, 2024.
[53] Western Regional Air Partnership, WRAP Fugitive Dust Handbook, September 7, 2006, https://www.env.nm.gov/wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf, accessed July 10, 2024.
[54] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines Appendix A: Thresholds of Significance Justification, April 2023, pp. A-45, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9, accessed July 10, 2024.

ensure that construction projects do not result in visible dust. Components of the project or project variant in San Francisco would be subject to the requirements of the Construction Dust Control Ordinance, which is the basis for determining the significance of fugitive dust emissions associated with construction activities under Impact AQ-2. Fugitive dust emissions associated with operational activities are assessed in Impact AQ-3 and included in the total PM emissions compared against the significance thresholds presented in Table 3.3-5.

Construction

Construction of the project or project variant has the potential to create air quality impacts from the use of heavy-duty off-road construction equipment, construction workers' vehicle trips, and vendor truck trips. Construction criteria air pollutant and TAC emissions were estimated using methods consistent with California Emissions Estimator Model (CalEEMod) version 2022.1 or equivalent methods as described below. Demolition, hauling, and ground-disturbing activities also result in fugitive dust emissions.

Construction activities associated with the project would take approximately three years to complete and are assumed to start as early as 2026. The construction durations of the individual project components vary between 1 to 33 months. Construction phasing and schedule, off-road equipment activities, and on-road construction vehicles trips for the different project components and variant were provided by the San Francisco Public Utilities Commission (SFPUC). Construction of the linear components would involve either overhead construction or underground construction (including trenching). However, since trenching for underground construction generates higher emissions than overhead work, all construction of the linear components was conservatively assumed to use trenching equipment to estimate the highest possible average daily emissions. A detailed explanation of all assumptions and methods used to calculate construction criteria pollutant emissions is included as part of Appendix F.

Construction emissions were calculated for off-road construction equipment, on-road vehicles transporting workers, equipment and materials, and off-gassing from asphalt paving. In addition, emissions from both rail transport and truck transport were estimated because either option could be used to off-haul hazardous excavated material. For off-road construction equipment, CalEEMod and methods consistent with CalEEMod were used to estimate emissions. Emissions were calculated assuming fleet average equipment, meaning the emission factors used reflect the fleet predicted to be in use in the OFFROAD2017-ORION v1.0.1 model, which is the model used by CalEEMod for offroad equipment emission factors.

Emission factors for on-road mobile sources were estimated using CARB's EMission FACtors (EMFAC2021) on-road emissions model and default trips lengths in CalEEMod. EMFAC2021 incorporates the Pavley Clean Car Standards and the Advanced Clean Cars program. Consistent with CalEEMod methods, it was assumed that worker trips are 50 percent light-duty auto, 25 percent light-duty truck 1 and 25 percent light-duty truck 2[55] vehicle classes. Vendor trips are assumed to include 50 percent medium-heavy duty trucks and 50 percent heavy-heavy duty trucks while hauling trips are assumed to be all heavy-heavy duty trucks.

Two disposal options are being considered for the excavated hazardous waste. One option involves transporting all excavated hazardous waste by truck to the closest Class I landfill in Kern County approximately 215 miles from the project area. Alternately, hazardous waste could be trucked to the Port of San Francisco transfer facility on Cargo Way (at Pier 94), from where the waste would be hauled by rail to the East Carbon Development Corporation Landfill in Utah. Criteria air pollutant emissions from the transport of contaminated

[55] Light-duty truck 1 and light duty 2 are vehicle categories defined by the U.S. EPA depending on the loaded vehicle weight.

soil by trucks were calculated using EMFAC2021 emissions factors based on trip lengths described in the Methodology Document included as part of Appendix F. CalEEMod-default methodologies do not apply to rail emissions; assumptions for rail activity and emissions were developed separately and are presented in Appendix F.

ROG emissions from paving off-gassing were estimated consistent with CalEEMod methodology using the CalEEMod default emission rate of 2.62 pounds per acre paved and maximum possible disturbed area for each project component.

Fugitive PM emissions from construction activities including demolition, hauling, and ground-disturbing activities and entrained road dust from vehicular travel were estimated and included in the health risk $PM_{2.5}$ concentration analysis and are not included in the criteria air pollutant estimates for comparison with Air District mass emissions thresholds. The analysis accounts for compliance with San Francisco's Construction Dust Control Ordinance, discussed above. The calculation used entrained roadway dust emission factor based on the silt loading factor recommended by the Air District adjusted following CARB's 2021 Miscellaneous Process Methodology 7.9 for Entrained Road Travel, Paved Road Dust, and CalEEMod defaults for San Francisco County.

Operation

Once operational, the project or project variant would result in an increase in criteria air pollutant emissions from the testing and operation of the proposed 300-kilowatt emergency diesel generator at the operations control center and additional employee trips generated by the project. Other operational emission sources would remain the same as the existing conditions. Emissions from the proposed emergency diesel generator were estimated using CalEEMod default emission factors for emergency generators and specifications provided by SFPUC. Per guidance from the San Francisco Planning Department[56], emissions estimates assumed 50 hours per year of operation for routine maintenance and testing and emergency uses. Criteria air pollutant emissions from additional employee trips during operation were calculated using CalEEMod.

HEALTH RISK ASSESSMENT – TOXIC AIR CONTAMINANTS

In addition to criteria air pollutants, the project or project variant would emit TACs during both construction and operation. The study area for localized health risk impacts is within the area in the vicinity (approximately 2,000 feet) of the project components.

An HRA was conducted to estimate health risks from exposure to TACs emitted by construction and operation of the project or project variant including emissions from diesel-fueled construction off-road equipment, construction haul truck trips, rail transport emissions, operational traffic, and the proposed diesel generator.[57] The methodologies used to evaluate health risks are based on the most recent Bay Area Air Quality Management District CEQA Guidelines,[58] the most recent Air Toxics Hot Spots Program Risk Assessment

[56] San Francisco Planning, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, http://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

[57] The health risk assessment incorporates health risks from rail hauling for the new City Substation (project variant) construction because the new City Substation would generate a larger volume of excavated materials than Martin Substation separation, and rail hauling results in slightly higher emissions than offhaul of an equivalent volume by truck.

[58] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, April 2023, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed July 10, 2024.

Guidelines,[59] and the Air Quality and Greenhouse Gas Analysis Guidelines[60] from San Francisco Planning. The HRA evaluated the estimated incremental lifetime in cancer risk and chronic hazard index from DPM emissions and the annual average $PM_{2.5}$ concentrations associated with construction and operation. For receptors within San Francisco, only the incremental lifetime cancer risk and annual average $PM_{2.5}$ concentrations are reported. For receptors outside San Francisco, the chronic hazard index is also reported.

For the construction HRA, two different HRA approaches were applied for different project components, depending on availability of project-specific information such as location(s) and detailed construction schedules. Martin Substation separation and the new City Substation (project variant) have known construction locations and schedules; however, the three linear components (distribution express feeders, local distribution system separation, and system reinforcements) do not have known locations with detailed construction schedules. Health risks associated with construction of the following project components were not quantified: 1) modifications to retain PG&E access to non-electrical facilities, 2) operations control center, 3) operations and maintenance service yards, and 4) telecommunications equipment.[61] None of these project components would use heavy construction equipment for more than two months. Therefore, a quantitative HRA was not performed for these components in accordance with OEHHA's guidelines.

TAC emissions from light-duty vehicles, such as construction worker vehicles and new operational vehicle trips from additional employees, were not included in the quantitative HRA. Based on the Project Description, two crews, each consisting of 3-6 workers, are anticipated to work concurrently on each of the major components (Martin Substation, distribution express feeders, local distribution system separation, and system reinforcements). Therefore, daily construction worker trips would not exceed the screening level for passenger vehicle trips of 1,150 vehicles per day in the San Francisco Air Quality and Greenhouse Gas Analysis Guidelines.[62] Similarly, the additional operational trips resulting from 400 new employees with the implementation of the project or project variant would not exceed this screening level. Therefore, light-duty vehicles from construction and operation of the project or project variant would generate negligible TAC emissions and were not included in quantitative HRAs.

Consistent with OEHHA guidance, DPM emission rates were conservatively assumed to be equal to PM_{10} emission rates from all analyzed sources. Construction and operational DPM and $PM_{2.5}$ emission rates were calculated using the emissions inventory prepared using the approach to analysis described above under Regional Criteria Air Pollutants. Air dispersion modeling using the American Meteorological Society/U.S. EPA Regulatory Model (AERMOD version 23132) was conducted to determine TAC concentrations at all modeled receptors. Emissions were modeled using a unit emission rate (i.e., 1 gram per second [g/s]) for all sources, and the model estimates dispersion factors (with units of [$\mu g/m^3$]/[g/s]). AERMOD requires a variety of inputs such as source parameters, meteorological data, topographical data, and receptor parameters. Source

[59] Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments, February 2015, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf#:~:text=Air%20Toxics%20Hot%20Spots%20Program%20Guidance, accessed July 10, 2024.

[60] San Francisco Planning, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

[61] Telecommunications equipment would be installed at substations, within existing or proposed underground duct banks, and on existing or proposed poles. No additional ground disturbance beyond that already identified for other project components would be needed to complete telecommunications equipment construction.

[62] San Francisco Planning Department, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

parameters used are detailed in Appendix F. The modeling effort used the Mission Bay meteorological data for the year 2008 and terrain data from the National Elevation Dataset maintained by the United States Geological Survey.[63] All sensitive populations including daycares, schools, hospitals, and residences as well as off-site worker receptors within 1,000 feet of the modeled sources were included. Receptors were modeled at a height of 1.5 meters above terrain height representative of breathing height for ground-floor receptors,[64] with the exception of linear construction modeling, which modeled the hypothetical receptors at a height of zero meters from terrain height, which is the most conservative for estimating exposure concentrations according to the Air District.[65] For each receptor location, air dispersion factors were modeled that result from emissions from multiple sources. Modeled concentrations were converted to health risks using risk characterization methods from the Air District and OEHHA.

The Air District has adopted project-level health risk thresholds, above which the Air District considers new sources to make a cumulatively considerable health risk impact. Consistent with the Air District thresholds, for locations outside of San Francisco, and locations within San Francisco but outside of health vulnerability zip codes,[66] the project or project variant would have a significant impact if it results in annual average $PM_{2.5}$ concentration above 0.3 $\mu g/m^3$ or excess cancer risk of 10.0 per 1 million persons exposed. Chronic hazard index resulting from the proposed project is also disclosed and compared against the Air District's chronic hazard index threshold of 1.0 for maximally exposed individuals (MEIs)[67] outside San Francisco as the citywide HRA does not provide this data for receptors within San Francisco.

San Francisco's threshold of significance used to evaluate community health risks and hazards from new sources of TACs was developed with the Air District and is based on the potential for the project or project variant to substantially affect the geography and severity of the APEZ at sensitive receptor and worker locations. For all identified MEIs within San Francisco, the existing background risks (cancer risk and annual average $PM_{2.5}$ concentration) from the citywide HRA are identified. If the existing background risks at the MEI do not exceed the 100 in one million cancer risk and 9 $\mu g/m^3$ $PM_{2.5}$ annual average (APEZ criteria), but would exceed these criteria with the addition of the project or variant risk, a substantial health risk contribution threshold is defined as an annual average $PM_{2.5}$ concentration at or above 0.3 $\mu g/m^3$ or an excess cancer risk at or greater than10.0 per 1 million. This threshold is consistent with the Air District's adopted project-level health risk thresholds.

For those receptors within San Francisco already meeting the APEZ criteria, a more stringent significance threshold is required. In these areas, the project or project variant would have a significant impact if the resulting annual average $PM_{2.5}$ concentration would be at or above 0.2 $\mu g/m^3$ or an excess cancer risk at or

[63] Appendix F, Air Quality Technical Memorandum and Health Risk Assessment.
[64] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines Appendix E: Recommended Methods for Screening and Modeling Local Risks and Hazards, April 2023, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4, accessed July 10, 2024
[65] Bay Area Air Quality Management District. 2023. California Environmental Quality Act Guidelines. April. Available online at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines.
[66] San Francisco Department of Public Health, Environmental Health, Planning, Memorandum to File regarding 2014 Air Pollutant Exposure Zone Map, April 9, 2014. Zip codes: 94102, 94103, 94110, 94124, and 94130.
[67] The MEI is the modeled receptor that experiences the highest health risks. The MEI's exposure is the plausible upper bound of the distribution of individual exposures estimated at each modeled receptor.

greater than 7.0 per 1 million would occur.[68] Projects that result in a cancer risk or annual average $PM_{2.5}$ concentration below these levels at sensitive or worker receptors would not expose sensitive or worker receptors to substantial pollutant concentrations.

Table 3.3-6 presents the cancer risk and $PM_{2.5}$ health risk thresholds that are applied to the project or project variant.

Table 3.3-6 Excess Cancer Risk and $PM_{2.5}$ Concentration Thresholds

Affected Sensitive Receptors	Excess Cancer Risk (cases per 1 million population)	Chronic Hazard Index (unitless)	Annual Average $PM_{2.5}$ Concentration ($\mu g/m^3$)
FOR RECEPTORS WITHIN SAN FRANCISCO			
Significance threshold for project contributions to sensitive receptors in San Francisco meeting the APEZ criteria[69,70]	7.0	--	0.2
Significance threshold for project contributions to sensitive receptors in San Francisco that currently do not meet the APEZ criteria based on existing background risks, but would meet the APEZ criteria with the addition of risks from the project[68,71]	10.0	--	0.3
APEZ Cumulative Criteria[72]	100	--	10
FOR RECEPTORS OUTSIDE SAN FRANCISCO			
Significance threshold for project contributions to sensitive receptors outside San Francisco[69]	10.0	1.0	0.3
Cumulative significance threshold for sensitive receptors outside San Francisco[69]	100.0	10.0	0.8

SOURCES: Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, April 2023, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed July 10, 2024; San Francisco Department of Public Health, Environmental Health, Planning, *Memorandum to File regarding 2014 Air Pollutant Exposure Zone Map*, April 9, 2014; M. Jerrett et al., Spatial Analysis of Air Pollution and Mortality in Los Angeles, *Epidemiology* 16:727–736, November 2005, https://journals.lww.com/epidem/fulltext/2005/11000/spatial_analysis_of_air_pollution_and_mortality_in.4.aspx, accessed July 11, 2024.

ABBREVIATIONS:

BAAQMD = Bay Area Air Quality Management District; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; $\mu g/m^3$ = micrograms per cubic meter; APEZ = Air Pollutant Exposure Zone

[68] A 0.2 $\mu g/m^3$ increase in $PM_{2.5}$ would result in a 0.28 percent increase in non-injury mortality or an increase of about twenty-one excess deaths per 1,000,000 population per year from non-injury causes in San Francisco. This information is based on Jerrett M. et al., Spatial Analysis of Air Pollution and Mortality in Los Angeles, Epidemiology 16 (2005): 727–736. The excess cancer risk has been proportionally reduced to result in a significance criterion of 7 per 1 million persons exposed.

[69] A 0.2 $\mu g/m^3$ increase in $PM_{2.5}$ would result in a 0.28 percent increase in non-injury mortality or an increase of about 21 excess deaths per 1,000,000 population per year from non-injury causes in San Francisco. This information is based on M. Jerrett et al. 2005. The excess cancer risk has been proportionally reduced to result in a significance criterion of 7 per 1 million persons exposed.

[70] San Francisco Department of Public Health, Environmental Health, Planning, Memorandum to File regarding 2014 Air Pollutant Exposure Zone Map, April 9, 2014.

[71] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, 2023.

[72] See San Francisco Modeling of Air Pollution Exposure Zone discussion above.

ODORS

The approach to analyzing potential odor impacts is qualitative as the project or project variant would not include any land uses that the Air District would consider major sources of odor.

CUMULATIVE IMPACTS

As noted above, by definition, regional air pollution is largely a cumulative impact in that no single project is sufficient in size, by itself, to cause nonattainment of air quality standards. The contribution of a project's air emissions to regional air quality impacts is, by its nature, a cumulative effect. Emissions from cumulative projects in the vicinity could also contribute to cumulative air quality conditions and potentially adverse regional air quality impacts.[73] The project-level thresholds for criteria air pollutants identify levels of emissions for new sources that are not anticipated to result in a considerable net increase in nonattainment criteria air pollutants. Therefore, if a project's emissions are below the project-level thresholds, the project would not result in a considerable contribution to cumulative regional air quality impacts. For this reason, no separate cumulative criteria air pollutant analysis is warranted, and none is provided below. Refer to Impacts AQ-2 and AQ-3 for analysis of the project's contribution to regional criteria air pollutant impacts.

The cumulative health risk analysis includes project impacts added to existing risks and risks from reasonably foreseeable future projects. Potential cumulative health risks were analyzed at the proposed project and variant's MEI. MEI locations both within and outside of San Francisco were identified because the significance thresholds applicable will vary based on the location of the receptors.

For receptors within San Francisco, the Citywide HRA database was used to determine the existing cancer risk and $PM_{2.5}$ concentrations at the identified MEIs in San Francisco and project impacts were added to determine the existing plus project impact. Cumulative projects within 1,000 feet of the identified MEI locations were included in the analysis.[74] Where quantitative health risk information for cumulative projects was available, that information is disclosed. Cumulative health risks are addressed qualitatively for projects where emissions and health risk data are not available.

As discussed above, an annual average $PM_{2.5}$ concentration of 0.3 µg/m^3 and lifetime excess cancer risk of 10.0 per one million persons exposed are the levels below which the Air District considers new sources not to make a considerable contribution to cumulative health risks.[75] However, for those sensitive receptor locations already meeting the APEZ criteria, a lower significance threshold is used to reduce the project or project variant's contribution to cumulative health risks to less-than-significant levels. In these areas, the project or project variant's annual average $PM_{2.5}$ concentration at or above 0.2 µg/m^3 or a lifetime excess cancer risk at or greater than 7.0 per one million would be a cumulatively considerable health risk contribution and the project or project variant would result in a significant cumulative impact.[76] For MEI locations located outside of

[73] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, April 2023, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed July 10, 2024.

[74] The MEI adequately captures analysis of all sensitive receptors.

[75] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, April 2023, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed July 10, 2024.

[76] A 0.2 µg/m^3 increase in $PM_{2.5}$ would result in a 0.28 percent increase in non-injury mortality or an increase of about twenty-one excess deaths per 1,000,000 population per year from non-injury causes in San Francisco. This information is based on Jerrett M. et al., Spatial Analysis of Air Pollution and Mortality in Los Angeles, Epidemiology 16 (2005): 727–736. The excess cancer risk has been proportionally reduced to result in a significance criterion of 7 per 1 million persons exposed.

San Francisco, the Air District's HRA screening tools were used to evaluate the health risks from existing permitted stationary sources, roadways, railways and other existing TAC sources within 1,000 feet of the project boundary and combined with the project risks. An annual average $PM_{2.5}$ concentration of 0.8 µg/m^3, a hazard index of 10.0, and lifetime excess cancer risk of 100 per one million persons exposed are the cumulative thresholds applied by the Air District and apply to MEI locations outside of San Francisco.

A detailed explanation of all assumptions and methods used to calculate cumulative health risks is included in Appendix F.

3.3.4.3 IMPACT EVALUATION

Impact AQ-1: The project or project variant would not conflict with or obstruct implementation of the 2017 Clean Air Plan. ***(Less than Significant)***

All Project Components

As discussed under Approach to Analysis, above, the most recently adopted air quality plan for the air basin is the Air District's 2017 Clean Air Plan.[77] The 2017 Clean Air Plan is a road map that demonstrates how the bay area will, in accordance with the requirements of the California Clean Air Act, implement all feasible measures to reduce ozone precursors (ROG and NOx) and reduce the transport of ozone and its precursors to neighboring air basins. It also provides a climate and air pollution control strategy to reduce ozone, PM, TACs, and GHG emissions that builds upon existing regional, state, and national programs.

In determining consistency with the 2017 Clean Air Plan, this analysis considers whether the project or project variant would (1) support the primary goals of the 2017 Clean Air Plan, (2) include applicable control measures from the 2017 Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the 2017 Clean Air Plan. The primary goals of the 2017 Clean Air Plan are: to protect air quality and public health at the regional and local scale and protect the climate by reducing regional criteria air pollutant emissions; reducing local air-quality-related health risks (by meeting state and national ambient air quality standards); and reducing GHG emissions (by reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050).[78]

To meet the primary goals, the plan recommends 85 specific control measures and actions. These control measures are grouped into various categories and include stationary and area source measures, mobile source measures, transportation control measures, land use measures, and energy and climate measures. Other measures in the plan not within the Air District's regulatory authority may be advisory or are otherwise not specifically applicable to land use projects. These control strategies are grouped into the following categories:

- Stationary source measures
- Transportation control measures
- Energy control measures
- Building control measures
- Agricultural control measures
- Natural and working lands control measures
- Waste management control measures
- Water control measures
- Super GHG control measures

[77] Bay Area Air Quality Management District, 2017 Clean Air Plan: Spare the Air, Cool the Climate, April 19, 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed July 10, 2024.

[78] The Air District's 2030 GHG target is consistent with the California's GHG 2030 reduction target, per Senate Bill 32. The Air District's 2050 target is consistent with the state's 2050 GHG reduction target per Executive Order S-3-05.

Many of the Clean Air Plan's control measures are not directly applicable to the project or project variant because they are air-basin-wide policies to control regional air pollution and are not applicable at a project level. The discussion presented below lists the control measures from the Clean Air Plan that could be applicable to the project or project variant.

Construction crew members would commute to and from the project areas and heavy equipment and trucks would be used during construction of the project. The Clean Air Plan includes several transportation control measures related to these activities, including the following that would be applicable to the project. These transportation control measures are voluntary measures that require the Air District to provide incentives to encourage retrofits and equipment/vehicles upgrades but do not require equipment/vehicle upgrades or retrofits at the individual project level.

- Provide incentives to promote ridesharing (TR8)
- Incentives to purchase new trucks with lower NO_X emissions than the standards require, hybrid trucks, or zero-emissions trucks (TR19)
- Deploy construction equipment with Tier 3 or 4 off-road engines (TR22)

Control measures that address stationary sources are implemented by the Air District using its permit authority and therefore are not suited for implementation through local planning efforts or project approval actions. The following stationary source control measures would be applicable to the project or project variant:

- Emergency Backup Generators (SS32)
- Particulate Matter from Trackout (SS36)
- Fugitive Dust (SS38)

The Clean Air Plan also includes the following waste management control measure that would be applicable to the project or project variant:

- Recycling and Waste Reduction (WA4)

A brief discussion of consistency with each of these control measures is provided below.

Transportation control measure TR8 promotes carpooling and vanpooling by providing funding for and expansion of regional and local ridesharing and carsharing programs, and to encourage employers to promote ridesharing and carsharing to their employees. Measure TR8 is not directly applicable to the project as it requires the Air District to provide incentives and funding for regional and local programs to reduce commute trips. However, it is possible the contractors hired for the project or project variant would participate in regional and local ridesharing and carsharing programs independent of the SFPUC's action. Therefore, the project or project variant would not conflict with or obstruct implementation of this control measure.

Transportation control measure TR19 seeks to reduce emissions from medium and heavy-duty on-road trucks by incorporating more low-NO_X trucks, hybrid trucks, and zero-emissions trucks into the region's fleet. The Clean Air Plan includes a comprehensive strategy to reduce emissions from medium- and heavy-duty trucks by providing incentives for the use of new trucks with advanced emissions controls, including hybrid and zero-emissions trucks. However, Measure TR19 is not directly applicable to the project as it requires the Air District to provide incentives for companies to employ cleaner on-road trucks. However, it is anticipated the contractors hired for the project or project variant would participate in such incentive programs that

employ cleaner trucks in response to statewide regulations targeting truck manufacturers and fleet owners independent of the SFPUC's action. For these reasons, the project's use of on-road heavy-duty trucks during construction would not conflict with or obstruct implementation of this control measure.

Transportation control measure TR22 includes incentives to deploy electric, Tier 3, and Tier 4 off-road engines used during construction. Measure TR22 is not directly applicable to the project as it requires the Air District to provide incentives for companies to employ cleaner construction equipment. Therefore, the project or project variant would not conflict with or obstruct implementation of this control measure.

Stationary source control measure SS32 aims to reduce emissions of DPM, TACs, and criteria pollutants from emergency backup generators by enforcing Rule 11-18, resulting in reduced health risks to impacted individuals. This measure also has climate protection benefits through reduced GHG emissions. The emergency generator proposed as part of the project or project variant would be subject to Rule 11-18. Therefore, the project or project variant would not conflict with or obstruct implementation of this control measure.

Stationary source control measure SS36 aims to reduce $PM_{2.5}$ emissions from trackout of mud and dirt onto paved public roadways. This measure is implemented by the Air District through Regulation 6, Particulate Matter; Rule 6: Trackout (Rule 6-6), to address mud and dirt that can be "tracked out" from construction sites, bulk material storage, and disturbed surfaces onto public paved roads where vehicle traffic will pulverize the mud and dirt into fine particles and entrain them into the air. Rule 6-6 establishes visible emission limits to prevent trackout, requires cleanup if the trackout is significant, and limits visible emissions of dust during cleanup of any material that is tracked out. Construction activities associated with the project or project variant would be subject to Rule 6-6. In addition, the project or project variant construction would be subject to the requirements of the San Francisco Construction Dust Control Ordinance which requires all site preparation work, demolition, or other construction activities in San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards, or 500 square feet, of soil to comply with specified dust control measures, including measures to avoid trackout of construction fugitive dust.

Stationary source control measure SS36 aims to reduce particulate matter (PM_{10} and $PM_{2.5}$) fugitive dust emissions from traffic and other operations on construction sites, large, disturbed surfaces, and other sources of fugitive PM emissions. This measure is implemented by the Air District through Regulation 6, Particulate Matter; Rule 1: General Requirements (Rule 6-1). Construction activities associated with the project would be subject to Rule 6-1. As discussed above, the project or project variant would also be subject to the requirements of the San Francisco Construction Dust Control Ordinance which requires all construction activities within San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards, or 500 square feet, of soil to comply with specified dust control measures. As further discussed under Impact AQ-2, construction-related criteria air pollutant emissions would be temporary and would cease after completion of construction activities. As described in Impact AQ-3, criteria air pollutant emissions during project operations would be less than significant. Therefore, the project or project variant would not conflict with or obstruct implementation of this control measure.

Waste management control measure WA-4 seeks to reduce pollutant and GHG emissions by diverting recyclables and other materials from landfills. The project or project variant would not conflict with the measure's goals because it would comply with San Francisco Ordinance No. 144-21[79] and Public Works Code

[79] City and County of San Francisco, Ordinance No. 144-21, September 24, 2021, https://www.sfenvironment.org/files/fliers/files/ordinance_no._144-21_cnd_update_9.24.2021.pdf, accessed July 12, 2024.

section 725 that specify new construction and demolition debris recovery requirements for construction and demolition transporters, processing facilities, and projects. Under the ordinance, construction and demolition debris material removed from a project in San Francisco must be recycled or reused. No construction and demolition debris can be transported to or disposed of in a landfill or incinerator or put in a designated trash bin. Therefore, the project or project variant would not conflict with or obstruct implementation of this control measure.

As detailed above, the project or project variant would not conflict with or obstruct implementation of the control measures identified to achieve the goals of the Clean Air Plan.

The project or project variant's impact with respect to greenhouse gas emissions is addressed in Appendix A, Initial Study, Section E.9, Greenhouse Gas Emissions, which found that the project or project variant would be compliant with San Francisco's Greenhouse Gas Reduction Strategy and thus would not result in any significant impacts associated with an increase in greenhouse gas emissions or conflict with measures adopted for the purpose of reducing such emissions.[80]

For the reasons described above, the project or project variant would not conflict with or obstruct implementation of the Clean Air Plan. Therefore, this impact would be ***less than significant***, and no mitigation is required.

Mitigation: None required.

Impact AQ-2: Construction of the project or project variant could result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal, state, or regional ambient air quality standard. ***(Less than Significant with Mitigation)***

All Project Components

Fugitive Dust

Construction of the project or project variant would emit criteria air pollutant emissions in the form of fugitive dust during earthmoving and ground-disturbing activities; fugitive dust from travel on paved roads; and exhaust from heavy construction equipment, construction equipment and material delivery trucks, and construction worker vehicles.

Project construction in San Francisco would be subject to the requirements of the San Francisco Construction Dust Control Ordinance which requires all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards, or 500 square feet, of soil to comply with specified dust control measures, including measures to avoid trackout of construction fugitive dust. Compliance with the San Francisco Construction Dust Control Ordinance would prevent fugitive dust emissions such that impacts of construction in San Francisco would be less than significant.

The project also includes ground disturbance in San Mateo County, primarily within the Cities of Daly City and Brisbane, where the San Francisco Construction Dust Control Ordinance would not apply (refer to Figure 2-1).

[80] San Francisco Planning Department, Greenhouse Gas Checklist for PG&E Power Asset Acquisition Project, November 25, 2024.

Therefore, ground disturbance during construction of project or project variant components in San Mateo County (Martin Substation separation, distribution express feeders, new City Substation [project variant], local distribution system separation and system reinforcements) could have a potentially significant impact related to fugitive dust.[81] For construction areas outside San Francisco, implementation of **Mitigation Measure M-AQ-2a (Basic Best Management Practices for Construction-Related Fugitive Dust Emissions)** would reduce fugitive dust impacts to less-than-significant levels by requiring implementation of best management practices identified by the Air District as effective at controlling fugitive dust (***less than significant with mitigation***).[82]

Mitigation Measure M-AQ-2a: Basic Best Management Practices for Construction-Related Fugitive Dust Emissions

This measure applies to: Martin Substation Separation, Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, New City Substation (Project Variant)

All construction activities occurring outside San Francisco and involving excavation and ground disturbance that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil shall implement the following fugitive dust control measures.

- All exposed surfaces (e.g., unpaved parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the construction site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

Significance after Mitigation: Less than significant.

[81] Regarding fugitive dust emissions, the Air District Guidelines focus on implementation of recommended dust control measures rather than a quantitative comparison of estimated emissions to a significance threshold.

[82] BAAMQD, California Environmental Quality Act Air Quality Guidelines, Project Level Air Quality Impacts – Section 5.2.2 Construction-Related Criteria Air Pollutant Emissions. April 2023. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-project-air-quality-impacts_final-pdf.pdf?rev=de582fe349e545989239cbbc0d62c37a&sc_lang=en. Accessed August 2024.

Criteria Air Pollutants

Table 3.3-7 summarizes the unmitigated average daily construction emissions from all project components and the project variant by construction year based on the construction schedule in Table 2-9 of the Project Description. Emissions from all project components are presented for the project and project variant, and for the two hazardous waste transport scenarios being considered (rail transport to Utah and truck transport to Kern County). Only transport emissions within the air basin are included. Detailed tables showing unmitigated emissions by project component and construction year are included in Appendix F.

Both the project and project variant would result in an exceedance of the NOx threshold in 2026 under both rail transport and truck transport scenarios resulting in a significant impact. To mitigate this impact during construction of the project or project variant, **Mitigation Measure M-AQ-2b (Clean Construction Equipment**, p. 3-36) would be required.

Table 3.3-7 Unmitigated Construction Emissions for the Project and Project Variant

Construction Year	Average Daily Construction Criteria Pollutant Emissions (pounds per day) [83]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
PROPOSED PROJECT – RAIL TRANSPORT				
Year 1 [84]	5.9	**59**	1.8	1.7
Year 2	3.7	32	1.1	1.0
Year 3	1.4	12	0.41	0.37
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	**Yes**	No	No
PROPOSED PROJECT – TRUCK TRANSPORT				
Year 1	5.9	**59**	1.8	1.7
Year 2	3.6	31	1.1	1.0
Year 3	1.3	12	0.39	0.36
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	**Yes**	No	No
PROJECT VARIANT – RAIL TRANSPORT				
Year 1	8.4	**84**	2.6	2.4
Year 2	4.0	37	1.2	1.1
Year 3	0.93	8.3	0.27	0.25
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	**Yes**	No	No

[83] Emissions estimated using methods consistent with CalEEMod® version 2022.1. Unmitigated construction emissions are presented in Appendix F, Tables 12a, 12b, 14a and 14b.

[84] The analysis uses 2026 as Year 1 of construction.

Table 3.3-7 Unmitigated Construction Emissions for the Project and Project Variant

Construction Year	Average Daily Construction Criteria Pollutant Emissions (pounds per day) [83] ROG	NO_X	PM_{10}	$PM_{2.5}$
PROJECT VARIANT – TRUCK TRANSPORT				
Year 1	8.2	**82**	2.5	2.3
Year 2	3.9	36	1.2	1.1
Year 3	0.93	8.3	0.27	0.25
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	**Yes**	No	No

SOURCE: Appendix F, Air Quality Technical Memorandum and Health Risk Assessment Tables 12a, 12b, 14a and 14b.

ABBREVIATIONS:

CalEEMod = California Emissions Estimator Model; $PM_{2.5}$ = PM less than 2.5 microns in diameter; PM_{10} = PM less than 10 microns in diameter; ROG = reactive organic gases; NOx = nitrogen oxides

Bold values show exceedance of the applicable threshold.

Mitigation Measure M-AQ-2b: Clean Construction Equipment

This measure applies to: All project components

A. Engine Requirements.

1. All off-road equipment shall have engines that meet the U.S. EPA or California Air Resources Board Tier 4 Final off-road emission standards
2. Where access to alternative sources of power are available, portable diesel engines shall be prohibited.
3. Diesel engines, whether for off-road on on-road equipment, shall not be left idling for more than two minutes at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The SFPUC shall post legible and visible signs in English, Spanish, and Chinese in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. If the majority of the SFPUC's construction staff speak a language other than these, then the signs shall be posted in that language as well.
4. The SFPUC shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer's specifications.
5. Any other best available technology in the future may be included, provided that the SFPUC submits documentation to the planning department demonstrating that (1) the technology would result in emissions reductions and (2) it would not increase other pollutant emissions or result in other additional impacts, such as noise. This may include new alternative fuels or engine technology for off-road or other construction equipment (such as electric or hydrogen fuel cell equipment) that is not available as of 2024.

B. Waivers.

The environmental review officer (ERO) may waive the requirement of subsection (A)(2) regarding an alternative source of power if an alternative source is limited or infeasible at the project site. If the ERO grants the waiver, the SFPUC must submit documentation that the equipment used for onsite power generation meets the engine requirements of subsection (A)(1).

The ERO may waive the equipment requirements of subsection (A)(1) if a particular piece of Tier 4 Final off-road equipment is technically not feasible, the equipment would not produce the desired emissions reduction because of expected operating modes, or a compelling emergency requires the use off-road equipment that is not Tier 4 compliant. In seeking an exception, the SFPUC shall demonstrate that the project shall use the cleanest piece of construction equipment available and feasible and submit documentation that average daily construction emissions of ROG, NOx, PM2.5 would not exceed 54 pounds per day, and PM10 emissions would not exceed 82 pounds per day.

C. Construction Emissions Minimization Plan

Before starting onsite construction activities, the SFPUC shall submit a Construction Emissions Minimization Plan (Plan) to the ERO for review and approval. The Plan shall state, in reasonable detail, how the SFPUC will meet the engine requirements of Section A.

- The Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include, but is not limited to, equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For offroad equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.
- The SFPUC shall ensure that all applicable requirements of the Plan have been incorporated into the SFPUC's contract specifications. The Plan shall include a certification statement that the SFPUC's contractors agree to comply fully with the Plan.
- The SFPUC shall make the Plan available to the public for review onsite during working hours. The SFPUC shall post at the construction site a legible and visible sign summarizing the Plan. The sign shall also state that the public may ask to inspect the Plan for the project at any time during working hours and shall explain how to request to inspect the Plan. The SFPUC shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

D. Monitoring

After start of construction activities, the SFPUC shall submit a final report to the ERO documenting compliance with the Plan. After completion of construction activities, the SFPUC shall submit to the ERO a final report summarizing construction activities, including the start and end dates, duration of each construction phase, and the specific information required in the Plan.

Implementation of Mitigation Measure M-AQ-2b (Clean Construction Equipment) would reduce criteria air pollutant emissions associated with off-road construction equipment by requiring U.S. EPA Tier 4 Final engines. Tier 4 Final off-road engines emit approximately 90 percent less NOx and PM emissions when compared to uncontrolled equipment.[85] **Table 3.3-8** summarizes the mitigated average daily construction

[85] U.S. EPA, Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel, Federal Register/Vol. 69, No. 124, June 29, 2004, https://www.govinfo.gov/content/pkg/FR-2004-06-29/pdf/04-11293.pdf, accessed December 12, 2024.

emissions from all project components and the variant by construction year. Detailed tables showing mitigated emissions by project component and construction year are included in Appendix F. Table 3.3-8 demonstrates that equipment and vehicle exhaust emissions associated with project construction could be reduced sufficiently with implementation of Mitigation Measure M-AQ-2b so as not to result in a cumulatively considerable net increase in non-attainment criteria air pollutants. As a result, the construction criteria air pollutant impact would be reduced to ***less than significant with mitigation***.

Significance after Mitigation: Less than significant.

Table 3.3-8 Mitigated Construction Emissions for the Proposed Project and Variant

Construction Year	Average Daily Construction Criteria Pollutant Emissions (pounds per day)[86]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
PROPOSED PROJECT – RAIL TRANSPORT				
Year 1[87]	1.6	36	0.26	0.26
Year 2	1.0	18	0.14	0.14
Year 3	0.40	7.0	0.064	0.062
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	No	No	No
PROPOSED PROJECT – TRUCK TRANSPORT				
Year 1	1.6	36	0.25	0.24
Year 2	0.94	17	0.12	0.11
Year 3	0.37	6.4	0.047	0.046
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	No	No	No
VARIANT – RAIL TRANSPORT				
Year 1	2.5	51	0.49	0.47
Year 2	1.1	22	0.21	0.20
Year 3	0.22	4.8	0.031	0.031
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	No	No	No
VARIANT – TRUCK TRANSPORT				
Year 1	2.3	49	0.37	0.36
Year 2	1.0	20	0.15	0.14
Year 3	0.22	4.8	0.031	0.031

[86] Emissions estimated using methods consistent with CalEEMod® version 2022.1. Unmitigated construction emissions are presented in Appendix F, Tables 13a, 13b, 15a and 15b.
[87] The analysis uses 2026 as Year 1 of construction.

Table 3.3-8 Mitigated Construction Emissions for the Proposed Project and Variant

	Average Daily Construction Criteria Pollutant Emissions (pounds per day)[86]			
Construction Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Significance Thresholds	*54*	*54*	*82*	*54*
Exceeds Threshold?	No	No	No	No

SOURCE: Appendix F, Air Quality Technical Memorandum and Health Risk Assessment Tables 13a, 13b, 15a and 15b.

ABBREVIATIONS:

CalEEMod = California Emissions Estimator Model; $PM_{2.5}$ = PM less than 2.5 microns in diameter; PM_{10} = PM less than 10 microns in diameter; ROG = reactive organic gases; NOx = nitrogen oxides

Bold values show exceedance of the applicable threshold.

Impact AQ-3: Operation of the project or project variant would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal, state, or regional ambient air quality standard. ***(Less than Significant)***

All Project Components

Operation of the project or project variant would commence upon completion of construction of all project components. The project or project variant would result in an increase in operational criteria air pollutant emissions primarily resulting from the proposed emergency diesel generator (at the operations control center) and additional employee trips, which would be the same under the project variant. Estimated operational criteria air pollutant emissions expressed as annual total and daily average emissions are shown in **Table 3.3-9**.

Table 3.3-9 Operational Emissions for the Project or Project Variant

	Criteria Pollutant Emissions[88]							
	Annual Emissions (tons/year)				Average Daily Emissions (pounds/day)[89]			
Emissions Source	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Emergency Generator	0.017	0.046	0.0024	0.0024	0.09	0.25	0.013	0.013
Employee Trips	0.52	0.42	0.01	0.01	2.8	2.3	0.055	0.055
Total Emissions	0.54	0.47	0.012	0.012	2.9	2.6	0.068	0.068
Air District Thresholds	*10*	*10*	*15*	*10*	*54*	*54*	*82*	*54*
Significant?	No	No	No	No	No	No	No	No

SOURCE: Appendix F, Air Quality Technical Memorandum and Health Risk Assessment, Table 17.

ABBREVIATIONS:

CalEEMod = California Emissions Estimator Model; $PM_{2.5}$ = PM less than 2.5 microns in diameter; PM_{10} = PM less than 10 microns in diameter; ROG = reactive organic gases; NOx = nitrogen oxides; PM = particulate matter

Bold values show exceedance of the applicable threshold.

[88] Emissions estimated using methods consistent with CalEEMod version 2022.1.

[89] Operational daily emissions shown represent activity and emissions average over 365 days per year.

As shown in Table 3.3-9, both annual total and average daily operational emissions associated with the project or project variant would be below the Air District's significance thresholds for operation. This impact would be ***less than significant***.

Mitigation: None required.

Impact AQ-4: The project or project variant could expose sensitive receptors to substantial pollutant concentrations. ***(Less than Significant with Mitigation)***

Site preparation activities such as demolition, excavation, grading, foundation construction, and other ground-disturbing construction activity would affect localized air quality during the construction phases of the project or project variant. Short-term emissions from construction activities would include directly emitted $PM_{2.5}$ and TACs such as DPM. Additionally, the long-term operational emissions from the project's stationary sources and employee trips would include $PM_{2.5}$ and TACs. The generation of these short- and long-term emissions could expose sensitive receptors to substantial pollutant concentrations of TACs, resulting in a localized health risk. Therefore, an HRA was conducted for the project and project variant to identify maximum health risks to receptors from construction and operational emissions of DPM and $PM_{2.5}$. For operations, TAC emissions from the proposed emergency generator and employee trips were included in the HRA. The HRA evaluated the estimated cancer risk, chronic hazard index, and $PM_{2.5}$ concentration associated with construction and operation of the project components and the variant.

As discussed earlier under Approach to Analysis, two different HRA approaches were applied for different project components, depending on whether a given project component has a known location(s) and whether detailed construction schedules are available by project area. The HRA results are analyzed and presented by project component below, due to the localized nature of health risks from TACs. While this discussion initially presents emissions from individual project or project variant components, the impact significance conclusions are based on the entirety of the project or project variant and stated at the end of the impact discussion. As noted under Approach to Analysis, construction health risks were not quantified for the following project components because heavy equipment would not be used for more than two months: 1) modifications to retain PG&E access to non-electrical facilities, 2) operations control center, 3) operations and maintenance service yards, and 4) telecommunications equipment.

Martin Substation Separation or New City Substation (Project Variant)

Martin Substation separation and the new City Substation (project variant) have known construction locations and schedules.

Table 3.3-10 summarizes the excess cancer risks, chronic hazard index and annual average $PM_{2.5}$ concentrations associated with construction activities at the Martin Substation and new City Substation (project variant) at MEI locations outside San Francisco. **Table 3.3-11** summarizes the excess cancer risks and annual average $PM_{2.5}$ concentrations associated with construction activities at the Martin Substation and new City Substation (project variant) at MEI locations in San Francisco. Risks shown are for unmitigated construction emissions. Because the Martin Substation and the project variant's construction areas are located south of the San Francisco border and nearest to sensitive receptors in San Mateo County (in Daly City), health risk impacts for the MEIs located outside of San Francisco are greater than those for MEIs located in San Francisco. The MEI location within San Francisco is located in the APEZ.

Table 3.3-10 Martin Substation/Variant - Unmitigated Construction Health Risks at MEI Outside San Francisco

Sensitive Receptor Type	Unmitigated Construction Health Risks		
	Lifetime Excess Cancer Risk (chances per million)	Chronic Hazard Index (unitless)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
MARTIN SUBSTATION (PROJECT)			
Martin Substation Construction Health Risk	1.9	0.0031	0.015
Construction Year [90]	--	Year 1 (2026)	Year 1 (2026)
MEI Location (UTMx, UTMy)	(552096, 4173294)	(552236, 4173174)	(552236, 4173194)
Receptor Type	Residential	Offsite worker	Offsite worker
Applicable Significance Threshold	*10.0*	*1.0*	*0.3*
Significant?	No	No	No
NEW CITY SUBSTATION (PROJECT VARIANT)			
Variant Construction Health Risk	**13**	0.026	0.12
Construction Year [87]	--	Year 1 (2026)	Year 1 (2026)
MEI Location	(552096, 4173294)	(552236, 4173174)	(552236, 4173174)
Receptor Type	Residential	Offsite worker	Offsite worker
Applicable Significance Threshold	*10.0*	*1.0*	*0.3*
Significant?	**Yes**	No	No

SOURCE: Table 20a of Appendix F, Air Quality Technical Memorandum and Health Risk Assessment

ABBREVIATIONS:

UTM = Universal Transverse Mercator; UTMx = eastward-measured distance; UTMy = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters

Bold values show exceedance of the applicable threshold.

As shown in Table 3.3-10, the unmitigated incremental lifetime cancer risk associated with the construction of the new City Substation (project variant) at the MEI located outside San Francisco would be 13 in one million, which exceeds the applicable significance threshold of 10 in one million. The cancer risk associated with the project variant is higher because the New City Substation is located in Daly City closer to the MEI outside San Francisco when compared to the Martin Substation, which is located farther away in San Francisco. Incremental lifetime cancer risk and annual average $PM_{2.5}$ concentrations at the MEIs within San Francisco would be below the threshold, as would the chronic hazard index and annual average $PM_{2.5}$ concentrations for MEIs outside San Francisco. The unmitigated incremental lifetime cancer risk associated with construction of Martin Substation separation would not exceed the significance threshold.

[90] The air quality analysis assumes that construction starts in 2026. A later construction start date would result in lower emissions due to lower emissions factors for construction equipment and vehicles in response to increasingly stringent regulatory requirements.

Table 3.3-11 Martin Substation/Variant - Unmitigated Construction Health Risks at MEI within San Francisco

Sensitive Receptor Type	Unmitigated Construction Health Risks		
	Lifetime Excess Cancer Risk (chances per million)	Chronic Hazard Index (unitless)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
MARTIN SUBSTATION (PROJECT)			
Martin Substation Construction Health Risk	0.10	<0.001	0.0013
Construction Year[91]	--	Year 1 (2026)	Year 1 (2026)
MEI Location (UTMx, UTMy)	(552380, 4173640)	(552460, 4173640)	(552400, 4173680)
Receptor Type	Residential	Offsite Worker	Residential
Existing Health Risk at MEI (2020)	59	--	10
Meets APEZ Criteria?	Yes	--	Yes
Applicable Significance Threshold	*7.0*	--	*0.2*
Significant?	No	--	No
NEW CITY SUBSTATION (PROJECT VARIANT)			
Variant Construction Health Risk	0.65	<0.001	0.0051
Construction Year [88]	--	Year 1 (2026)	Year 1 (2026)
MEI Location	(552380, 4173640)	(552460, 4173640)	(552460, 4173640)
Receptor Type	Residential	Offsite worker	Offsite worker
Existing Health Risk at MEI (2020)	59	--	10
Meets APEZ Criteria?	Yes	--	Yes
Applicable Significance Threshold	*7.0*	--	*0.2*
Significant?	No	--	No

SOURCE: Table 20b and Table 23 of Appendix F, Air Quality Technical Memorandum and Health Risk Assessment.

ABBREVIATIONS:

UTM = Universal Transverse Mercator; UTMx = eastward-measured distance; UTMy = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters

Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, Operations Control Center

The linear components, unlike Martin Substation and the new City Substation (project variant), do not have known locations with detailed construction schedules. All three linear components (distribution express feeders, local distribution system separation, and system reinforcements) were modeled as moving area sources along a straight line at 40 feet a day, perpendicular to the predominant wind direction, in a zone of influence with a 2,000-foot diameter. DPM emissions from on-road diesel vehicles were modeled along the same line as volume sources. The MEI location for this hypothetical HRA configuration is the nearest receptor

[91] The air quality analysis assumes that construction starts in 2026. A later construction start date would result in lower emissions due to lower emissions factors for construction equipment and vehicles in response to increasingly stringent regulatory requirements.

downwind of the midpoint of the 2,000-foot straight line; however, this does not represent a specific, physical receptor location but rather a hypothetical MEI. This approach provides the maximum possible health risk impacts from the most intensive construction scenario for the linear components.

Table 3.3-12 summarizes the cancer risks, chronic hazard index and annual average $PM_{2.5}$ concentrations at the hypothetical MEI location for the unmitigated construction emissions of the linear components. In reality, health risk impacts from the linear components may be less than what was modeled, depending on the exact locations of these project components (which are yet to be determined), the surrounding receptor types, and their relative orientations with regards to local wind directions.

Similar to the linear components, rail emissions were modeled as a hypothetical straight line in a zone of influence with a 2,000-foot diameter to represent rail transport of hazardous waste from construction of the project over approximately 145 miles within the air basin enroute to Utah. The modeled emission rates assume the maximum number of trains that could result from the implementation of the project, which was from the project variant's construction scenario.[92] Maximum possible health risk impacts from rail haul emissions are presented in Table 3.3-12.

Table 3.3-12 Linear Components, Rail, Emergency Generator, and Employee Trips - Unmitigated Construction and Operational Health Risks at Hypothetical MEI

Phase	Project Component	Unmitigated Health Risks		
		Lifetime Excess Cancer Risk (chances per million)	Chronic Hazard Index (unitless)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
Construction	Distribution Express Feeders	**7.5**	0.018	0.14
	Local Distribution System Separation	5.4	0.013	0.072
	System Reinforcements	5.8	0.014	0.085
	Local Project Components Total	18.7	0.045	0.297
	Rail [93]	0.05	<0.001	<0.001
Operation	Emergency Generator	1.7	<0.001	0.0023
	Employee Vehicle Trips	0.37	--	0.021
Applicable Significance Threshold		*7.0*	--	*0.2*
Significant?		**Yes**	--	**Yes**

SOURCE: Table 22 of Appendix F, Air Quality Technical Memorandum and Health Risk Assessment.

ABBREVIATIONS:

MEI = maximum exposed individual; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters

Bold values show exceedance of the applicable threshold.

[92] The project variant's construction would generate a larger volume of excavated materials, thus requiring more rail trips and higher emissions compared to Martin Substation construction.

[93] As a conservative estimate, health risks from rail hauling for the project variant's construction are shown. The project variant's construction would generate a larger volume of excavated materials, thus requiring more rail trips and higher emissions compared to Martin Substation construction. As shown in Appendix F, offhaul of the same volume of material using rail instead of trucks would result in greater PM10 and PM2.5 emissions.

Operational Emissions

Because the location of the operations control center that would include an emergency diesel generator is not yet known, the emissions from the proposed emergency generator were modeled by assuming a point source representing the proposed emergency generator at the center of a hypothetical 2,000-foot diameter receptor grid. Health risks modeled for the emergency diesel generator do not represent a specific physical location in southeast San Francisco but rather a hypothetical scenario where a receptor is assumed to be present at the location with the highest modeled health risks. Other parameters and assumptions for the emergency generator are summarized under Approach to Analysis and detailed in the Methodology Document included as part of Appendix F. Maximum health risk impacts from emergency generator emissions are also presented in Table 3.3-12.

The additional operational vehicle trips resulting from 400 new employees for a total of 800 new vehicle one-way trips per day were estimated based on a health risk screening method to determine health risk from on-road vehicle volumes according to the planning department's air quality analysis guidelines.[94] Based on a worst-case 95 percentile regression analysis for the correlation between vehicle volumes and health risks specific to San Francisco, the employee vehicle trips were estimated to result in a maximum excess cancer risk of 0.37 in a million and $PM_{2.5}$ concentrations of 0.021 $\mu g/m^3$, as shown in Table 3.3-12.

Combined Health Risk

As the MEIs refer to hypothetical locations and applicable significance criteria (APEZ or non-APEZ) cannot be determined based on their geographic location, this analysis compares the health risks at the MEIs for each of the modeled project components to the most conservative significance criteria applicable for receptors within the APEZ in San Francisco. As shown in Table 3.3-12, unmitigated lifetime excess cancer risk associated with the construction of the distribution express feeders would exceed the 7 in one million excess cancer risk threshold. The unmitigated incremental cancer risks associated with the other two linear components (local distribution system separation and system reinforcements) would be below thresholds. Chronic hazard index and annual average $PM_{2.5}$ concentrations from the construction of each of the linear components would be below thresholds. Rail emissions and the emergency generator emissions would result in incremental lifetime cancer risk, chronic hazard index and annual average $PM_{2.5}$ concentrations below the most conservative thresholds for receptors within the APEZ. While the unmitigated health risks for each analyzed project component are shown separately in Table 3.3-12, the combined cancer risk and annual $PM_{2.5}$ concentration, if the location of the hypothetical MEIs for the different project components coincide, would exceed significance thresholds, a significant impact.

Implementation of **Mitigation Measure M-AQ-2b (Clean Construction Equipment)**, identified under Impact AQ-2 would reduce DPM (exhaust PM_{10}) emissions by up to 90 percent from unmitigated levels by requiring U.S. EPA Tier 4 Final engines. **Tables 3.3-13** (p. 3.3-45) and **3.3-14** (p. 3.3-46) summarize the mitigated health risk impacts of controlled emissions associated with the construction of the Martin Substation and the project variant for MEIs outside and within San Francisco, respectively. In the mitigated scenarios, in which Tier 4 Final engines are used in offroad equipment, construction-related on-road mobile sources would influence the maximum $PM_{2.5}$ concentration more than would occur in the unmitigated scenarios. Consequently, the Martin Substation MEIs for $PM_{2.5}$ within San Francisco for both the mitigated

[94] San Francisco Planning Department, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, https:// citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

project and mitigated project variant are different from the $PM_{2.5}$ MEIs for the unmitigated scenarios for the project and project variant. Similar to the unmitigated scenario, both MEIs in San Francisco are located in the APEZ. Applicable project-level health risk thresholds in the two jurisdictions are also included.

Table 3.3-13 Martin Substation/Variant - Mitigated Construction Health Risks at MEI Outside San Francisco

Sensitive Receptor Type	Mitigated Construction Health Risks		
	Lifetime Excess Cancer Risk (chances per million)	Chronic Hazard Index (unitless)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
MARTIN SUBSTATION (PROJECT)			
Martin Substation Construction Health Risk	0.18	<0.001	0.0023
Construction Year [95]	--	Year 1 (2026)	Year 1 (2026)
MEI Location (UTMx, UTMy)	(552096, 4173294)	(552236, 4173174)	(552236, 4173194)
Receptor Type	Residential	Offsite worker	Offsite worker
Applicable Significance Threshold	*10.0*	*1.0*	*0.3*
Significant?	No	No	No
NEW CITY SUBSTATION (VARIANT)			
Variant Construction Health Risk	1.5	0.0027	0.015
Construction Year [92]	--	Year 1 (2026)	Year 1 (2026)
MEI Location	(552096, 4173294)	(552236, 4173174)	(552236, 4173174)
Receptor Type	Residential	Offsite worker	Offsite worker
Applicable Significance Threshold	*10.0*	*1.0*	*0.3*
Significant?	No	No	No

SOURCE: Table 21a of Appendix F, Air Quality Technical Memorandum and Health Risk Assessment.

ABBREVIATIONS:

UTM = Universal Transverse Mercator; UTMx = eastward-measured distance; UTMy = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters

Table 3.3-15 (p. 3.3-47) summarizes the mitigated health risks from the linear components, rail transport, and the emergency generator at hypothetical MEIs.

As shown in Tables 3.3-13, 3.3-14 and 3.3-15, with implementation of Mitigation Measure M-AQ-2b (Clean Construction Equipment), incremental lifetime cancer risk, chronic hazard index and annual average $PM_{2.5}$ concentration associated with the project and the project variant for both rail and truck transport scenarios at all identified MEIs (outside San Francisco, within San Francisco, and at hypothetical locations) would be below applicable thresholds. While health risks from each analyzed project component are shown separately in Table 3.3-15, the combined health risks, if the location of the hypothetical MEIs for the different project

[95] The air quality analysis assumes that construction starts in 2026. A later construction start date would result in lower emissions due to lower emissions factors for construction equipment and vehicles in response to increasingly stringent regulatory requirements.

components coincide, would also be below significance thresholds. This impact would therefore be ***less than significant with mitigation***.

Mitigation Measure M-AQ-2b: Clean Construction Equipment (see Impact AQ-2).

Significance after Mitigation: Less than significant.

Table 3.3-14 Martin Substation/Variant - Mitigated Construction Health Risks at MEI within San Francisco

Sensitive Receptor Type	Mitigated Construction Health Risks		
	Lifetime Excess Cancer Risk (chances per million)	Hazard Index (unitless)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
MARTIN SUBSTATION (PROJECT)			
Martin Substation Construction Health Risk	0.014	<0.001	0.001
Year[96]	--	Year 1 (2026)	Year 1 (2026)
MEI Location[97] (UTMx, UTMy)	(552380, 4173640)	(552460, 4173640)	(552520, 4173800)
Receptor Type	Residential	Offsite worker	Offsite worker
Existing Health Risk at MEI (2020)	59.1	--	11.65
Meets APEZ Criteria?	Yes	--	Yes
Applicable Significance Threshold	*7.0*	--	*0.2*
Significant?	No	--	No
NEW CITY SUBSTATION (VARIANT)			
Variant Construction Health Risk	0.09	<0.001	0.0022
Year[93]	--	Year 1 (2026)	Year 1 (2026)
MEI Location[94] (UTMx, UTMy)	(552380, 4173640)	(552460, 4173640)	(552400, 4173680)
Receptor Type	Residential	Offsite worker	Residential
Existing Health Risk at MEI (2020)	59.1	--	10.43
Meets APEZ Criteria?	Yes	--	Yes
Applicable Significance Threshold	*7.0*	--	*0.2*
Significant?	No	--	No

SOURCE: Table 21b and Table 23 of Appendix F, Air Quality Technical Memorandum and Health Risk Assessment.

ABBREVIATIONS:

UTM = Universal Transverse Mercator; UTMx = eastward-measured distance; UTMy = northward-measured distance; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters

[96] The air quality analysis assumes that construction starts in 2026. A later construction start date would result in lower emissions due to lower emissions factors for construction equipment and vehicles in response to increasingly stringent regulatory requirements.

[97] The $PM_{2.5}$ MEIs for the mitigated project and mitigated project variant within San Francisco are different from the MEIs for the unmitigated scenario. In the mitigated scenarios, in which Tier 4 Final engines are used in offroad equipment, construction-related on-road mobile sources would influence the maximum $PM_{2.5}$ concentration more than would occur in the unmitigated scenarios.

Table 3.3-15 Linear Components, Rail and Emergency Generator - Mitigated Construction and Operational Health Risks at Hypothetical MEI

Phase	Project Component	Mitigated Health Risks		
		Lifetime Excess Cancer Risk (chances per million)	Chronic Hazard Index (unitless)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
Construction	Distribution Express Feeders	2.7	0.0065	0.089
	Local Distribution System Separation	0.56	0.0014	0.019
	System Reinforcements	1.0	0.0024	0.031
	Local Project Components Total	4.26	0.01064	0.139
	Rail[98]	0.05	<0.001	<0.001
Operation	Emergency Generator	1.7	<0.001	0.0023
	Employee Vehicle Trips	0.37	--	0.021
Applicable Significance Threshold		*7.0*	--	*0.2*
Significant?		No	--	No

SOURCE: Table 23 of Appendix F, Air Quality Technical memorandum and Health Risk Assessment.

ABBREVIATIONS:

MEI = maximum exposed individual; $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters

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Impact AQ-5: The project or project variant would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. *(Less than Significant)*

All Project Components

The approach to analyzing potential odor impacts is qualitative. Generally, construction of a project would involve temporary odors from diesel combustion in equipment and vehicles. For operational odor impacts, if the project or project variant would include one of the types of facilities that typically involve odorous emissions, there would be the potential for an odor impact, especially if near sensitive receptors.

Sources that typically generate odors include wastewater treatment and pumping facilities; landfills, transfer stations, and composting facilities; petroleum refineries, asphalt batch plants, chemical (including fiberglass) manufacturing, and metal smelters; painting and coating operations; rendering plants; coffee roasters and food processing facilities; and animal feed lots and dairies.[99] The project does not propose any of these land uses.

During construction of all project components, the various diesel-powered vehicles and equipment would create localized odors while in use. These odors would be temporary and intermittent and are not likely to be

[98] As a conservative estimate, health risks from rail hauling for the project variant's construction are shown. The project variant's construction would generate a larger volume of excavated materials, thus requiring more rail trips and higher emissions compared to Martin Substation construction. As shown in Appendix F, offhaul of the same volume of material using rail instead of trucks would result in greater PM10 and PM2.5 emissions.

[99] Bay Area Air Quality Management District, California Environmental Quality Act Air Quality Guidelines, Table 5-4. April 2023. https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines, accessed July 10, 2024.

noticeable for extended periods of time beyond the boundaries of the project areas. In addition, handling of contaminated soil at Martin Substation and Daly City Yard could generate odors. However, as discussed in greater detail in Impact HZ-3 (Appendix A, Section E.18), the project or project variant would be required to comply with existing soil management plan requirements in consultation with the California Department of Toxic Substances Control (DTSC) for work at Martin Substation and Daly City Yard. The soil management plan would include odor suppression best management practices as required by DTSC; consequently, construction of the project or project variant at Martin Substation or Daly City Yard, respectively, would not result in odor emissions affecting a substantial number of people.

Once operational, the project or project variant would not include any sources that would generate odors. Testing and maintenance of the proposed emergency generator would result in localized diesel exhaust odor. However, as with construction equipment, this odor would be temporary and intermittent and is not likely to be perceived by receptors beyond the project boundary. Therefore, the project or variant would result in odor impacts that would be considered ***less than significant***.

Mitigation: None required.

3.3.4.4 CUMULATIVE IMPACTS

The air basin is a nonattainment area for both the federal and state ozone and PM standards; therefore, an air quality impact already exists. Additional emissions of ozone precursors (NO_X or ROG) and PM over threshold amounts would further degrade air quality related to ozone. Impacts AQ-2 and AQ-3 evaluate whether the project or project variant's contribution to this significant impact would be considerable. The Air District's project-level criteria air pollutant thresholds are based on levels below which new sources would not result in a cumulatively considerable net increase in criteria air pollutants for which the region is in nonattainment and, therefore, already address both project-specific and cumulative impacts. Thus, the potential for the project or project variant to result in significant criteria air pollutant emissions, and therefore a cumulatively considerable contribution to non-attainment criteria pollutants, is addressed under Impacts AQ-2 and AQ-3. That cumulative criteria air pollutant analysis is not repeated here.

Impact C-AQ-1: The project or project variant, in combination with cumulative projects, would contribute to the cumulative health risks in the area, but the project or project variant would not expose sensitive receptors to substantial air pollutant concentrations or result in a cumulatively considerable net increase in health risks and hazards. ***(Less Than Significant with Mitigation)***

The project or project variant would emit DPM and $PM_{2.5}$ emissions that would contribute to cumulative health risk impacts at receptors in the vicinity. This impact, combined with existing background health risks and DPM and $PM_{2.5}$ emissions from the construction and operation of the cumulative sources and projects discussed below, could result in a significant cumulative health risk impact.

Health risk impacts at the MEIs from all project components that could overlap geographically were combined to estimate the worst-case project-level impacts and were added to the existing (2020) background risks. For the receptors in San Francisco, the existing background risks were obtained from the San Francisco's 2020 Citywide HRA; for the receptors outside of San Francisco, the background risks were based on the Air District's HRA screening tools. The stationary source screening tool from the Air District provides generalized risk

estimates and estimated $PM_{2.5}$ concentrations for the existing stationary sources, which represents a screening-level analysis based on the size and type of activity that occurs at each stationary source. The Air District's Distance Multiplier Tool was used to refine the screening health risk values of the existing stationary sources. In addition, health risk impacts from mobile sources were obtained from the Air District's Roadway and Rail Screening Data Layers. For San Francisco only, this summation of risks at the MEI includes the proposed emergency generator at the operations control center and employee trips during operations, since these project components would be located in southeastern San Francisco.

The 2020 Citywide HRA database does not include construction and non-mobile operational emissions from individual projects that have been or will be proposed. Therefore, a list of foreseeable future projects was reviewed and considered in this analysis. The following cumulative projects could be adjacent or overlap geographically with the project or project variant components or the MEI locations. Each bullet discusses the cumulative project's potential to combine with air quality impacts of the project or project variant:

- **Brisbane Baylands Specific Plan**: The Draft EIR for this project identified the location of existing MEI to be north-northeast of this project's site, near Little Hollywood Park, at least 2,500 feet from the proposed project's MEI in San Francisco and more from the proposed project's MEI outside of San Francisco. Cancer risk identified for the MEI for the Brisbane Baylands Specific Plan for a resident child was approximately 2.1 in a million. The Draft EIR does not identify health risk impacts for receptors closer to the proposed project's MEIs. Because this cumulative project is downwind of the proposed project's MEIs and the health risk impacts identified in the Draft EIR are likely to attenuate and become negligible at the proposed project's MEI locations, health risk impacts from this cumulative project are not included quantitatively in the cumulative HRA.
- **Baylands North (Visitacion Valley Redevelopment Area)**: This cumulative project would be located less than 1,000 feet east of the nearest MEI for the proposed project and could contribute to cumulative risks. However, no HRA for this cumulative project was available in the 2008 Draft EIR or the subsequent phase applications. Therefore, health risk impacts from this cumulative project are not included quantitatively in the cumulative HRA.
- **PG&E Egbert Switching Station Project**: This cumulative project area is located more than a mile from the Martin Substation, but would include construction of new transmission lines, one of which would connect to Martin Substation. The Draft EIR for this cumulative project identified the MEI at a residence 50 feet away from the proposed switching station which is more than one mile away from the proposed project's MEI. Furthermore, the Draft EIR does not identify health risk impacts for receptors closer to the Martin Substation's area. Therefore, health risk impacts from this cumulative project are not included quantitatively in the cumulative HRA.
- **Pacific Place Retail Conversion**: The scale of this cumulative project is relatively small, and no HRA was conducted as part of its 2017 Initial Study. Therefore, this cumulative project would have negligible health risk impacts on the proposed project's MEIs.
- **Cormorant Battery Storage Facility**: This cumulative project site is located approximately 2,000 feet and 2,800 feet northwest of the variant and Martin Substation sites, respectively. Construction of this facility would occur more than 2,800 feet away from any of the identified MEIs for the project or project variant. This would be well beyond the 1,000 feet zone of influence recommended by the Air District for health risk assessments. Construction of the proposed underground transmission line connecting this facility to Martin Substation could occur simultaneously with construction at the Martin Substation or the

variant and could be less than 1,000 feet away from the MEIs identified for the project or project variant. Construction activities associated with transmission lines are linear in nature and would progress along the alignment at a rate of approximately 100 feet per day. Therefore, the duration of exposure to any receptor would be limited to between a few days to approximately one month using the Air District's recommended 1,000 feet as guide for the zone of influence. The scale of construction activities associated with transmission lines would also be much smaller than the construction of the battery storage facility itself. For these reasons, construction of the transmission line would not contribute substantially to the cumulative health risks at the project or variant MEIs. Therefore, health risk impacts from this cumulative project are not included quantitatively in the cumulative HRA.

In summary, given the limitations of quantitative data available for cumulative projects listed above, combined with the location of some of the projects more than 1,000 feet from the project or project variant sites, cumulative projects were qualitatively analyzed for the cumulative health risks at the identified MEIs for the project and project variant. The cumulative health risks are equivalent to the existing plus project and existing plus variant risks. **Table 3.3-16** and **Table 3.3-17** (p. 3.3-52) summarize the cumulative (existing background plus project) health risks for the MEIs identified in San Francisco resulting from the construction of Martin Substation and the new City Substation (project variant). **Table 3.3-18** (p. 3.3-54) summarizes cumulative health risks for the MEIs located outside of San Francisco based on the list of existing permitted stationary sources within 1,000 feet of the MEI confirmed by the Air District.

Table 3.3-16 Martin Substation/Variant - Unmitigated Cumulative Health Risks at MEIs Within San Francisco

Source	Risk Assumption	Cumulative Health Risks	
		Lifetime Excess Cancer Risk (chances per million)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
AT MARTIN SUBSTATION MEI IN SAN FRANCISCO (PROJECT)			
Martin Substation	Estimated	0.10	0.0013
Distribution Express Feeders	Hypothetical locations of maximum impacts	7.5	0.14
Loal Distribution System Separation		5.4	0.072
System Reinforcements		5.8	0.085
Rail		0.050	<0.001
Emergency Generator		1.7	0.0023
Employee Vehicle Trips		0.37	0.021
Unmitigated Project Total (Project Contribution)[100]		21	0.33
San Francisco Citywide Background Risk		59	10
Existing Citywide Background Risk Meets APEZ criteria?		No	Yes

[100] The total existing plus project (or project variant) conservatively combines the cancer risk and $PM_{2.5}$ concentration from all components of the project (or variant). The maximum health risks from linear components (Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements), rail, emergency generator, and employee vehicle trips were used in the sum, conservatively assuming that MEIs from each component would be located at the same location. In reality, there is little likelihood that all MEIs from different components would be co-located.

Table 3.3-16 Martin Substation/Variant - Unmitigated Cumulative Health Risks at MEIs Within San Francisco

Source	Risk Assumption	Cumulative Health Risks: Lifetime Excess Cancer Risk (chances per million)	Cumulative Health Risks: Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
Cumulative (Existing + Unmitigated Project) Risk[101]		80	11
Cumulative Significance Thresholds		*100*	*10*
Exceeds Cumulative Significance Thresholds?		No	Yes
Threshold for Contribution to Cumulative Impact		*n/a*[102]	*0.2*
Unmitigated Project Contribution Significant?		n/a[99]	**Yes**
AT NEW CITY SUBSTATION MEI IN SAN FRANCISCO (PROJECT VARIANT)			
New City Substation (Project Variant)	Estimated	0.65	0.0051
Distribution Express Feeders	Hypothetical locations of maximum impacts	7.5	0.14
Loal Distribution System Separation		5.4	0.072
System Reinforcements		5.8	0.085
Rail		0.050	<0.001
Emergency Generator		1.7	0.0023
Employee Vehicle Trips		0.37	0.021
Unmitigated Project Variant Total (Project Variant Contribution)[103]		22	0.33
San Francisco Citywide Background Risk		59	10
Existing Citywide Background Risk Meets APEZ criteria?		No	Yes
Cumulative (Existing + Unmitigated Project Variant) Risk[104]		81	11
Cumulative Significance Thresholds		*100*	*10*
Exceeds Cumulative Significance Thresholds?		No	Yes
Threshold for Contribution to Cumulative Impact		*n/a*[99]	*0.2*
Unmitigated Project Variant Contribution Significant?		n/a[99]	**Yes**

SOURCE: Appendix F, Air Quality Technical Memorandum and Health Risk Assessment.

ABBREVIATIONS:

$PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters; n/a = not applicable

NOTES:

Bold values show exceedance of the applicable threshold.

[101] Totals may not sum due to rounding.

[102] Unmitigated cumulative lifetime excess cancer risk is not significant. Hence, project and project variant contributions are not evaluated.

[103] The total existing plus project (or project variant) conservatively combines the cancer risk and $PM_{2.5}$ concentration from all components of the project (or variant). The maximum health risks from linear components (Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements), rail, emergency generator, and employee vehicle trips were used in the sum, conservatively assuming that MEIs from each component would be located at the same location. In reality, there is little likelihood that all MEIs from different components would be co-located.

[104] Totals may not sum due to rounding.

Table 3.3-17 Martin Substation/Variant - Mitigated Cumulative Health Risks at MEIs Within San Francisco

Source	Risk Assumption	Cumulative Health Risks: Lifetime Excess Cancer Risk (chances per million)	Cumulative Health Risks: Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
AT MARTIN SUBSTATION MEI IN SAN FRANCISCO (PROJECT)			
Martin Substation	Estimated	0.014	0.001
Distribution Express Feeders	Hypothetical locations of maximum impacts	2.7	0.089
Local Distribution System Separation		0.56	0.019
System Reinforcements		1.0	0.031
Rail		0.050	<0.001
Emergency Generator		1.7	0.0023
Employee Vehicle Trips		0.37	0.021
Mitigated Project Total (Project Contribution)[105]		6.4	0.16
San Francisco Citywide Background Risk[106]		59	12
Existing Citywide Background Risk Meets APEZ criteria?		No	Yes
Cumulative (Existing + Mitigated Project) Risk[107]		65.1	12
Cumulative Significance Thresholds		*100*	*10*
Exceeds Cumulative Significance Thresholds?		No	Yes
Threshold for Contribution to Cumulative Impact		*n/a*[108]	*0.2*
Mitigated Project Contribution Significant?		n/a[105]	No
AT NEW CITY SUBSTATION MEI IN SAN FRANCISCO (PROJECT VARIANT)			
New City Substation (Project Variant)	Estimated	0.09	0.0022
Distribution Express Feeders	Hypothetical locations of maximum impacts	2.7	0.089
Local Distribution System Separation		0.56	0.019
System Reinforcements		1.0	0.031
Rail		0.050	<0.001

[105] The total risk for the mitigated project (or mitigated project variant) conservatively combines the cancer risk and $PM_{2.5}$ concentration from all components of the project (or project variant). The maximum mitigated health risks from linear components (Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements), rail, emergency generator, and employee vehicle trips were used in the sum, conservatively assuming that MEIs from each component would be located at the same location. In reality, there is little likelihood that all MEIs from different components would be co-located. Therefore, the total mitigated project and mitigated project variant risks reported in this table are conservative.

[106] The Martin Substation MEIs for $PM_{2.5}$ within San Francisco for both the mitigated project and mitigated project variant are different from the $PM_{2.5}$ MEIs for the unmitigated scenarios for the project and project variant and therefore the San Francisco Citywide Background Risk values presented in this table (3.3-17) differ from the San Francisco Citywide Background Risk values presented in Table 3.3-16.

[107] Totals may not sum due to rounding.

[108] Unmitigated cumulative lifetime excess cancer risk is not significant. Hence, project and project variant contributions are not evaluated.

Table 3.3-17 Martin Substation/Variant - Mitigated Cumulative Health Risks at MEIs Within San Francisco

Source	Risk Assumption	Cumulative Health Risks: Lifetime Excess Cancer Risk (chances per million)	Cumulative Health Risks: Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
Emergency Generator		1.7	0.0023
Employees Vehicle Trips		0.37	0.021
Mitigated Project Variant Total (Project Variant Contribution)[109]		6.4	0.16
San Francisco Citywide Background Risk[110]		59	10
Existing Citywide Background Risk Meets APEZ criteria?		No	Yes
Cumulative (Existing + Mitigated Variant) Risk[111]		65	11
Cumulative Significance Thresholds		*100*	*10*
Exceeds Cumulative Significance Thresholds?		No	Yes
Threshold for Contribution to Cumulative Impact		*n/a*[112]	*0.2*
Mitigated Variant Contribution Significant?		n/a[109]	No

SOURCE: Tables 23 and 25 of Appendix F, Air Quality Technical Memorandum and Health Risk Assessment.

ABBREVIATIONS:

$PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters; n/a = not applicable

NOTES:

Bold values show exceedance of the applicable threshold.

Cumulative Cancer Risk – All Project Components

As shown Tables 3.3-16 and 3.3-18, cumulative cancer risks at MEIs for the project or project variant both within and outside San Francisco would be less than the 100-in-one-million threshold. Therefore, the project or project variant in combination with other cumulative projects would not result in a significant cumulative impact with respect to incremental lifetime cancer risk at project or project variant MEIs both within and outside San Francisco (***less than significant***).

[109] The total risk for the mitigated project (or mitigated project variant) conservatively combines the cancer risk and $PM_{2.5}$ concentration from all components of the project (or project variant). The maximum mitigated health risks from linear components (Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements), rail, emergency generator, and employee vehicle trips were used in the sum, conservatively assuming that MEIs from each component would be located at the same location. In reality, there is little likelihood that all MEIs from different components would be co-located. Therefore, the total mitigated project and mitigated project variant risks reported in this table are conservative.

[110] The Martin Substation MEIs for $PM_{2.5}$ within San Francisco for both the mitigated project and mitigated project variant are different from the $PM_{2.5}$ MEIs for the unmitigated scenarios for the project and project variant and therefore the San Francisco Citywide Background Risk values presented in this table (3.3-17) differ from the San Francisco Citywide Background Risk values presented in Table 3.3-16.

[111] Totals may not sum due to rounding.

[112] Unmitigated cumulative lifetime excess cancer risk is not significant. Hence, project and project variant contributions are not evaluated.

Table 3.3-18 Martin Substation/Variant - Unmitigated Cumulative Health Risks at MEI Outside San Francisco

Source	Cumulative Health Risks		
	Lifetime Excess Cancer Risk (chances per million)	Chronic HI (unitless)	Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)
AT MARTIN SUBSTATION MEI OUTSIDE SAN FRANCISCO (PROJECT)			
Martin Substation	1.9	0.0031	0.0151
Distribution Express Feeders	7.5	0.018	0.14
Local Distribution System Separation	5.4	0.013	0.072
System Reinforcements	5.8	0.014	0.085
Rail	0.050	<0.001	<0.001
Total Unmitigated Project Risks[113]	21	0.049	0.32
Background Stationary Sources	22	0.13	0.0
Background Roadway Sources	13	0.022	0.16
Background Railway Sources	6.0	0.0021	0.010
Total Background Risk[110]	41	0.15	0.17
Cumulative (Unmitigated Project + Background) Risk[110]	62	0.20	0.48
Cumulative Significance Threshold	*100*	*10.0*	*0.8*
Significant?	No	No	No
AT NEW CITY SUBSTATION MEI OUTSIDE SAN FRANCISCO (PROJECT VARIANT)			
New City Substation (Project Variant)	13	0.026	0.122
Distribution Express Feeders	7.5	0.018	0.14
Local Distribution System Separation	5.4	0.013	0.072
System Reinforcements	5.8	0.014	0.085
Rail	0.050	<0.001	<0.001
Total Unmitigated Variant Risks[110]	32	0.072	0.42
Background Stationary Sources	22	0.13	0.0
Background Roadway Sources	13	0.022	0.16
Background Railway Sources	6.0	0.0021	0.010
Total Background Risk[110]	41	0.154	0.17
Cumulative (Background + Unmitigated Variant) Risk[110]	73	0.23	0.59
Cumulative Significance Threshold	*100*	*10.0*	*0.8*
Significant?	No	No	No

SOURCE: Appendix F, Air Quality Technical Memorandum and Health Risk Assessment, Tables 24 and 26.
ABBREVIATIONS: $PM_{2.5}$ = fine particulate matter less than 2.5 micrometers in aerodynamic diameter; $\mu g/m^3$ = micrograms per cubic meters
NOTES:
Bold values show exceedance of the applicable threshold.

[113] Totals may not sum due to rounding.

Cumulative Annual Average $PM_{2.5}$ Concentration – All Project Components

Receptors in San Francisco

As shown in Table 3.3-16, the existing San Francisco Citywide Background Risk at Martin Substation MEI is 10 ug/m^3, which meets the APEZ criteria of a cumulative annual average $PM_{2.5}$ concentrations greater than 10 µg/m^3. When combined with emissions from the project or the project variant, the cumulative annual average $PM_{2.5}$ concentration (for existing plus unmitigated project) would exceed the threshold of 10 µg/m^3 at the project or project variant MEIs located in San Francisco (locations identified in Table 3.3-11). This is because the existing background annual average $PM_{2.5}$ concentrations at these MEI locations already exceed the cumulative threshold and therefore a significant cumulative impact already exists.

If existing health risks at receptors in San Francisco meet or exceed the APEZ criteria and a project would add new sources of air pollutants in these areas (as is the case for the project or project variant), then the project or project variant would affect the severity of pollution in the APEZ but would not affect the geography of the APEZ (i.e., the extent of the APEZ).[114] Under this scenario, a cumulative health risk impact occurs under existing conditions and the next step is to determine whether the project's contribution to cumulative health risks is considerable. A project's contribution to an existing significant cumulative impact would be considerable if the individual project's impacts exceed the project-level health risk threshold. As detailed earlier, consistent with the Air District's 2022 CEQA Guidelines, when health risk impacts are considered significant under existing conditions, a more health protective standard (than what is considered a substantial health risk contribution if the receptor were to be located outside the APEZ) is required to reduce a project's contribution to existing health risks to less-than-significant levels. Within APEZ areas, a $PM_{2.5}$ concentration at or above 0.2 µg/m^3 would represent a substantial health risk.

As shown in Table 3.3-16, the unmitigated total annual average $PM_{2.5}$ concentration from all components of the project or project variant at MEIs located within San Francisco would be 0.33 µg/m^3. As the contribution of the project or project variant would exceed 0.2 µg/m^3, the threshold at which contribution to the cumulative impact would be considered significant, the project or project variant would have a cumulatively considerable contribution to a significant cumulative impact with respect to annual average $PM_{2.5}$ concentrations. However, as shown in Table 3.3-17, implementation of **Mitigation Measure M-AQ-2b (Clean Construction Equipment)** would reduce the contribution of the project or project variant to the existing cumulative $PM_{2.5}$ impact at the MEIs in San Francisco to 0.16 µg/m^3. Therefore, the project or project variant's contribution to this significant cumulative impact would be ***less than significant with mitigation***.

Receptors Outside San Francisco

As shown in Table 3.3-18, the existing background annual average $PM_{2.5}$ concentrations at the project and project variant MEIs outside San Francisco do not exceed the cumulative threshold of 0.8 µg/m^3 and therefore, a significant cumulative impact does not exist. With the addition of $PM_{2.5}$ emissions from all components of the project or project variant, the cumulative annual average $PM_{2.5}$ concentration at the project or project variant MEIs outside San Francisco would not exceed the cumulative threshold of 0.8 µg/m^3 and therefore the project or project variant in combination with cumulative projects would not result in a significant cumulative health risk impact on receptors outside San Francisco (***less than significant***).

[114] San Francisco Planning Department, Air Quality and Greenhouse Gas Analysis Guidelines, February 2025, https:// citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=93af2e83a6fbd4bdc0f723a4e8944a88e47913849571b13e940a9b21971f2f83&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed February 18, 2025.

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CHAPTER 4
OTHER CEQA CONSIDERATIONS

4.1 Growth-Inducing Impacts

Section 15126.2(e) of the California Environmental Quality Act (CEQA) Guidelines requires that an environmental impact report (EIR) discuss the growth-inducing impacts of a proposed project. A growth-inducing impact is defined in the CEQA Guidelines section 15126.2(e) as:

> *[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth … It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

As discussed in the Initial Study (Appendix A, Section E.3, Population and Housing), the PG&E Power Asset Acquisition Project (project) and project variant do not involve any housing construction and therefore would not induce growth directly by constructing housing that would attract people to the area. Project or project variant construction would not extend roads or other infrastructure that could indirectly induce growth. Given the size and availability of the regional workforce, project or project variant construction would not be expected to induce demand for housing by attracting a substantial number of workers from outside the region. Construction of the project or project variant would not add capacity to the existing transmission and distribution system, and therefore would not induce economic or population growth. Operation of the project or project variant would add approximately 400 jobs, and associated population growth would be within the planned population growth for San Francisco and San Mateo counties. The project or project variant would not have a substantial growth-inducing impact, and no mitigation is required.

4.2 Significant Unavoidable Impacts

CEQA Guidelines section 15126.2 (c) requires that an EIR disclose significant environmental effects which cannot be avoided if the proposed project is implemented. As described in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, Section 3.2, Noise, even with the implementation of mitigation, construction of the Martin Substation separation under the project, or the new City Substation under the project variant, would result in a significant and unavoidable temporary noise impact and a considerable contribution to a significant cumulative noise impact. Temporary use of generators at night for dewatering trenchless construction pits associated with construction of the distribution express feeders could also result in a significant and unavoidable noise impact with mitigation. Equipment use at the operations and maintenance service yards could also result in significant and unavoidable nighttime noise impacts. All other potentially significant impacts of the project or project variant would be reduced to less than significant with the implementation of one or more mitigation measures.

4.3 Significant Irreversible Changes

Pursuant to Public Resources Code section 21100(b)(2)(B) and CEQA Guidelines section 15127, an analysis of irreversible environmental changes is required in EIRs prepared in connection with any of the following activities:

- Adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency
- Adoption by a local agency formation commission of a resolution making determinations (an action required for most annexations, incorporations, and other local government boundary changes), and
- Projects that will require both an EIR and preparation of an environmental impact statement under the National Environmental Policy Act (based on some federal action)

In accordance with CEQA Guidelines sections 15126.2(d) and 15127, the purpose of this section is to identify significant irreversible environmental changes that the project would cause, including those that could result from environmental accidents. Such significant irreversible environmental changes might include current or future uses of non-renewable resources, secondary or growth-inducing impacts that commit future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to the CEQA Guidelines, irretrievable commitments of resources should be evaluated to ensure that such current consumption is justified. In general, such irretrievable commitments include the uses of resources such as energy and natural resources that would be required to sustain a project over its usable life.

Construction activities associated with the project or project variant would result in an irretrievable and irreversible commitment of power supply and construction materials. The project or project variant would require commitment of non-renewable energy resources used to fuel and maintain equipment used for construction and operation (such as gasoline, diesel, and oil). Project or project variant construction would also commit resources, such as asphaltic concrete, concrete, and steel and other metals, to be used for the components.

Accidents, such as electrical fires or the release of hazardous materials, could trigger irreversible environmental damage. Regarding the possibility of electrical fire, as discussed in Initial Study Section E.18, Hazards and Hazardous Materials, in addition to federal worker safety regulations, workers handling hazardous materials are required to adhere to California Occupational Safety and Health Administration (Cal/OSHA) health and safety requirements, which include preparation and implementation of emergency evacuation plans and health and safety plans, safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Regarding the release of hazardous materials, as discussed in Initial Study Section E.18, Hazards and Hazardous Materials, recorded covenants restrict development and impose requirements for ground-disturbing activities at the Martin Substation separation site or the new City Substation (project variant) site, where known hazardous contamination has historically occurred. Remedial actions have been previously undertaken and continue to be maintained at this site in order to ensure the protection of public health and the environment. Stringent requirements are specified for excavation in this area. Although this area is subject to land use restrictions, commercial and industrial uses are permitted, and excavation is allowed if performed in accordance with relevant plans (e.g., soil management plan and health and safety plan), relevant treatments (e.g., caps) at the site are protected, and the oversight agency is notified in advance and approves the work. For construction work at this site, SFPUC would comply with relevant covenants,

associated plans, and all applicable local, state, and federal regulations related to hazardous materials. State and federal regulations and safety requirements, along with site-specific hazardous materials handling requirements, would reduce the risk of accidents resulting in public health and safety risks such that significant irreversible changes from accidental releases or fires are not expected.

Operation of the project or project variant would allow for the transport of electrical power generated from renewable and non-renewable resources, although the project or project variant itself would not require the future use of specific amounts of non-renewable resources. While the project or project variant would facilitate the continued delivery of electrical power generated from non-renewable resources (e.g., natural gas), these resources would be exploited and expended now and in the near future regardless of the project or project variant as the production and use of the carbon-based products that would become electricity transported by the project or project variant has been, or will be, approved by permitting agencies. In California, energy consumption in buildings is regulated by Title 24 of the California Code of Regulations. Title 24 includes standards that regulate energy consumption for the heating, cooling, ventilation, and lighting of residential and nonresidential buildings. Included in Part 6 of the Building Code are standards mandating energy efficiency measures in new construction. Since their establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and costs in California. The standards are updated every 3 years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective January 1, 2023.[1] The operations control center would be required to comply with the standards of Title 24 and the requirements of the San Francisco Green Building Code. The San Francisco Public Utilities Commission would be responsible for ensuring compliance with Title 24. The operations control center major renovations or tenant improvements would be certified Leadership in Energy and Environmental Design (LEED) Gold. The new City Substation (project variant), if constructed, would be 20,700 square feet and would be ENVISION certified, a design rating system similar to LEED but applicable to infrastructure development. As a result, the project or project variant would minimize the energy resources needed during operation.

4.4 Areas of Known Controversy and Issues to Be Resolved

Section 15123 of the CEQA Guidelines requires that an EIR identify each significant effect with proposed mitigation measures and alternatives that would reduce or avoid the effect; areas of controversy known to the lead agency, including issues raised by other agencies and the public; and issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

In accordance with sections 15063 and 15082 of the CEQA Guidelines, on June 28, 2023, the planning department sent a Notice of Preparation (NOP) of an Environmental Impact Report and Notice of Public Scoping Meetings to responsible and federal public agencies and interested parties. The planning department held two in-person scoping meetings: one on July 11, 2023, at the San Francisco Planning Department, and the other on July 15, 2023, at the Mission Blue Center in Brisbane. The planning department also held a virtual public scoping meeting on July 13, 2023, to receive oral comments on the scope of the EIR. The planning department made a video recording of the scoping meeting presentation

[1] California Energy Commission, 2022 Building Energy Efficiency Standard, December 23, 2022. Webpage: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency, accessed June 3, 2024.

available for viewing on the department's website. The 30-day scoping period ended on July 28, 2023. The NOP is included in Appendix B of this document.

As discussed in greater detail in Chapter 1, Introduction and Background, the City and PG&E have frequently disagreed about whether PG&E or the City is entitled to serve specific customers and whether PG&E's terms of service are reasonable. The following are areas of known controversy for the project:

- While the project proposes the acquisition of PG&E's electrical assets needed to provide electric services to end-users in San Francisco, PG&E has rejected the City's two most recent offers of non-binding indication of interest to purchase the assets and stated that the assets are not for sale
- The Coalition of California Utility Employees has stated its members are concerned with projects that can result in serious environmental harm without providing countervailing economic benefits such as decent wages and benefits

Both PG&E and the Coalition of California Utility employees appealed the January 2022 Preliminary Mitigated Negative Declaration for the project (refer to Section 1.5, Environmental Review Process, for additional information about the Preliminary Mitigated Negative Declaration). PG&E's comments received on the NOP for this EIR reiterate the appeal comments. Table 1-2 in Chapter 1, Introduction and Background, presents the public comments received on the NOP for this EIR, including PG&E's comments.

CHAPTER 5
ALTERNATIVES

5.1 Introduction

As required by the California Environmental Quality Act (CEQA), this chapter presents the alternatives analysis for the City and County of San Francisco's ("the City's") Pacific Gas and Electric Company (PG&E) Asset Acquisition Project ("the project"). The purpose of the CEQA alternatives analysis is to identify potentially feasible alternatives that could avoid or substantially lessen the significant impacts identified for the project while still meeting most of the project objectives. This chapter describes both the methodology used to screen and select alternatives to the project as well as the results of the detailed alternatives analysis. For the alternatives selected for detailed analysis, the chapter evaluates the alternatives' impacts relative to existing environmental conditions and compares the potential impacts of the alternatives with those of the project. Based on this analysis, this chapter then identifies the environmentally superior alternative. Finally, other alternatives that were considered but eliminated from detailed consideration are presented together with the reasons for their elimination.

5.1.1 CEQA Requirements for Alternatives Analysis

CEQA Guidelines section 15126.6(a) states that an environmental impact report (EIR) must describe and evaluate a reasonable range of alternatives to the project that would feasibly attain most of the project's basic objectives but would avoid or substantially lessen any identified significant adverse environmental effects of the project. The EIR must evaluate the comparative merits of the alternatives and include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. Specifically, CEQA Guidelines section 15126.6 sets forth the following criteria for selecting and evaluating alternatives:

- **Identification of Alternatives.** The selection of alternatives is limited to those that would avoid or substantially lessen any of the significant effects of the project, are feasible, and would attain most of the basic objectives of the project. Factors that might be considered when addressing the feasibility of an alternative include site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, economic viability, and whether the proponent can reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not consider an alternative for which impacts cannot be reasonably ascertained and for which implementation is remote and speculative. The specific alternative of "no project" must also be evaluated.
- **Range of Alternatives**. An EIR need not consider every conceivable alternative but must consider and discuss a reasonable range of feasible alternatives in a manner that will foster informed decision-making and public participation. The "rule of reason" governs the selection and consideration of EIR alternatives, requiring that an EIR set forth only those alternatives necessary to permit a reasoned choice. The lead agency is responsible for selecting a range of project alternatives to be examined and for disclosing its reasons for the selection of the alternatives. An EIR is not required to consider alternatives that are infeasible.

- **Evaluation of Alternatives**. EIRs are required to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. Matrices may be used to display the major characteristics and the environmental effects of each alternative. If an alternative would cause one or more significant effects that would not result from the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project.

5.2 Alternatives Selection

Consistent with CEQA, the approach to screening candidate alternatives focused on the following criteria:

- Would the alternative reduce the severity of one or more of the project's significant adverse impacts?
- Is the alternative potentially feasible?
- Would the alternative meet most of the basic objectives of the project?
- Is implementation of the alternative remote or speculative? Eliminating unrealistic or conjectural alternatives from detailed analysis in the EIR allows decision makers and members of the public to focus on alternatives capable of being approved and carried out in lieu of the project as proposed.
- Does the alternative foster informed decision-making and public participation?

In developing potential CEQA alternatives, the San Francisco Planning Department ("the planning department") considered the alternatives concepts identified by the San Francisco Public Utilities Commission (SFPUC) in its Preliminary Report on Electric Service Options ("Options Report"[1]), in comments received on the preliminary mitigated negative declaration circulated for the project in 2022 and during the scoping period for the EIR, and the SFPUC's Alternative Selection Matrix for the project.[2] Alternative concepts range from duplicating the existing power grid within San Francisco to using alternate substation sites and acquiring different combinations of PG&E assets. Some concepts serve as the basis for alternatives carried forward. Any potential alternative determined not to be capable of avoiding or lessening one or more potential significant impacts of the project, to be infeasible, not to meet most of the basic project objectives, to be either remote or speculative, or not to foster informed decision-making and public participation was not carried forward for detailed consideration. Refer to Section 5.6, Alternatives Considered but Eliminated from Further Analysis, for discussion of alternative concepts not carried forward for detailed consideration.

This section presents the project's potential significant environmental effects and additional details of the alternatives selection process. As explained further in the sections that follow, in the alternatives selection process, the planning department eliminated eight potential alternatives from consideration because they would have had the same or more severe environmental impacts compared to the project or other alternative concepts, would not substantially meet project objectives, and/or were considered infeasible. The planning department retained four alternatives for detailed analysis, including the No Project alternative.

[1] SFPUC, Preliminary Report on Electric Service Options, May 2019, https://sfpuc.org/sites/default/files/about-us/policies-reports/PreliminaryReportElectricServiceOptions_13may2019.pdf, accessed June 18, 2024.
[2] SFPUC, PG&E Asset Acquisition Project - Alternatives Selection Matrix, February 2025.

5.2.1 Summary of Significant Environmental Impacts

The primary goal of the alternatives selection process is to identify alternatives that could avoid or substantially lessen impacts of the project determined to be significant and unavoidable. Impacts of the project determined to be less than significant with mitigation are also considered, as they aid in identification of and distinction among a reasonable range of alternatives. The following summarizes the conclusions for significant impacts of the project identified in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures and Appendix A, Initial Study. **Table 5-1** (p. 5-8) summarizes the potentially significant impacts of the project and highlights which project components contribute to the significance conclusion.

5.2.1.1 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Project or project variant implementation could result in the following significant and unavoidable impacts:

NOISE

- Generators would be used overnight during trenchless construction associated with the distribution express feeders and could exceed allowable nighttime noise levels when located within 65 feet of residences, a significant impact. Depending on the location, noise barriers or other methods to reduce noise identified in Mitigation Measure M-NO-1 (Construction Noise Control for Generator Operations) may not be sufficient to reduce noise levels at the nearest sensitive receptors. (Impacts NO-1, NO-2). This would also result in a considerable contribution to cumulative nighttime construction noise and therefore would have a significant cumulative noise impact. (Impact C-NO-1).
- Under the project or project variant, construction at Martin Substation or Daly City Yard would substantially increase noise levels above the 10 dBA over ambient standard for most construction phases, a significant impact, and Mitigation Measure M-NO-2 (Construction Noise Control for the Martin Substation and New City Substation) may not be able to achieve sufficient noise level reductions (Impact NO-2). This would also result in a considerable contribution to cumulative construction noise (a significant cumulative impact). Noise from construction of Martin Substation separation or the new City Substation (project variant) could still exceed thresholds and therefore have a significant cumulative noise impact. (Impact C-NO-1).
- Early morning (prior to 7 a.m.) activities at the operations and maintenance service yards could occasionally exceed the 45 dBA interior nighttime noise standard for residential uses within 400 feet and result in the potential for sleep disturbance, a significant impact, even with implementation of Mitigation Measure M-NO-3b (Operational Noise Analysis and Attenuation for Service Yards) (Impact NO-3).

5.2.1.2 SIGNIFICANT IMPACTS THAT CAN BE MITIGATED TO LESS THAN SIGNIFICANT

Project or project variant implementation would result in the following significant impacts, all of which could be mitigated to less-than-significant levels with the implementation of mitigation measures identified in Chapter 3 or Appendix A, under the respective impact evaluations:

NOISE AND VIBRATION

- Generators used for trenchless construction of the distribution express feeders could temporarily produce sound levels more than 10 dBA above ambient noise levels during the daytime, a significant impact. With implementation of Mitigation Measure M-NO-1 (Construction Noise Control for Generator Operations) this impact would be less than significant. (Impact NO-2)

- HVAC equipment at the operations control center could produce sound levels more than 8 dBA above ambient noise levels, a significant impact. With implementation of Mitigation Measure M-NO-3a (Operational Noise Analysis and Attenuation for Stationary Noise Sources) this impact would be less than significant. (Impact NO-3)
- Construction of the project or project variant could result in vibration levels that could damage nearby buildings. With implementation of Mitigation Measures M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction) and M-NO-4b (Paving Vibration Minimization) this impact would be less than significant. (Impact NO-4)

AIR QUALITY

- Construction activities outside San Francisco could result in fugitive dust emissions at levels that could exceed criteria air pollutant emissions thresholds. With the implementation of Mitigation Measure M-AQ-2a (Basic Best Management Practices for Construction-Related Fugitive Dust Emissions), this impact would be less than significant. (Impact AQ-2)
- Construction of the project or project variant would result in an exceedance of the NOx threshold in year 1, assuming concurrent construction of all project components, under both rail transport and truck transport scenarios resulting in a significant impact. With the implementation of Mitigation Measure M-AQ-2b (Clean Construction Equipment), the impact would be less than significant. (Impact AQ-2)
- Under the project variant, construction of the new City Substation would generate short-term emissions that could expose sensitive receptors in Daly City to substantial pollutant concentrations of toxic air contaminants, resulting in a localized increase in health risk, a potentially significant impact. Conservatively assuming the health risks of most of the other project components (distribution express feeders, local distribution system separation, system reinforcements, offhaul, operation of emergency generator at operations control center, and new employee vehicle trips) could affect the same sensitive receptor, these components would also result in a significant impact related to health risks. In combination with cumulative projects, construction of the project or project variant also would result in diesel particulate matter and particulate matter ($PM_{2.5}$) emissions that, when combined with existing background health risks and diesel particulate matter and $PM_{2.5}$ emissions from cumulative sources, could result in a significant cumulative health risk impact. With implementation of Mitigation Measure M-AQ-2b (Clean Construction Equipment) these impacts would be less than significant. (Impact AQ-4, Impact C-AQ-1)

HISTORIC ARCHITECTURAL RESOURCES

- Under the project, the control house and switchgear buildings constructed at Martin Substation as part of Martin Substation separation could affect the historic significance of the Martin Substation building. Construction activities near the Martin Substation building could also affect its historic significance. With implementation of Mitigation Measures M-CR-1a (Martin Substation Historic Resources Setting Protection), M-CR-1b (Historic Resources Protection Program), and M-NO-4a (Protection of Adjacent Buildings/ Structures and Vibration Monitoring During Construction) the impact would be less than significant. (Impact CR-1)
- Construction of the distribution express feeders could occur near enough for vibration to damage historic buildings. With implementation of Mitigation Measures M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction) and M-NO-4b (Paving Vibration Minimization) the impact would be less than significant. (Impact CR-1)

- Modifications to retain PG&E access to non-electrical facilities at Potrero Substation could occur near enough to damage historic buildings. With implementation of Mitigation Measures M-CR-1b (Historic Resources Protection Program) and M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction) the impact would be less than significant. (Impact CR-1)
- Under the project variant, construction of the new City Substation could damage the potentially historic Martin Substation warehouse. With implementation of Mitigation Measure M-CR-1b (Historic Resources Protection Program) the impact would be less than significant. (Impact CR-1)
- The local distribution system separation and system reinforcements could result in new overhead structures that could adversely affect the setting within historic districts. Construction of the local distribution system separation and system reinforcements also could occur near enough to damage historic buildings. With implementation of Mitigation Measures M-CR-1c (Historic Resources Impact Minimization within Historic Resources and Historic Districts) and M-NO-4b (Paving Vibration Minimization) the impact would be less than significant. (Impact CR-1)
- Modifications to the operations control center building could affect the integrity of character-defining features of the building. With implementation of Mitigation Measure M-CR-1d (Historic Resources Impact Minimization for Adaptive Reuse) the impact would be less than significant. (Impact CR-1)
- Construction activities at the operations and maintenance service yards could occur near historic resources. With implementation of Mitigation Measures M-CR-1e (Historic Resources Impact Minimization for Service Yards Improvements) and M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction) the impact would be less than significant. (Impact CR-1)
- Construction of the local distribution system separation, system reinforcements, operations control center, and operations and maintenance service yards could combine with cumulative projects to adversely affect the same historic resources, a significant cumulative impact. With implementation of Mitigation Measure M-CR-1c (Historic Resources Impact Minimization within Historic Districts), Mitigation Measure M-CR-1d (Historic Resources Impact Minimization for Adaptive Reuse), Mitigation Measure M-CR-1e (Historic Resources Impact Minimization for Service Yards Improvements), and Mitigation Measure M-NO-4 (Vibration Management and Monitoring Plan), impacts would be less than significant. (Impact C-CR-1)

ARCHEOLOGICAL RESOURCES

- All construction activities resulting in ground disturbance could adversely affect archeological resources. These activities could also encounter human remains and, if adjacent to other cumulative projects, could result in significant cumulative impacts on cultural resources. With implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance), Mitigation Measure M-CR-2b (Archeological Testing Program), Mitigation Measure M-CR-2c (Archeological Monitoring Program), and Mitigation Measure M-CR-2d (Archeological Treatment Program), these impacts would be less than significant. (Impacts CR-2, CR-3, and C-CR-2)

TRIBAL CULTURAL RESOURCES

- The project or project variant would require ground disturbance in or near areas where previously recorded Native American archeological resources are documented and could inadvertently encounter archeological resources.[3] The project or project variant also could result in a cumulatively considerable

[3] In San Francisco, Native American archeological resources are presumed to be potential tribal cultural resources.

contribution to the significant cumulative impact on tribal cultural resources. Implementation of Mitigation Measure M-TCR-1 (Public Interpretation Land Acknowledgement) in addition to Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance), Mitigation Measure M-CR-2b (Archeological Testing Program), Mitigation Measure M-CR-2c (Archeological Monitoring Program), and Mitigation Measure M-CR-2d (Archeological Treatment Program), these impacts would be less than significant. (Impacts TCR-1, C-TCR-1)

BIOLOGICAL RESOURCES

- Construction of the local distribution system separation and system reinforcements could result in temporary adverse effects related to northwestern pond turtle, special-status birds, and special-status butterflies due to proximity to habitats at Lake Merced and San Bruno Mountain. With implementation of Mitigation Measure M-BI-1a (Worker Environmental Awareness Program Training), Mitigation Measure M-BI-1b (Avoidance and Minimization Measures for Northwestern Pond Turtle), Mitigation Measure M-BI-1c (Special-Status Butterfly Protection Measures), Mitigation Measure M-BI-1d (Control Measures for Spread of Invasive Plants), and Mitigation Measure M-BI-4 (Nesting Bird Protection Measures), these impacts would be less than significant. (Impact BI-1)
- Construction of the local distribution system separation and system reinforcements could temporarily or permanently impact wetlands near Visitacion Creek Marsh and east of Industrial Way. With implementation of Mitigation Measure M-BI-3a (Restoration of Freshwater Emergent Marsh Wetlands) and Mitigation Measure M-BI-3b (Compensation for Permanent Fill of Wetlands and Waters) these impacts would be less than significant. (Impact BI-3)
- Construction of the distribution express feeders, local distribution system separation, system reinforcements, and new City Substation (project variant) could involve construction activity near vegetation or require vegetation removal which could result in significant impacts on nesting birds. With implementation of Mitigation Measure M-BI-4 (Nesting Bird Protection Measures), the impact would be less than significant. (Impact BI-4)
- Construction of the distribution express feeders, local distribution system separation, system reinforcements, and operations control center utility work could require trimming or removal of mature landscaping or street trees and adversely affect bat maternity roosts. With implementation of Mitigation Measure M-BI-5 (Avoidance and Minimization Measures for Bat Maternity Roosts), the impact would be less than significant. (Impact BI-5)
- System reinforcements construction could conflict with policies of a habitat conservation plan by temporarily affecting special-status butterflies. With implementation of Mitigation Measure M-BI-1c (Special-Status Butterfly Protection Measures) and Mitigation Measure M-BI-1d (Control Measures for Spread of Invasive Plants), this impact would be less than significant. (Impact BI-7)
- The project or project variant in combination with cumulative projects could result in a significant cumulative impact on biological resources, and the project or project variant's contribution could be considerable. Implementation of Mitigation Measure M-BI-1c (Special-Status Butterfly Protection Measures), Mitigation Measure M-BI-1d (Control Measures for Spread of Invasive Plants), Mitigation Measure M-BI-3a (Restoration of Freshwater Emergent Marsh Wetlands), Mitigation Measure M-BI-3b (Compensation for Permanent Fill of Wetlands and Waters) and Mitigation Measure M-BI-5 (Avoidance and Minimization Measures for Bat Maternity Roosts) would reduce the project or project variant's contribution and the impact would be less than significant with mitigation. (Impact C-BI-1)

GEOLOGY AND SOILS

- Construction of the project or project variant would require ground disturbance in areas with moderate sensitivity for paleontological resources, a potentially significant impact. The project or project variant could also have a cumulatively considerable contribution to a significant cumulative impact on paleontological resources. With implementation of Mitigation Measure M-GE-5 (Inadvertent Discovery of Paleontological Resources During Construction), these impacts would be less than significant. (Impact GE-5, Impact C-GE-2)

5.2.2 Alternatives Screening and Selection

The planning department based the alternatives selection process on first identifying alternative concepts that would avoid or lessen the significant and unavoidable impacts identified above. Strategies to avoid or lessen significant environmental impacts involve maximizing the distance between construction activities and sensitive receptors, reducing the total amount of excavation or construction activity, or limiting the amount of construction activity near sensitive habitats or resources. The planning department then screened the potential alternatives for their feasibility and ability to meet most of the project objectives. This process resulted in the selection of three alternatives to be carried forward for detailed evaluation. The planning department determined that the three alternatives, along with the no project alternative, represent a reasonable range of alternatives described and analyzed in this EIR.

5.3 Alternatives and Potential Environmental Effects

The following alternatives are analyzed in this chapter:

- Alternative A: No Project
- Alternative B: Meter Transmission at Martin Substation
- Alternative C: Reduced Transmission Acquisition
- Alternative D: New Brisbane Baylands Substation

Because the alternatives are conceptual, this evaluation is based on the best available information and reasonable assumptions about how the City would implement a given alternative. For each of the alternatives selected, this section presents the following:

- A description of the alternative, including facilities and project components. Each description discusses feasibility issues as well as assumptions regarding both the construction methods likely to be used and the project's long-term operations characteristics.
- Analysis of the potential environmental impacts of each alternative compared to those of the project and project variant. The order of the topics is generally based upon significance determinations for the project and alternative, in descending order of severity. For example, topics for which the project or alternative were identified as having significant effects are addressed first, followed by topics identified as resulting in less-than-significant (or less-than-significant with mitigation) effects or no impact. The level of detail for each topic generally varies by impact conclusion, with topics involving significant impacts and notable changes in severity of effects discussed in greater detail. Topics for which the effects of the project and alternative would be substantially similar are addressed together in a less detailed summary discussion toward the end of the section.

Table 5-1 Summary of Project and Project Variant Significant Impacts by Project Component

Impact	Project Component[4]							
	Martin Substation Separation and Modifications to Retain PG&E Access at Martin Substation	Distribution Express Feeders	Local Distribution System Separation	System Reinforcements	Operations Control Center	Operations and Maintenance Service Yards	Modifications to Retain PG&E Access at Potrero Substation	New City Substation (Project Variant)
NO-1: Construction noise in excess of standards	LTS	**SUM**	LTS	LTS	LTS	LTS	LTS	LTS
NO-2: Substantial construction-related temporary increase in noise	**SUM**	**SUM**	LTS	LTS	LTS	LTS	LTS	**SUM**
NO-3: Substantial permanent increase in ambient noise	LTS	LTS	LTS	LTS	**LSM**	**SUM**	LTS	LTS
NO-4: Excessive groundborne vibration	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	LTS	**LSM**
AQ-2: Construction criteria air pollutant emissions	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**
AQ-4: Expose sensitive receptors to substantial pollutant concentrations	LTS	**LSM**	**LSM**	**LSM**	**LSM**	LTS	LTS	**LSM**
CR-1: Adverse change in significance of historic architectural resource	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**

[4] Components with potentially significant impacts identified in bold. See Chapter 3 and Appendix A for complete impact statements. CEQA significance determination: NI = No Impact; LTS = Less than significant; LSM = Less than significant with mitigation; SUM = Significant and unavoidable with mitigation.

Table 5-1 Summary of Project and Project Variant Significant Impacts by Project Component

Impact	Project Component[4]							
	Martin Substation Separation and Modifications to Retain PG&E Access at Martin Substation	Distribution Express Feeders	Local Distribution System Separation	System Reinforcements	Operations Control Center	Operations and Maintenance Service Yards	Modifications to Retain PG&E Access at Potrero Substation	New City Substation (Project Variant)
CR-2: Adverse change in significance of archeological resource	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**
CR-3: Disturb human remains	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**
TCR-1: Adverse change in tribal cultural resource	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**
BI-1: Construction impacts on special-status species	NI	NI	**LSM**	**LSM**	NI	NI	NI	NI
BI-3: Adverse effects on wetlands	LTS	NI	**LSM**	**LSM**	NI	NI	NI	NI
BI-4: Construction impacts on nesting birds	NI	**LSM**	**LSM**	**LSM**	NI	NI	NI	**LSM**
BI-5: Construction impacts on bats	NI	**LSM**	**LSM**	**LSM**	**LSM**	NI	NI	NI
BI-7: Conflicts with habitat conservation plan	LTS	NI	LTS	**LSM**	NI	NI	NI	LTS
GE-5: Construction impacts on paleontological resources	**LSM**	**LSM**	**LSM**	**LSM**	**LSM**	LTS	LTS	**LSM**

Section 5.4, Ability to Meet Project Objectives, lists the project objectives and discusses the ability of each alternative to meet the project objectives. Section 5.5, Alternatives Comparison and the Environmentally Superior Alternative, presents a comparison of the alternatives environmental effects and ability to meet project objectives and identifies the environmentally superior alternative. **Table 5-2** compares the characteristics of the project and project variant with those of Alternatives A, B, C, and D.

5.3.1 Alternative A: No Project

5.3.1.1 DESCRIPTION

As required by CEQA Guidelines section 15126.6(e), this EIR evaluates a No Project Alternative to allow decision makers to compare the environmental effects of approving the project with the effects of not approving the project. Alternative A, the No Project Alternative, represents what would reasonably be expected to occur in the foreseeable future if the project were not approved.

As described in Chapter 1, Introduction and Background, the SFPUC provides retail electric service through its Hetch Hetchy Power publicly owned electric utility and uses Hetch Hetchy generation and other sources for supply. PG&E delivers the City's supplies to customers using PG&E's existing grid infrastructure and pays PG&E for wholesale transmission and distribution services as regulated by the Federal Energy Regulatory Commission (FERC). PG&E's Wholesale Distribution Tariff (WDT) describes the terms and conditions of these purchased distribution services. PG&E's administration of the WDT has greatly affected the City's ability to provide service to its customers, with costly requirements and delays necessitating on-going litigation. These additional requirements and costs do not provide any safety or reliability benefit and make many City projects infeasible.

In the No Project Alternative, the City would not acquire PG&E assets and would not separate the electric grid. The City would continue to rely on PG&E's WDT process for connection to distribution services, leaving the City without control over how the grid in San Francisco is operated or modernized.

The City and PG&E would both continue to provide electric service within San Francisco. The City's service connections would continue to be subject to the physical constraints of PG&E's distribution grid and the rules and requirements imposed by PG&E through its WDT. Therefore, the City would continue to be required to install equipment pursuant to PG&E requirements in order to connect to PG&E's grid as new development is completed or existing customers in San Francisco move, remodel, or upgrade facilities (WDT interconnections).

As noted in Chapter 1, Introduction and Background, PG&E has repeatedly required equipment that was oversized for the need and did not provide any improvement in safety or reliability, which would continue under Alternative A. For example, the aboveground equipment space required can be 30 feet long by 20 feet wide by 12 feet high (see Figure 1-3) for an underground WDT interconnection. Such an interconnection would also require the installation of underground vaults, concrete pads, and other auxiliary equipment, as well as safety clearances around the equipment at each interconnection location.

Table 5-2 Characteristics of the Project, Project Variant, and Alternatives

Project Characteristics	Project	Project Variant	Alternatives			
			Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
Scope of Acquisition (Acquisition of equipment within Martin Substation detailed below)	The City would acquire: the 230 kV and 115 kV lines from Martin Substation into San Francisco; the 230 kV and 115 kV transmission lines between substations in San Francisco; all transmission and distribution substations and distribution facilities within San Francisco, including the future Egbert Switching Station; and specified equipment at Martin Substation (i.e., the 230/115 kV transformers, part of the 115 kV bus, and the 115/12 kV transformers).	Same as the project except the City would not acquire facilities at Martin Substation	The City would not acquire PG&E electric assets in San Francisco.	The City would acquire: the 230 kV and 115 kV transmission lines into San Francisco from Martin Substation; the 230 kV and 115 kV transmission lines between substations in San Francisco; all transmission and distribution substations within San Francisco, including acquisition of the future Egbert Switching Station; and the 115/12kV transformers at Martin Substation. The City would not acquire the 115 kV bus or the 230/115 kV transformers at the Martin Substation.	The City would acquire: the 230 kV and 115 kV transmission lines between substations in San Francisco, the transmission and distribution substations within San Francisco, and the 115/12kV transformers at Martin Substation. The City would not acquire the 230 kV and 115 kV lines from Martin Substation into San Francisco; the 115 kV bus at Martin Substation; nor the 230/115 kV transformers at the Martin Substation. The City would not acquire the Egbert Switching Station.	Same as the project except the City would not acquire facilities at Martin Substation
MAIN COMPONENTS						
Martin Substation Separation	The City would meter the 230 kV lines going into San Francisco from the Martin Substation. The 115 kV bus would be split. Three new buildings (one control house and two switchgear buildings) would be built at Martin Substation. Total length of trenching for underground lines associated with the Martin Substation separation would be about 3,500 feet. Two new 115/12 kV transformers would be built at the Martin Substation for PG&E distribution to San Mateo County.	A new City gas-insulated 230/115/12 kV substation would be constructed at the Daly City Yard adjacent to the Martin Substation and would serve customers in San Francisco. New transmission lines would be built between the existing PG&E-owned Martin Substation 230 kV bus and 115 kV bus to the new City Substation (approximately 1,000 feet long). 230,115, and 12 kV underground lines from the new substation would be connected to San Francisco. Total length of trenching for underground lines associated with the new City Substation would be about 9,000 feet. Construction of two new 115/12 kV transformers for PG&E would not be required.	No reconfiguration of the Martin Substation would occur.	Instead of acquiring the 115 kV bus and 230/115 kV transformers at the Martin Substation, the City would install meters on the 230 kV and 115 kV outgoing lines at the Martin Substation, which serve San Francisco. The City would meter the existing 115/12kV transformers at Martin Substation. Meters would also be installed at Egbert Switching Station. With the exception of a control house and switchgear buildings, no other transmission separation work at the Martin Substation would be needed. Construction of two new 115/12kV transformers for PG&E distribution would be required at the Martin Substation.	Instead of acquiring the 115 kV bus and 230/115 kV transformers at the Martin Substation, the City would install meters at five transmission substations in San Francisco (Potrero, Bayshore, Hunters Point, Embarcadero, and Larkin). The City would meter the existing 115/12kV transformers at Martin Substation. With the exception of a control house and switchgear buildings, no other transmission separation work at the Martin Substation would be needed. Construction of two new 115/12kV transformers for PG&E distribution would be required at Martin Substation.	A new City substation (with the same equipment as the project variant) would be constructed at Baylands property in Brisbane, at the southeastern corner of the Bayshore Boulevard and Geneva Avenue intersection. Total length of trenching for underground lines associated with the Baylands substation would be 6,300 feet. Construction of two new 115/12 kV transformers for PG&E would not be required. Besides line connections, no other equipment would be installed at Martin Substation.
Distribution Express Feeders	Approximately 3.8 miles of duct banks for new underground distribution express feeders would be installed.	Distribution express feeders would be approximately 770 feet shorter than with the project.	No installation of new distribution express feeders would occur.	Same as the project	Same as the project	The distribution express feeders starting point would be relocated to the Brisbane Baylands, farther east than required for the project or project variant (and would be approximately 280 feet longer than with the project or 770 feet longer than with the project variant).

Table 5-2 Characteristics of the Project, Project Variant, and Alternatives

Project Characteristics	Project	Project Variant	Alternatives			
			Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
Local Distribution System Separation	Overhead and underground distribution lines around the county border would be reconfigured and separated, including approximately 3.9 miles of underground work.	Same as the project	No reconfiguration or separation of distribution would occur.	Generally same as the project	Generally same as the project	Generally same as the project
System Reinforcements	Overhead and underground distribution equipment would be installed and replaced to maintain service reliability on existing lines, including approximately 4.2 miles of underground work.	Same as the project	Installation of distribution system reinforcements would not occur.	Generally same as the project	Generally same as the project	Generally same as the project
Modifications to Retain PG&E Access	Fencing and ingress/egress would be modified at the Martin and Potrero substations.	Minimal fencing and ingress/egress would be required at the Martin and Potrero substations.	Modifications would not occur.	Generally same as the project	Generally same as the project	Minimal fencing and ingress/egress would be required at the Martin and Potrero substations.
Operations Control Center	The interior of an existing building would be modified, utilities would be upgraded, and fencing and a new standby diesel generator would be installed.	Same as the project	No operations control center work would be needed.	Same as the project	Same as the project	Same as the project
Operations and Maintenance Service Yards	Existing materials and equipment storage yards (e.g., fencing) would be modified.	Same as the project	No service yards work would be needed.	Same as the project	Same as the project	Same as the project
Telecommunications Equipment	Equipment would be installed within or along with other proposed components.	Generally same as the project, with some differences due to different locations or number of meters	Telecommunications equipment would not be installed.	Generally same as the project, with some differences due to different locations or number of meters	Generally same as the project, with some differences due to different locations or number of meters	Generally same as the project, with some differences due to different locations or number of meters
OTHER CHARACTERISTICS						
Construction Duration	Overall Construction: Approximately 3 years Martin Substation: 2.8 years	Overall Construction: 2 to 3 years New City Substation: 2.2 years	Limited or reduced construction associated with new equipment as required by PG&E for connecting development projects to the PG&E grid	Overall Construction: 2 to 3 years Martin Substation: 1 year	Overall Construction: 2 to 3 years Martin Substation: 1 year Other substations in San Francisco: 10 to 20 weeks of work at each of five substations in San Francisco	Overall Construction: 2 to 3 years New Baylands Substation: 2.2 years
Estimated Excavated Soil Volume	101,900 cubic yards	128,900 cubic yards	Limited or reduced soil excavation associated with new equipment as required by PG&E for connecting development projects to the PG&E grid	Less than project or project variant; Martin Substation excavation volume reduced	Less than project or project variant; Martin Substation excavation volume reduced. In addition, excavation would be required at five transmission substations in San Francisco.	More excavation than project, similar excavation as the project variant: increased length of distribution express feeders but decreased length of transmission and distribution lines between the Martin and City substations

An overhead primary voltage WDT interconnection requires a primary meter and a protective device at or near the point of interconnection. A typical primary installation would also include transformers, a meter panel enclosure, a meter and necessary wiring, all on a wood pole. A protective device would be installed on a separate wood pole. Additional new or taller poles may be needed to support the necessary equipment.

Under Alternative A, the City would have limited ability to control when, where, and how service is provided to new customers in San Francisco, including the size of equipment required, the associated construction impacts of the equipment required, and the potential for increased costs and completion delays. The time required for installation varies, and could range from one to five years, depending on the size of the load and PG&E requirements (e.g., System Impact Study, Facility Study, distribution upgrades). There could be further delays on WDT interconnections if PG&E is unable to meet the tariff timelines.

The City would continue to rely on PG&E's WDT process for interconnection of the City's customers to PG&E's grid, and to rely on PG&E to provide high levels of reliability and delivery service quality. Similarly, all of PG&E's retail customers in San Francisco would continue to rely on PG&E for delivery service quality and reliability, and on state regulation for the affordability of PG&E's delivery services.

5.3.1.2 COMPARISON OF ENVIRONMENTAL IMPACTS

Alternative A, the No Project Alternative, would avoid all construction and operational impacts that were identified for the project or project variant, including the significant and unavoidable impacts related to the distribution express feeders, new City Substation (project variant), and operations and maintenance service yards. As discussed above, additional equipment associated with the WDT interconnections would continue to be required in the future and would involve installation of equipment that would be substantially smaller in scale than the project or project variant.

NOISE

Alternative A would avoid the significant and unavoidable temporary increase in ambient noise associated with the distribution express feeders and new City Substation (project variant) because no new feeders or substation would be required. Alternative A would not construct any of the proposed components (such as the Martin Substation separation or new City Substation) and therefore would have reduced impacts on ambient daytime and nighttime noise levels, vibration, groundborne noise, or construction-related cumulative noise. Alternative A could result in temporary noise during construction of additional equipment required by PG&E. Equipment installation associated with WDT interconnections would be expected to be lesser in scale and duration compared to the project or project variant.

AIR QUALITY

Alternative A would avoid the considerable net increase in criteria air pollutants and health risk caused by project construction because no planned construction would occur. Alternative A could result in criteria air pollutant and toxic air contaminant emissions during construction of additional equipment required by PG&E associated with the WDT interconnections, although due to the smaller scale of such construction, the impacts would be less than those associated with the project or project variant.

CULTURAL AND TRIBAL CULTURAL RESOURCES

Alternative A would avoid the impacts on historic architectural resources, archeological resources, and tribal cultural resources caused by project or project variant construction because no planned construction would

occur. Alternative A could result in cultural resources and tribal cultural resources impacts during construction of additional equipment required by PG&E associated with the WDT interconnections, although impacts would be substantially reduced compared to the project or project variant due to the anticipated smaller scale of construction or excavation.

BIOLOGICAL RESOURCES

Alternative A would avoid the impacts on biological resources caused by project construction because no planned construction would occur. Alternative A could result in biological resources impacts during construction of additional equipment required by PG&E associated with the WDT interconnections, although impacts would be substantially reduced compared to the project or project variant due to the anticipated smaller scale of construction.

GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Alternative A would avoid the impacts on paleontological resources caused by project construction because no planned construction would occur. Alternative A could result in paleontological resources impacts during construction of additional equipment required by PG&E associated with the WDT interconnections, although impacts would be substantially reduced compared to the project or project variant due to the anticipated smaller scale of construction or excavation.

OTHER ENVIRONMENTAL TOPICS

Alternative A would avoid all construction activities and operational changes that would occur under the project or project variant, and therefore it would result in no impacts in the following areas: land use and planning, aesthetics, population and housing, transportation and circulation, greenhouse gas emissions, wind and shadow, recreation, utilities and service systems, public services, hydrology and water quality, hazards and hazardous materials, mineral resources, energy, wildfire, and agriculture/forestry resources.

As described above, the No Project Alternative would include occasional equipment installation associated with the WDT interconnections pursuant to PG&E requirements as new development is completed and connected to the PG&E electric grid. In such cases, construction impacts on the above-listed resource areas would be expected to be similar to those identified for the project or project variant, though at a reduced scale (because equipment installation would occur on an as-needed basis, rather than as one all-encompassing construction project). Upon completion of any equipment installation, operations are assumed to continue to be similar to existing conditions, and there would be no operational impacts on these resource areas.

5.3.2 Alternative B: Meter Transmission at Martin Substation

5.3.2.1 DESCRIPTION

As with the project, under Alternative B the City would acquire the PG&E transmission and distribution assets located in San Francisco and San Mateo counties that are needed to provide electricity service to customers in San Francisco. The City would also still acquire and meter the existing 115/12 kV transformers at the Martin Substation and would construct two new 115/12 kV transformers for PG&E distribution at the Martin Substation.

Unlike the project, under Alternative B the City would not acquire the 115 kV bus nor 230/115 kV transformers at the Martin Substation.

Instead, the City would install meters on the 230 kV and 115 kV transmission lines at the Martin Substation serving customers in San Francisco, as well as meters at the Egbert Switching Station. A total of 13 meters would be needed, and the size of the meters as well as their construction would be similar to that described for the project (that is localized excavation up to 6 feet deep for each meter). Minimal fencing and ingress/egress modifications would be required at the Martin Substation to maintain PG&E access. Reduced separation work at the Martin Substation would be needed (i.e., fewer circuit breakers, and substantially fewer duct banks and less vaults excavation for transmission lines). A new control house or new switchgear buildings also would be required.

While the same construction equipment needed for the project could be used for Alternative B, the duration of Martin Substation construction activity would be approximately 1 year, compared to about 2.8 years for the project. This alternative would also require less excavation than the project because the excavation needed at the Martin Substation would be reduced. Similar local distribution separation and system reinforcement work would be required along the San Francisco-San Mateo County border as described for the project. All other separation work, including the distribution express feeders, would occur as described for the project.

5.3.2.2 COMPARISON OF ENVIRONMENTAL IMPACTS

Alternative B would reduce the amount of construction at Martin Substation and install meters at Egbert Switching Station. Alternative B would implement all other components as described for the project and therefore would have the same impacts as the project or project variant associated with the distribution express feeders, local distribution system separation, system reinforcements, operations control center, operations and maintenance service yards, and modifications to retain PG&E access to non-electrical facilities. Accordingly, the following discussion focuses on the impacts of Alternative B that differ from the impacts of the project or project variant.

NOISE

Under Alternative B, the same construction equipment for Martin Substation separation could be used. The duration of Martin Substation construction activity would be reduced by more than half (from 2.8 years to 1 year). Although Alternative B would use similar construction equipment and occur within the same proximity to sensitive receptors as the project, and therefore could exceed noise level criteria by similar amounts, Alternative B would have reduced construction noise impacts (NO-1 and NO-2) as the proposed project because the duration of construction activity at Martin Substation would be reduced. Impacts related to exceeding noise standards would be reduced with implementation of the same mitigation identified for the project. Alternative B would have reduced construction noise impacts compared to the project variant because construction would not occur at Daly City Yard and would not require extended pile driving activity.

AIR QUALITY

Under Alternative B, the amount of construction required at Martin Substation would be reduced such that construction at Martin Substation would take less than half of the time required for the project's Martin Substation separation. Work at Martin Substation also would involve less excavation than required for the project or new City Substation (project variant). Given the reduced amount of construction compared to the

project or project variant, and the amount by which the project and project variant exceed the NOx threshold, the criteria air pollutant emissions from Alternative B could be below significance thresholds. However, even if Alternative B emissions exceeded criteria air pollutant thresholds, the impact would be reduced to less-than-significant with implementation of the same mitigation as identified for the project or project variant.

As discussed in Impact AQ-4, the project or project variant would result in potentially significant unmitigated health risks, due primarily to the linear trenching activity associated with the distribution express feeders, local distribution system separation, and system reinforcements. Alternative B would reduce the amount of construction at Martin Substation and therefore would reduce the amount of toxic air contaminant emissions within 1,000 feet of receptors potentially affected by other project components. However, because Alternative B would include the linear trenching activity for the distribution express feeders, local distribution system separation, and system reinforcements, Alternative B would likely result in significant unmitigated health risks as the project or project variant (both project-level and cumulative). These impacts would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

Alternative B would propose less construction at Martin Substation than the project, although construction of a new control house or switchgear buildings would still be required. Therefore, Alternative B could have a permanent impact on the context of a historic resource, similar to the project. While construction would be reduced, if work for Alternative B would occur within 20 feet of the Martin Substation building (a historic resource), Alternative B could have the same potential impact on a historic resource (Martin Substation building) as the project or project variant during construction. This impact would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

Alternative B would require ground disturbance at Martin Substation, although the amount of ground disturbance would be less compared to the project. Martin Substation has archeological sensitivity and the reduced amount of ground disturbance at Martin Substation would also reduce the potential for disturbance of cultural resources and tribal cultural resources. Alternative B would have reduced archeological resources and tribal cultural resources impacts compared to the project or project variant. However, there remains the potential to impact archeological resources or tribal cultural resources during ground disturbance. These impacts would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

BIOLOGICAL RESOURCES

Alternative B construction at Martin Substation would occur in the same general location as the Martin Substation separation proposed under the project and therefore would have less-than-significant impacts on Visitacion Creek Marsh, same as the project. Compared to the project or project variant, Alternative B would have similar impacts related to nesting birds. All other biological resources impacts of Alternative B would be the same as the project or project variant.

GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Alternative B would require ground disturbance at Martin Substation although the amount of ground disturbance would be reduced. Martin Substation has paleontological sensitivity and the reduced amount of

ground disturbance at Martin Substation would also reduce the potential for disturbance of paleontological resources. Alternative B would have reduced paleontological resources impacts compared to the project at this location. However, there remains the potential to impact paleontological resources during ground disturbance. This impact would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project.

OTHER ENVIRONMENTAL TOPICS

Alternative B would have similar or reduced environmental effects as the project or project variant for the following topics, as further explained below: land use and planning, aesthetics, population and housing, transportation and circulation, greenhouse gas emissions, wind, and shadow, recreation, utilities and service systems, public services, hydrology and water quality, hazards and hazardous materials, mineral resources, energy, wildfire, and agriculture/forestry resources.

Alternative B would result in similar types of development in the same locations as the project or project variant and therefore would not conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Aesthetic resource impacts of Alternative B would be similar to the project or project variant; smaller equipment would be installed at Martin Substation than for the project. Like the project or project variant, Alternative B would not result in population growth and would have less-than-significant population and housing impacts. Alternative B construction would occur in the same locations as project construction, require less excavation at Martin Substation, and would require the same number of employees during operations; therefore, Alternative B would result in the same less-than-significant transportation and circulation impacts as the project or project variant. Alternative B would reduce greenhouse gas from construction activities compared with the project or project variant and, for the same reasons discussed for the project, Alternative B would be consistent with the City's greenhouse gas reduction strategy. Alternative B would include fewer structures in the same locations as the project or project variant and therefore would not create wind hazards or shadow that substantially and adversely affect the use and enjoyment of publicly accessible open spaces; Alternative B would have less than significant impacts with respect to wind or shadow.

Like the project or project variant, Alternative B would have less-than-significant impacts related to recreation because work would occur within the same areas as the project and would not result in substantial unplanned growth. Alternative B construction would occur in the same locations as project or project variant construction, require less excavation and therefore less dewatering, and would require the same number of employees during operations; therefore, Alternative B results in the similar less-than-significant utilities and service systems impacts as the project or project variant. Same as the project or project variant, Alternative B would have less-than-significant public services impacts as it would not cause population growth or alter land use such that new or altered governmental facilities would be needed. Like the project or project variant, Alternative B would not result in any significant impacts related to hydrology and water quality, because it would be subject to the same construction stormwater control requirements as the project or project variant and would not involve new discharges, affect groundwater supplies, change drainage patterns, or involve new development in a hazard zone. Construction and operation activities of Alternative B would be similar to those of the project, and work would occur in the same locations as the project; therefore, Alternative B would be subject to the same hazardous materials handling, storage, containment, and management requirements as the project or project variant, a less-than-significant impact.

Alternative B energy use during construction would be less than the project or project variant, and during operations would be the same as the project (and less than the project variant). Alternative B's energy usage would not be unusually large or inefficient, wasteful, or unnecessary, a less-than-significant impact (same as the project or project variant). As would also be the case for the project or project variant, lands affected by Alternative B are not used for farming or agricultural activities, are not zoned as agricultural or timber uses, are not suitable for mineral extraction due to development, and are not classified as very high fire hazard severity zones and therefore Alternative B would not result in any impacts related to these topics.

5.3.3 Alternative C: Reduced Transmission Acquisition

5.3.3.1 DESCRIPTION

Similar to the project and Alternative B, under Alternative C, the City would acquire the PG&E transmission and distribution assets located in San Francisco and San Mateo counties that are needed to provide electricity service to customers in San Francisco. The City would still acquire the existing 115/12 kV transformers at the Martin Substation and would construct two new 115/12 kV transformers for PG&E distribution at the Martin Substation. A new control house or new switchgear buildings at Martin Substation also would be required, same as the project.

Unlike Alternative B, under Alternative C the City would not acquire the 230kV and 115kV transmission lines between Martin Substation and the substations in San Francisco. Less separation work at Martin Substation would be needed (i.e., fewer circuit breakers, substantially less excavation for duct banks and vaults associated with transmission lines).

Instead, the City would install four revenue meters on the 115/12kV transformers at the Martin Substation that serve San Francisco and ten meters at the five transmission substations located in San Francisco (Potrero, Bayshore, Hunters Point, Embarcadero, and Larkin; see Figure 1-1). A total of 14 meters would be needed. The City would own the San Francisco transmission substations, transmission lines serving San Francisco starting from the metering point at the San Francisco transmission substations, and all other assets described for the project. The City would not acquire the Egbert Switching Station.

Of the five San Francisco transmission substations, three are open-air substations (Potrero, Bayshore, and Hunters Point substations) and two are indoor substations (Embarcadero and Larkin substations). Indoor substations include equipment within buildings, and therefore meters at these substations would be installed inside buildings.

Approximately 10 to 20 weeks of construction would occur to install revenue meters at each of the San Francisco transmission substations. Construction of the equipment at the Martin Substation would take approximately 1 year, compared to the project's approximately 2.8 years. The same type of construction equipment used for the Martin Substation separation would be used to install revenue meters. The total construction duration would be two to three years, which is similar to the project. Construction at the substations would occur sequentially. Similar local distribution separation and system reinforcement work would be required along the San Francisco-San Mateo County border as described for the project. All other separation work, including the distribution express feeders, would occur as described for the project.

5.3.3.2 COMPARISON OF ENVIRONMENTAL IMPACTS

Of the five San Francisco transmission substations, three are open-air substations (Potrero, Bayshore, and Hunters Point substations) and two are indoor substations (Embarcadero and Larkin substations). The nearest residences to the open-air substations are approximately 400 feet from Potrero Substation. Residences are located farther than 400 feet from the Bayshore and Hunters Point substations.

Alternative C would reduce the amount of transmission equipment acquired, reduce the amount of construction at Martin Substation, and install meters at five other substations in San Francisco. Alternative C would implement all other components as described for the project and therefore would have the same impacts as the project or project variant associated with the distribution express feeders, local distribution system separation, system reinforcements, operations control center, operations and maintenance service yards, and modifications to retain PG&E access to non-electrical facilities. Accordingly, the following discussion focuses on the impacts of Alternative C that differ from the impacts of the project or project variant.

NOISE

Under Alternative C, the same construction equipment for Martin Substation as needed for the project could be used but the duration of Martin Substation construction activity would be approximately 1 year instead of 2-3 years because the only new equipment installed would be two transformers, meters on the outgoing transmission lines, and a control house and switchgear buildings. Construction of transmission meters at the open-air substations would require less than six months of activity at each substation and would be more than 400 feet from the nearest sensitive receptors (residences). The open-air substations are located in San Francisco and therefore San Francisco Police Code Section 2907 would apply. As shown in Table 3.2-14, only the concrete saw would exceed Police Code Section 2907 requirements, same as for the project or project variant. For the same reasons discussed in Impact NO-1 (in Section 3.2, Noise and Vibration), substation construction associated with Alternative C would not result in a substantial temporary increase in ambient noise levels in excess of applicable standards, same as the project or project variant. Of the three open-air substations, the Hunters Point substation location would have direct line-of-sight to the nearest sensitive receptor and be located on a relatively quiet street, and therefore would have the highest likelihood of generating noise that could affect sensitive receptors.[5] At 400 feet the noise level would be a maximum of 67 dBA, which could temporarily exceed the ambient noise levels in the area, similar to the project or project variant. Meter construction within gas-insulated substations would have a reduced likelihood of construction noise impacts because construction would occur inside a building. Therefore, construction noise impacts of Alternative C at Martin Substation and at the other transmission substations would be similar or reduced compared to the project. Construction noise impacts of Alternative C also would be reduced compared to the project variant. These impacts would be reduced with implementation of the same mitigation identified for the project or project variant.

Installation of meters under Alternative C could involve repaving at the substations. Consequently, Alternative C would have similar vibration impacts on buildings at the Martin Substation and the five other substations compared with the project or project variant. These impacts would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project.

[5] Modeled roadway noise in the area ranges from below 60 dBA Ldn to 75 dBA Ldn. San Francisco Planning Department, San Francisco Housing Element 2022 Update Environmental Impact Report, November 2022. Figure 4.5-2, Modeled Traffic Noise Levels Under 2020 Conditions.

AIR QUALITY

Construction of Alternative C would take 2 to 3 years, similar to the project or project variant, because Alternative C includes construction of all of the same components except for the reduced separation work at Martin Substation. Alternative C also includes sequential meter installation at five transmission substations in San Francisco. The amount of construction required at Martin Substation would be substantially reduced but additional construction would occur at other substations.

Given the reduced amount of construction compared to the project or project variant, and the amount by which the project or project variant exceeds the NOx threshold, the criteria air pollutant emissions from Alternative C could be below significance thresholds. However, even if Alternative C construction emissions exceeded criteria air pollutant thresholds, the impact would be reduced to a less-than-significant level with implementation of the same mitigation as identified for the project or project variant.

As discussed in Impact AQ-4, the project or project variant would result in potentially significant unmitigated health risks, due primarily to the linear trenching activity associated with the distribution express feeders, local distribution system separation, and system reinforcements. Alternative C would reduce the amount of construction at Martin Substation and therefore would reduce the amount of toxic air contaminant emissions within 1,000 feet of receptors potentially affected by other project components. While Alternative C includes meter installation at five other substations, due to the substation locations meter installation would not combine to affect the same receptors as other project components. However, because Alternative C would include the linear trenching activity for the distribution express feeders, local distribution system separation, and system reinforcements, Alternative C would likely result in the same potentially significant unmitigated health risks as the project or project variant (both at the project-level and cumulatively). These impacts would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

Alternative C would propose less construction at Martin Substation than the project although construction of a new control house or switchgear buildings would still be required. Therefore, Alternative C could have a permanent impact on the context of a historic resource, similar to the project. While construction would be reduced, if work for Alternative C would occur within 20 feet of the Martin Substation building (a historic resource), Alternative C could have the same potential impact on a historic resource as the project (Martin Substation building) or project variant (Martin Substation Warehouse) during construction. Alternative C would include meter installation at five other substations, including Potrero Substation, which is adjacent to a known historic resource, and could adversely affect historic architectural resources during construction. These impacts would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

Alternative C would require ground disturbance at Martin Substation, same as the project, although the amount of ground disturbance would be substantially reduced. Martin Substation has archeological sensitivity and the reduced amount of ground disturbance at Martin Substation would also reduce the potential for disturbance of cultural resources and tribal cultural resources. Alternative C would have reduced cultural resources and tribal cultural resources impacts compared to the project or project variant. However, there remains the potential to impact archeological or tribal cultural resources during ground disturbance at Martin Substation and the five other substations where meters would be installed. These

impacts would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

BIOLOGICAL RESOURCES

Alternative C construction at Martin Substation would occur in the same general location as the Martin Substation separation proposed under the project and therefore would have less-than-significant impacts on Visitacion Creek Marsh, same as the project. Compared to the project or project variant, Alternative C would have similar impacts related to nesting birds. All other biological resources impacts of Alternative C would be the same as the project or project variant.

GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Alternative C would require ground disturbance at Martin Substation, although the amount of ground disturbance would be substantially reduced. Martin Substation has paleontological sensitivity and the reduced amount of ground disturbance at Martin Substation would also reduce the potential for disturbance of paleontological resources. Alternative C would have reduced paleontological resources impacts compared to the project at this location. However, there remains the potential to impact paleontological resources during ground disturbance. This impact would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project.

OTHER ENVIRONMENTAL TOPICS

Alternative C would have similar or reduced environmental effects as the project or project variant for the following topics, as further explained below: land use and planning, aesthetics, population and housing, transportation and circulation, greenhouse gas emissions, wind and shadow, recreation, utilities and service systems, public services, hydrology and water quality, hazards and hazardous materials, mineral resources, energy, wildfire, and agriculture/forestry resources.

Alternative C would result in similar types of development in the same locations as the project or project variant and therefore would not conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Aesthetic resource impacts of Alternative C would be similar to the project or project variant; smaller equipment would be installed at Martin Substation than for the proposed project, and meters installed at other substations would be either indoors or similar to existing substation equipment. Like the project or project variant, Alternative C would not result in population growth and would have less-than-significant population and housing impacts. While Alternative C construction would occur at five additional substations along with Martin Substation, it would require less excavation overall compared to the project or project variant and would require the same number of employees during operations; therefore, Alternative C result in the same less-than-significant transportation and circulation impacts as the project or project variant. Alternative C would reduce greenhouse gas from construction activities at Martin Substation compared with the project (or at Daly City yard compared with the project variant) and increase greenhouse gas emissions from construction at other substations, and for the same reasons discussed for the project Alternative C would be consistent with the City's greenhouse gas reduction strategy. Alternative C would include fewer structures in the same locations as the project or project variant, and install meters within existing substations, and therefore would not create wind hazards or shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces; Alternative C would have less-than-significant impacts with respect to wind or shadow.

Like the project or project variant, Alternative C would have less-than-significant impacts related to recreation because work would occur within the same areas as the project or in existing substations and would not result in substantial unplanned growth. While Alternative C construction would occur at five additional substations along with Martin Substation, it would require less excavation overall compared to the project or project variant and potentially less dewatering; therefore, Alternative C would result in the same less-than-significant utilities and service systems impacts as the project or project variant. Same as the project or project variant, Alternative C would have less-than-significant public services impacts because it would not cause population growth or alter land use such that new or altered governmental facilities would be needed. Like the project or project variant, Alternative C would not result in any significant impacts related to hydrology and water quality, because it would be subject to the same construction stormwater control requirements as the project or project variant and would not involve new discharges, affect groundwater supplies, change drainage patterns, or involve new development in a hazard zone. Construction and operation activities of Alternative C would be similar to those of the project, and work would occur at five substations in San Francisco in addition to the same locations as the project; therefore, Alternative C would be subject to the same hazardous materials handling, storage, containment, and management requirements as the project or project variant, a less-than-significant impact.

Alternative C energy use during construction would be less than the project or project variant, and during operations would be the same as the project (and less than the project variant). Alternative C's energy usage would not be unusually large or inefficient, wasteful, or unnecessary, a less-than-significant impact (same as the project or project variant). As would also be the case for the project or project variant, lands affected by Alternative C are not used for farming or agricultural activities, are not zoned as agricultural or timber uses, are not suitable for mineral extraction due to development, and are not classified as very high fire hazard severity zones and therefore Alternative C would not result in any impacts related to these topics.

5.3.4 Alternative D: New Brisbane Baylands Substation

5.3.4.1 DESCRIPTION

Under Alternative D, a new City Substation (with the same equipment as the project variant) would be constructed on the Brisbane Baylands property northeast of the Martin Substation, shown in **Figure 5-1**. Substation facilities would not be constructed at the Daly City Yard and, besides line connections, no equipment would be installed at Martin Substation. Construction of the new City Substation in Brisbane would require the same construction equipment as the project variant and would occur over 26 months like the project variant, but the distance between the new substation site and the nearest residences would be greater compared to the project or project variant. The estimated total trenching length is 6,300 feet for the Baylands location versus 9,000 feet for the project variant and 3,500 feet for the project. The distribution express feeders would connect to the Baylands substation instead of the Martin Substation or the new City Substation and would therefore be approximately 770 feet longer than required for the project variant and 280 feet longer than required for the project. Similar local distribution separation and system reinforcement work would be required along the San Francisco-San Mateo County border as described for the project. All other separation work would occur as described for the project.

SOURCE: AECOM, 2024

PG&E Asset Acquisition Project

Figure 5-1
Brisbane Baylands Substation

5.3.4.2 COMPARISON OF ENVIRONMENTAL IMPACTS

Alternative D would construct a new City Substation at the Baylands site and reduce the amount of construction at Martin Substation. Alternative D would implement all other components as described for the project and therefore would have the same impacts as the project or project variant associated with the distribution express feeders, local distribution system separation, system reinforcements, operations control center, operations and maintenance service yards, and modifications to retain PG&E access to non-electrical facilities. Accordingly, the following discussion focuses on the impacts of Alternative D that differ from the impacts of the project or project variant.

Unlike the analyses for the project, project variant, and other alternatives, due to the location of the new City Substation under Alternative D, in addition to examining impacts of Alternative D under existing conditions, this analysis also includes impact analysis for relevant topics where project-level or cumulative impacts would be altered if the Brisbane Baylands Specific Plan development (i.e., the planned adjacent housing) were to be completed prior to construction of Alternative D. Because the construction schedule of Brisbane Baylands Specific Plan is uncertain, the EIR presents both scenarios for impact analysis of Alternative D. By evaluating the impacts of Alternative D with and without prior construction of the Brisbane Baylands Specific Plan, the EIR will best serve its primary function as an informational document to support informed decision-making.

NOISE

The new City Substation under Alternative D would be located in Brisbane. Construction of the new City Substation under Alternative D would use the same equipment as the project variant. As shown in Table 3.2-13, concrete saws, jack hammers, and pile drivers would exceed the City of Brisbane municipal code requirements at 50 feet from the property plane, a potentially significant impact. This impact could be reduced with implementation of mitigation similar to M-NO-2, modified to address the specific requirements of the Brisbane municipal code.

Under Alternative D, the nearest sensitive receptors would be existing hotels on Geneva Avenue near Bayshore Boulevard, located approximately 400 feet west of the Alternative D substation site. Measured ambient noise near these receptors on Geneva Avenue near Bayshore Boulevard is 66 dBA.[6] Alternative D construction using the same equipment as the project variant would generate noise levels at these receptors of 67 dBA, which would not exceed thresholds for a significant increase in ambient noise. Therefore, construction noise impacts of Alternative D would be reduced compared to the project and project variant. For the same reason, cumulative construction-related increases in ambient noise would be reduced compared to the project or project variant.

Alternative D's Baylands substation construction would have reduced potential for significant vibration impacts to structures because the nearest structures are located more than 400 feet from the site. Therefore, construction vibration impacts of Alternative D would be reduced compared to the project. Similar to the project variant, new underground transmission and distribution lines would be installed in Geneva Avenue that could have potentially significant vibration impacts on adjacent structures. This impact would be reduced to less than significant with the same mitigation identified for the project or project variant for linear underground components.

[6] Refer to Section 3.2, Noise and Vibration, Table 3.2-3.

As noted in Impact NO-3, during operations the new City Substation equipment would generate noise levels of 63 dBA at 6 feet. The most stringent restriction of the Brisbane Municipal Code prohibits noise produced by any machine, animal or device or any combination of same, in any commercial or industrial zoning district from generating a noise level more than 10 dBA above the local ambient to any receiver for a cumulative period of more than 10 minutes in any hour. The exact location of new transformers under Alternative D is currently unknown, but for the purposes of this noise analysis it is assumed to be no closer than 6 feet to the property line. The nearest property plane would likely be along Bayshore Boulevard. The ambient noise levels on Geneva Avenue nearest Bayshore Boulevard were measured as 66 dBA. Therefore, transformers at the Alternative D site would not exceed 10 dBA over the ambient noise at the property plane, similar to the project or project variant.

Analysis Assuming Completed Brisbane Baylands Specific Plan

In the event that development consistent with the Brisbane Baylands Specific Plan is completed prior to construction of Alternative D, the nearest sensitive receptors to the Alternative D site would be approximately 50 feet away. With the extension of Geneva Avenue into the site, the ambient noise level at these receptors could be similar to levels measured at location LT-3 (refer to Section 3.2, Noise and Vibration, Figure 3.2-1), or approximately 72 dB Leq during the daytime. Alternative D construction using the same equipment as the project variant would generate noise levels of up to 94 dBA (during site excavation). In this scenario Alternative D construction would result in a substantial temporary increase in ambient noise. The noise levels would also increase ambient noise levels in excess of the City of Brisbane's standards in Section 8.28.060. Implementation of the same mitigation identified for the project or project variant would reduce this impact, but due to the amount of exceedance, the impact likely would be significant and unavoidable.

Regarding vibration, construction of the Baylands substation under Alternative D in this scenario would be approximately 50 feet from buildings proposed as part of the Brisbane Baylands Specific Plan, which is farther from buildings than construction of the Martin Substation separation (construction would occur within 8 feet of Martin Substation Building). Construction of Alternative D therefore would have reduced vibration impacts on buildings compared to the project. Similar to the project variant, new underground transmission and distribution lines would be installed in Geneva Avenue that could have potentially significant vibration impacts on adjacent structures. This impact would be reduced to less than significant with the same mitigation identified for the project or project variant for linear underground components.

Regarding noise during operations, same as the project variant, the new transformers under Alternative D could generate noise levels of 63 dBA at 6 feet. Assuming that the transformers would be 6 feet from the property plane, and the ambient nighttime noise level would be approximately 65 Leq dB (similar to levels measured at location LT-3 (refer to Section 3.2, Noise and Vibration, Table 3.2-3)) transformer noise from Alternative D would not exceed 10 dBA over the ambient noise level at the property plane. Therefore, Alternative D would have the same less-than-significant impact as the project and project variant regarding substation noise during operations.

AIR QUALITY

Construction of Alternative D would be similar to project variant construction but the distance between the new Baylands substation and the sensitive receptors in both San Mateo County and San Francisco would be greater than from either the Martin Substation Separation (project) or the New City Substation (project variant). The nearest residential receptors to the Alternative D substation site would be approximately

460 feet northwest (on MacDonald Avenue). The distance to the nearest residential uses from the project or project variant substation construction is 150 to 200 feet.

Alternative D construction would be similar to project variant construction and, therefore, criteria air pollutant emissions from Alternative D would likely exceed the criteria air pollutant significance thresholds. However, like the project or project variant, the impact would be reduced to less-than-significant with implementation of the same mitigation as identified for the project or project variant.

As discussed in Impact AQ-4, the project or project variant would result in potentially significant unmitigated health risks, due primarily to the linear trenching activity associated with the distribution express feeders, local distribution system separation, and system reinforcements. Impact AQ-4 also shows that, even without the linear work, the new City Substation under the project variant would result in potentially significant unmitigated health risks for sensitive receptors outside San Francisco. Compared to the project or project variant, construction of the new Baylands substation under Alternative D would be less likely to contribute to construction-related health risks because, in addition to being located farther from sensitive receptors, there are few, if any, sensitive receptors located within 1,000 feet downwind of the Baylands substation site. Therefore, construction-related health risks of Alternative D would be reduced compared to the project or project variant, although not to less-than-significant levels due to the linear trenching activity for the distribution express feeders, local distribution system separation, and system reinforcements. For the same reason, cumulative health risks under Alternative D would be reduced compared to the project or project variant. Potential health risk impacts of Alternative D would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

Analysis Assuming Completed Brisbane Baylands Specific Plan

In the event that housing consistent with the Brisbane Baylands Specific Plan is completed prior to construction of Alternative D, the nearest sensitive receptors to the Alternative D site would be approximately 50 feet away and downwind of the construction site. With sensitive receptors present in the Brisbane Baylands Specific Plan area, construction of the new Baylands substation under Alternative D would contribute to construction-related health risks, similar to the project or project variant. The sensitive receptors would be closer to substation construction than the sensitive receptors near the Martin Substation separation or new City Substation at Daly City Yard, and health risks are generally higher at sensitive receptors nearest construction. Therefore, construction-related health risks of Alternative D in this scenario would be similar to or greater than health risks of the project or project variant. For the same reason, cumulative health risks under Alternative D in this scenario would be similar to the project or project variant. Potential health risks of Alternative D in this scenario would be reduced with implementation of the same mitigation identified for the project or project variant, although health risks could remain above thresholds, a potentially significant impact. Further analysis would be needed to determine if feasible measures are available to reduce health risks to less-than-significant levels.

Other air quality impacts would be the same as discussed above, and similar to the project or project variant.

CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

Alternative D would not require any construction activities at Daly City Yard and work at Martin Substation would be substantially reduced, including elimination of the control house and switchgear buildings; therefore, Alternative D would avoid potentially significant historic resources impacts on the Martin warehouse and Martin Substation buildings. The new Baylands substation site is located near the National

Register listed Southern Pacific Railroad Bayshore Roundhouse. While there are historic structures near the new Baylands substation site, these structures are located more than 400 feet from the substation site and would not be subject to vibration or construction impacts as a result of Alternative D.[7] Overall, Alternative D would have reduced historic resources impacts compared to the project or project variant.

As with the project or project variant, Alternative D would be within an area determined to have archeological sensitivity and result in a similar amount of ground disturbance; thus, Alternative D would have similar potentially significant archeological resources and tribal cultural resources impacts as the project or project variant. These impacts would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project or project variant.

BIOLOGICAL RESOURCES

The Baylands substation location is not within mapped habitat with sensitive resources (e.g., wetlands) or special-status species, and is not within the boundaries of the San Bruno Mountain Habitat Conservation Plan (refer to Appendix H). Due to the presence of vegetation at and around the Baylands substation site, Alternative D would result in similar adverse effects on nesting birds and bat maternity roosts as the project or project variant, which would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project variant.

GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Alternative D would require ground disturbance at the Baylands site instead of Martin Substation or Daly City Yard. As shown on Appendix A Figure 4, artificial fill and tidal fill (which have a low potential for paleontological resources) underlie the Baylands substation location. Assuming the depth of ground disturbance required for the Baylands substation would be the same as required for the project variant, however, it is possible that excavation would extend into deeper geologic units with paleontological sensitivity. Therefore, Alternative D would have a similar potential paleontological resources impact as the project or project variant. This impact would be reduced to less-than-significant levels with implementation of the same mitigation identified for the project.

AESTHETICS

Alternative D would include the same equipment and structures as proposed for the project variant, which would be up to 30 feet tall and surrounded by a fence. These structures would be visible from scenic vistas. However, given the maximum height of the structures, and the location of the new substation adjacent to the existing Martin Substation and other industrial, commercial, and residential development, the Baylands substation would not block, interrupt, or diminish the dominance of San Francisco Bay, the east bay hills, San Bruno Mountain, or mid-range hilltop parks visible in the scenic vistas that include the Baylands substation site.[8] Furthermore, the Alternative D components would appear similar in bulk, size, and appearance to other existing infrastructure in the vicinity. Alternative D would include the same lighting as the new City Substation and, same as the project variant, would not include any new components with highly reflective materials such as glass panes that would introduce a new source of glare. Therefore, Alternative D would have the same less-than-significant aesthetics impacts as the project or project variant.

[7] National Register of Historic Places Draft Registration Form, Southern Pacific Railroad Bayshore Roundhouse, San Mateo County; listed March 26, 2010.
[8] Refer to Appendix A, Figure 1, for publicly accessible views of the area.

HYDROLOGY AND WATER QUALITY

Similar to the project or project variant, the new Baylands substation under Alternative D would replace some existing impervious surface; however, not all areas of the Baylands substation site are currently impervious. In Alternative D the approximately three-acre site would be paved or repaved. Same as the project or project variant, construction of Alternative D would be required to comply with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (SWRCB Order WQ 2022-0057-DWQ,[9] construction general permit), which applies to construction projects in California. The construction general permit requires the development and implementation of a stormwater pollution prevention plan for construction activities that disturb 1 or more acres of soil that includes specific best management practices designed to prevent sediment and pollutants from contacting stormwater from moving off site into receiving waters, as described in greater detail in Appendix A Section E.17, Hydrology and Water Quality. Alternative D design would also be required to include stormwater management measures consistent with requirements of San Francisco Public Works Code sections 147 (Stormwater Management Ordinance) pursuant to San Francisco Environment Code section 704(e). The Baylands substation site is not an area where groundwater recharge occurs due to the proximity to San Francisco Bay and underlying bay mud and therefore would not interfere with groundwater recharge. The Baylands substation location is not within a flood hazard zone or tsunami hazard area.[10] Therefore, Alternative D would have the same less-than-significant hydrology and water quality impacts as the project or project variant.

HAZARDS AND HAZARDOUS MATERIALS

Alternative D would not involve substantial ground disturbance at the Martin Service Center (including Martin Substation or Daly City Yard) but would be built on the Brisbane Baylands Operable Unit 2, a site included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5. Previous environmental investigations have identified elevated levels of lead and arsenic in soil at the Baylands substation site.[11] An approved remedial action plan for the site includes demolition of the existing pavement and excavation and removal of contaminated soil from the site and replacement with clean fill underlain by a cap. The remedial action plan identifies potential land use covenants that would apply to the site after soil remediation, including restrictions related to excavation into the cap based on a Regional Water Quality Control Board approved soil management plan.[12] Therefore, similar to the project variant, while Alternative D would include excavation on a site with land use restrictions, industrial uses would be permitted, and excavation is allowed if performed in accordance with relevant plans (e.g., soil management plan and health and safety plan), relevant treatments (e.g., caps) at the site are protected, and the oversight agency is notified in advance and approves the work. Construction would comply with relevant covenants, associated plans, and all applicable local, state, and federal regulations related to hazardous materials, same as the project or project variant. Because Alternative D would comply with all relevant requirements concerning the

[9] State Water Resources Control Board, NPDES General Permit, 2022, https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html, accessed February 27, 2024.
[10] California Department of Conservation, California Tsunami Maps, 2024, https://www.conservation.ca.gov/cgs/tsunami/maps, accessed February 26, 2024; California Department of Water Resources, Flood Information, 2024, https://gis.bam.water.ca.gov/bam, accessed February 26, 2024.
[11] California Water Resources Control Board, Fact Sheet Brisbane Baylands Operable Unit 2 – Cleanup Plan, Bayshore Boulevard South of Geneva Avenue Brisbane, CA, October 2020.
[12] Universal Paragon Corporation, Final Feasibility Study/Remedial Action Plan (RS/RAP), Brisbane Baylands Operable Unit 2, Brisbane California. Prepared by Geosyntec Consultants, December 22, 2021.

handling, use, and storage of hazardous materials, Alternative D would have similar less-than-significant impacts as the project or project variant.

OTHER ENVIRONMENTAL TOPICS

Alternative D would have similar or reduced environmental effects as the project for the following topics, as further explained below: land use and planning, population and housing, transportation and circulation, greenhouse gas emissions, wind and shadow, recreation, utilities and service systems, public services, mineral resources, energy, wildfire, and agriculture/forestry resources.

Alternative D would result in similar types of development in similar locations as the project and therefore would not conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Like the project, Alternative D would not result in population growth and would have less-than-significant population and housing impacts. While Alternative D construction would occur at the Baylands substation site instead of Martin Substation or Daly City Yard, it would require the same amount of excavation as the project variant (and more excavation than the project), and would require the same number of employees during operations; therefore, Alternative D would result in similar less-than-significant transportation and circulation impacts as the project or project variant. Alternative D would result in the same greenhouse gas emissions from construction as the project variant (and more than the project), and would include use of SF6 gas like the project variant, and for the same reasons discussed for the project Alternative D would be consistent with the City's greenhouse gas reduction strategy. Alternative D would include similar sized structures as the project variant, and would not be located near publicly accessible open spaces or parks, and therefore would not create wind hazards or shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces; Alternative D would have less than significant impacts with respect to wind or shadow, same as the project or project variant.

Like the project or project variant, Alternative D would have less-than-significant impacts related to recreation because work would occur within the same areas as the project or in existing private property and would not result in substantial unplanned growth. While Alternative D construction would occur at the Baylands substation site instead of Daly City Yard, it would require a similar amount of excavation and dewatering compared to the project variant; therefore, Alternative D would result in the same less-than-significant utilities and service systems impacts as the project or project variant. Similar to the project or project variant, Alternative D would have less-than-significant public services impacts as it would not cause population growth or alter land use such that new or altered governmental facilities would be needed.

Alternative D energy use during construction and operations would be similar to the project variant (and more than the project). Alternative D's energy usage would not be unusually large or inefficient, wasteful, or unnecessary, a less-than-significant impact, same as the project or project variant. As would also be the case for the project or project variant, lands affected by Alternative D are not used for farming or agricultural activities, are not zoned as agricultural or timber uses, are not suitable for mineral extraction due to development, and are not classified as very high fire hazard severity zones and therefore Alternative D would not result in any impacts related to these topics.

5.4 Ability to Meet Project Objectives

Table 5-3 summarizes the ability of the four alternatives to meet the project objectives. The No Project Alternative (Alternative A) is included, as required by CEQA Guidelines section 15126.6(e), even though it would not meet the basic project objectives. As shown, each of the remaining alternatives would meet or partially meet all of the project objectives.

5.5 Alternatives Comparison and the Environmentally Superior Alternative

5.5.1 Comparison and Summary of Alternatives' Impacts

The ability of each alternative to reduce the environmental impacts of the project or project variant and new impacts resulting from each alternative are summarized below. **Table 5-4** details environmental effects of the alternatives relative to those identified for the project or project variant.

5.5.2 Environmentally Superior Alternative

The CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives (CEQA Guidelines section 15126.6[e]). If it is determined that the "no project" alternative would be the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other project alternatives (CEQA Guidelines section 15126.6[e][2]).

On the basis of comparing the extent to which the alternatives reduce or avoid significant impacts of the project, the No Project Alternative (Alternative A) would be the environmentally superior alternative because it would avoid the project's or project variant's significant and unavoidable impacts and would reduce other impacts of the project or project variant related to noise, air quality, cultural resources, tribal cultural resources, biological resources, and geology and paleontological resources. Under Alternative A, the City will be required to continue to install equipment pursuant to PG&E requirements in order to connect to PG&E's grid as new developments are completed or existing City customers move, remodel, or upgrade facilities, which could cause impacts related to noise, air quality, cultural and tribal cultural resources, biological resources, and paleontological resources, although impacts would be substantially reduced compared to the project or project variant due to the anticipated smaller scale of construction or excavation.

Alternative B would reduce 13 impacts compared to the project or project variant, although most would still require the same mitigation as the project or project variant. Alternative B would reduce the amount of construction required at Martin Substation and thereby reduce construction noise and criteria air pollutant emissions impacts from construction, although mitigation would still be required to reduce these impacts to less-than-significant levels. Construction-related pollutant concentrations contributing to health risks would be reduced. Construction-related increases in ambient noise would be similar or reduced compared to the project or project variant. The reduced amount of excavation under Alternative B would also reduce impacts on archeological resources, human remains, tribal cultural resources, and paleontological resources compared to the project or project variant. All other impacts under this alternative would be similar or less than identified for the project or project variant.

Table 5-3 Summary of Ability of Alternatives to Meet Project Objectives

Objective	Project or Project Variant	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
Expand San Francisco's publicly owned, not-for-profit electricity services to meet the electricity needs of all electric customers in San Francisco	Yes	No	Partial (less expansion)	Partial (less expansion)	Yes
Use public funds efficiently and prudently to maintain and improve San Francisco's existing electricity infrastructure over the long term.	Yes	No	Partial (less control over how funds are used to maintain and improve electricity infrastructure)	Partial (less control over how funds are used to maintain and improve electricity infrastructure)	Yes
Use existing electric facilities that are already serving customers in San Francisco and avoid, where feasible, the construction of unnecessary and duplicative electric facilities.	Yes (project); Partial (project variant – requires construction of new substation)	Partial (Some duplicative facilities could be required by PG&E)	Yes	Yes	Partial (requires construction of new substation)
Provide the City with operational control of San Francisco's electric grid to allow the City to provide safe, reliable, sustainable, and affordable electricity service for all of San Francisco.	Yes	No	Partial (less ownership/control)	Partial (less ownership/control)	Yes
Facilitate the development of community-based electric service goals and provide programs that are based on community input, support the City's climate action goals, and promote equity and racial justice.	Yes	No	Partial (less ownership/control)	Partial (less ownership/control)	Yes
Provide cost-effective, timely, and reliable interconnections to San Francisco's electric grid for all electricity users in San Francisco.	Yes	No	Partial (some equipment still PG&E-owned and therefore existing interconnection inefficiencies would persist)	Partial (some equipment still PG&E-owned and therefore existing interconnection inefficiencies would persist)	Yes

Table 5-3 Summary of Ability of Alternatives to Meet Project Objectives

Objective	Project or Project Variant	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
Establish local accountability for the long-term performance and affordability of San Francisco's electricity infrastructure.	Yes	No	Partial (performance and affordability partially controlled by PG&E)	Partial (performance and affordability partially controlled by PG&E)	Yes
Minimize disruption to local communities.	Yes	Partial (No project construction; disruption from multiple additional WDT interconnection requirements)	Yes (Reduced construction at Martin Substation)	Yes (Reduced construction at Martin Substation; construction at other substations)	Yes, if completed prior to construction of Brisbane Baylands Specific Plan (Farther away from affected communities) No, if completed after construction of Brisbane Baylands Specific Plan

Table 5-4 Environmental Effects of Alternatives Relative to Effects of the Project or Project Variant[13]

Impacts[14]	Proposed Project (Martin Substation) or Variant (Daly City Yard)	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
NOISE AND VIBRATION					
Impact NO-1: Construction-related noise would exceed levels allowed by local general plan, noise ordinance, or other applicable standards	**SUM**	LTS Reduced	***SUM*** *Similar*	***SUM*** *Similar*	**SUM** Similar or Increased
Impact NO-2: Construction-related increases in ambient noise levels at noise-sensitive receptors would exceed thresholds	**SUM**	LTS Reduced	**SUM** Reduced	**SUM** Reduced	**SUM** Reduced[15]
Impact NO-3: Permanent operations-related increases in ambient noise levels at noise-sensitive receptors	**SUM**	LTS Reduced	***SUM*** *Similar*	***SUM*** *Similar*	***SUM*** *Similar*
Impact NO-4: Excessive groundborne vibration could exceed thresholds	LSM	LTS Reduced	*LSM* *Similar*	*LSM* *Similar*	LSM Reduced (Project)/ Similar (Variant)
Impact C-NO-1: Construction-related cumulative noise increases	**SUM**	LTS Reduced	**SUM** Reduced	**SUM** Reduced	**SUM** Reduced[15]
All other noise and vibration impacts	LTS	LTS Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
AIR QUALITY					
Impact AQ-2: Construction could result in considerable net increase in criteria air pollutants	LSM	LTS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*

[13] Impacts of the alternatives that would be similar to project or project variant impacts are italicized and filled grey.
[14] See Chapter 3 and Appendix A for complete impact statements. CEQA significance determination: NA= Not Applicable; NI = No Impact; LTS = Less than significant; LSM = Less than significant with mitigation; PS = Potentially significant; SUM = Significant and unavoidable with mitigation. All SUM impacts are shown in bold.
[15] If development consistent with the Brisbane Baylands Specific Plan is completed prior to construction of Alternative D, this impact would be similar to the impact of the project or project variant.

Table 5-4 Environmental Effects of Alternatives Relative to Effects of the Project or Project Variant[13]

Impacts[14]	Proposed Project (Martin Substation) or Variant (Daly City Yard)	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
Impact AQ-4: The project could expose sensitive receptors to substantial pollutant concentrations	LSM	LTS Reduced	LSM Reduced	LSM Reduced	LSM Reduced[16]
Impact C-AQ-1: Project could result in substantial air pollutant concentrations or a cumulatively considerable increase in health risks and hazards	LSM	LTS Reduced	LSM Reduced	LSM Reduced	LSM Reduced[17]
All other air quality impacts	LTS	LTS Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
CULTURAL RESOURCES					
Impact CR-1: Project could cause an adverse change in significance of a historical resource	LSM	PS Reduced	*LSM* *Similar*	*LSM* *Similar*	LSM Reduced
Impact CR-2: Project could cause an adverse effect on archeological resources	LSM	PS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*
Impact CR-3: Project could disturb human remains	LSM	PS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*
Impact C-CR-1: Project in combination with cumulative projects could cause an adverse change in significance of a historical resource	LSM	PS Reduced	*LSM* *Similar*	*LSM* *Similar*	LSM Reduced
Impact C-CR-2: Project in combination with cumulative projects could affect archeological resources or human remains	LSM	PS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*

[16] If development consistent with the Brisbane Baylands Specific Plan is completed prior to construction of Alternative D, this impact could be similar to or greater than the impact of the project or project variant.
[17] If development consistent with the Brisbane Baylands Specific Plan is completed prior to construction of Alternative D, this impact could be similar to or greater than the impact of the project or project variant.

Table 5-4 Environmental Effects of Alternatives Relative to Effects of the Project or Project Variant[13]

Impacts[14]	Proposed Project (Martin Substation) or Variant (Daly City Yard)	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
TRIBAL CULTURAL RESOURCES					
Impact TCR-1: Project could cause an adverse change in a tribal cultural resource	LSM	PS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*
Impact C-TCR-1: Project in combination with cumulative projects could cause an adverse change in a tribal cultural resource	LSM	PS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*
BIOLOGICAL RESOURCES					
Impact BI-1: Adverse effect on any special-status species	LSM	PS Reduced	*LSM* *Similar*	*LSM* *Similar*	*LSM* *Similar*
Impact BI-3: Adverse effect on federally protected wetlands	LSM	PS Reduced	*LSM* *Similar*	*LSM* *Similar*	*LSM* *Similar*
Impact BI-4: Interfere with movement of fish or wildlife species, or with wildlife corridors or nursery sites	LSM	PS Reduced	LSM *Similar*	LSM *Similar*	*LSM* *Similar*
Impact BI-5: Adverse effect on bat maternity colonies	LSM	PS Reduced	*LSM* *Similar*	*LSM* *Similar*	LSM Increased (Project)/ Similar (Variant)
Impact BI-7: Conflict with an adopted habitat conservation plan	LSM	PS Reduced	*LSM* *Similar*	*LSM* *Similar*	*LSM* *Similar*
Impact C-BI-1: Cumulative impacts on biological resources	LSM	PS Reduced	*LSM* *Similar*	*LSM* *Similar*	*LSM* *Similar*
All other biological resources impacts	LTS	PS Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*

Table 5-4 Environmental Effects of Alternatives Relative to Effects of the Project or Project Variant[13]

Impacts[14]	Proposed Project (Martin Substation) or Variant (Daly City Yard)	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
GEOLOGY AND SOILS					
Impact GE-5: Construction ground disturbance could adversely affect paleontological resources.	LSM	PS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*
Impact C-GE-2: Cumulative impacts on paleontological resources	LSM	PS Reduced	LSM Reduced	LSM Reduced	*LSM* *Similar*
All other geology and soils impacts	LTS	LTS Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
LAND USE AND LAND USE PLANNING					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
AESTHETICS					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
POPULATION AND HOUSING					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
TRANSPORTATION					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
GREENHOUSE GAS EMISSIONS					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
WIND AND SHADOW					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*

Table 5-4 Environmental Effects of Alternatives Relative to Effects of the Project or Project Variant[13]

Impacts[14]	Proposed Project (Martin Substation) or Variant (Daly City Yard)	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
RECREATION					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
UTILITIES AND SERVICE SYSTEMS					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
PUBLIC SERVICES					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
HYDROLOGY AND WATER QUALITY					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
HAZARDS AND HAZARDOUS MATERIALS					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
MINERAL RESOURCES					
All impacts	NI	NI Reduced	*NI* *Similar*	*NI* *Similar*	*NI* *Similar*
ENERGY					
All impacts	LTS	NI Reduced	*LTS* *Similar*	*LTS* *Similar*	*LTS* *Similar*
WILDFIRE					
All impacts NA	NA	NA Similar	*NA* *Similar*	*NA* *Similar*	*NA* *Similar*

Table 5-4 Environmental Effects of Alternatives Relative to Effects of the Project or Project Variant[13]

Impacts[14]	Proposed Project (Martin Substation) or Variant (Daly City Yard)	Alternative A: No Project	Alternative B: Meter Transmission at Martin Substation	Alternative C: Reduced Transmission Acquisition	Alternative D: New Brisbane Baylands Substation
AGRICULTURAL AND FORESTRY RESOURCES					
All impacts	NI	NI Same	*NI* *Same*	*NI* *Same*	*NI* *Same*

Like Alternative B, Alternative C would reduce 13 impacts compared to the project or project variant, although most would still require the same mitigation as the project or project variant. Similar to Alternative B, Alternative C would result in reduced construction noise, criteria air pollutant emissions, and toxic air contaminant impacts compared to the project or project variant because Martin Substation separation work would be substantially reduced. The reduced amount of excavation under Alternative C would also reduce impacts on archeological resources, human remains, tribal cultural resources, and paleontological resources compared to the project or project variant. Alternative C would require slightly more excavation than Alternative B because more meters would be installed. All other effects under this alternative would be similar or less than identified for the project or project variant.

Alternative D would reduce up to 7 impacts of the project or project variant, although additional impacts could occur and the same mitigation as the project or project variant would likely be required. If the new substation construction proceeds prior to construction of Brisbane Baylands Specific Plan development, Alternative D would avoid the significant and unavoidable impacts associated with a temporary increase in ambient noise levels caused by the project or project variant and would result in reduced health risk impacts. However, Alternative D could exceed City of Brisbane noise standards, an impact that was not identified for the project or project variant. If Alternative D proceeds after construction of Brisbane Baylands Specific Plan development, Alternative D would have the same significant and unavoidable construction noise impacts as the project or project variant and could result in significant toxic air contaminant emissions, an impact that was not identified for the project or project variant. Regardless of when it occurs, Alternative D would have reduced vibration impacts and historic architectural resources impacts compared to the project or project variant. Similar to the project variant, Alternative D would require vegetation removal or trimming and therefore have the same effects on nesting birds as the project variant (and greater impacts that the project). All other effects under this alternative would be similar or less than identified for the project or project variant.

The ability of Alternative D to reduce the significant and unavoidable impacts of the project or project variant depends on whether Alternative D occurs before or after construction of Brisbane Baylands Specific Plan development. If Alternative D were to occur after construction of Brisbane Baylands Specific Plan development, then noise and air quality impacts could be greater than the project or project variant. Unlike Alternative D, Alternatives B and C would clearly reduce some significant and unavoidable noise impacts of the project or project variant. Both Alternatives B and C would also reduce impacts associated with excavation, such as air pollutant emissions and impacts on cultural and paleontological resources. The distinction between Alternatives B and C is less clear because both alternatives would require less construction at Martin Substation and less excavation compared to the project or project variant. Compared to Alternative C, Alternative B requires less construction because fewer meters would be installed, and meter work would occur in fewer locations. Therefore, Alternative B is the environmentally superior alternative among the project alternatives (other than Alternative A).

As with each of the other project alternatives (except Alternative A), Alternative B would meet or partially meet all of the project objectives. Alternative B would use existing facilities and avoid the construction of unnecessary and duplicative electric facilities. Alternative B would also minimize disruption to local communities. Alternative B would partially meet the remaining project objectives, related to expanding San Francisco's publicly owned electricity services, efficiently using public funds, providing operational control of San Francisco's electric grid, facilitating development of community-based goals and programs, cost-effectiveness, and establishing local accountability.

5.6 Alternatives Considered but Eliminated from Further Analysis

Due to the complex nature of the project, many variations of project alternatives were evaluated and not carried forward because they did not pass the screening criteria (e.g., due to infeasibility, not reducing environmental impacts, or not meeting project objectives). These variations are grouped by their characteristics and described in general terms below. A brief rationale is provided for not carrying each concept forward for more detailed review in this EIR.

5.6.1 Duplicate City Grid in San Francisco

Duplicating the existing PG&E grid where it serves all customers in San Francisco was not carried forward because it would not avoid or substantially lessen potential environmental impacts of the project due to the substantially increased amount of construction required compared to the project. This concept also would meet fewer project objectives than the alternatives carried forward because it would not use existing facilities or avoid construction of duplicative facilities, and would not minimize disruption to local communities.

5.6.2 Other New Substation Sites

Other potential substation sites were considered as concepts instead of separating the Martin Substation (the project) or constructing a new City Substation at the Daly City Yard (the project variant). Construction of a new City substation at a different location was contemplated at an existing substation in San Francisco, such as Potrero or Hunters Point; the future Egbert Switching Station; the Cow Palace, which is in the vicinity of the Martin Substation; a nearby City-operated facility; and the Brisbane Baylands. Of those, only Brisbane Baylands was carried forward as a feasible alternative (evaluated in Section 5.3.4, Alternative D: New Brisbane Baylands Substation). Other potential substation sites were not carried forward for more detailed review because they do not have the potential to reduce the severity of one or more of the project's potentially significant adverse environmental effects.

Locating the substation at an existing substation in San Francisco or at the future Egbert Switching Station would result in additional construction impacts due to increased length of new underground transmission lines to connect the Martin Substation to the potential sites. The Egbert Switching Station site would be too small to house the required substation equipment. The distribution express feeder would also be longer if one of the substations within San Francisco was selected.

Locating the substation at the Cow Palace was not carried forward because construction at the Cow Palace site would have similar impacts as construction at the Martin Substation or the Daly City Yard. The transmission lines from the Martin Substation to the Cow Palace would be longer and therefore require more construction activity. The distribution express feeders would be slightly shorter.

San Francisco Municipal Transportation Agency leases a facility of sufficient size for a new substation at 2650 Bayshore Boulevard (in Daly City), located approximately 550 feet north of the northern boundary of the Martin Substation. The transmission lines required to connect a substation at the San Francisco Municipal Transportation Agency facility with the Martin Substation would be shorter than the other substation concepts. However, a substation at this location would not clearly reduce impacts because sensitive receptors are present

approximately 100 feet or less from the property line and an existing building would have to be demolished to construct a substation at this site, which could have additional environmental impacts.

Overall, while constructing a new substation at the other sites discussed above would meet most project objectives, these alternatives were eliminated from further analysis because they would require more construction and therefore would not reduce significant impacts compared to the project.

5.6.3 Distribution System Metering

Under this concept, revenue-quality meters were considered as a possible alternative to the local distribution system separation work, system reinforcements, and the new distribution express feeders. All other components would remain the same as described for the project or project variant. Existing distribution feeders that cross the county border would be metered at or near where PG&E's ownership of the lines ends and the City's ownership of the lines begins.

Each border crossing (approximately 70)[18] would create a new interconnection point that would require a meter and protective device between PG&E's distribution feeders and the City's (newly-owned) distribution feeders.[19] The meters and additional protective equipment needed would vary across the types of interconnections needed (size, voltage, location, underground vs. overhead, and other factors).

For an underground connection, installing revenue-quality metering and the protective device would require large equipment, aboveground space, and underground areas. For example, the above ground equipment space required could be 30 feet long by 20 feet wide by 12 feet high (see Figure 1-3), and require installation of underground vaults, concrete pads, and other auxiliary equipment. In addition, safety clearances around the equipment would be required at each metering site.

For overhead distribution feeders at the border, a primary service would also require a primary meter and a protective device at or near the point of interconnection. A typical primary meter installation would include current transformers, potential transformers, a meter panel enclosure, a meter, and necessary wiring, all on the same wood pole. The protective device would be installed on a separate wood pole. Primary voltage meters may need to be installed on additional poles. Additional new or taller poles may be needed to support the necessary equipment.

If sufficient land to accommodate the necessary equipment is not available in the vicinity of the distribution feeders, then the equipment would need to be installed at a more distant location and lines built to connect the equipment to the relevant feeders. This would result in additional ground disturbance.

Due to the individual size of the equipment and the number of anticipated interconnection points, as well as space and land use constraints on either side of the county border, these larger installations likely are not feasible. Due to the large space requirements (as described above), it is unlikely that there would be sufficient space to accommodate such equipment within the public right-of-way.

[18] See Table 2-5 in Chapter 2, Project Description.

[19] Each metering point would be an interconnection between the two entities and would require revenue quality metering, supported by revenue quality potential transformers and current transformers. Each interconnection would also require a distribution voltage protective device and disconnecting device for a reliable interconnection between the two utilities.

Additionally, metered points of interconnection at the distribution level (as opposed to physical separation) could create substantial operational challenges. For example, identifying responsibilities for repairs and coordinating work on planned outages and emergency outages would be more difficult and may decrease reliability. This could especially be a concern for feeder lines that cross the county border at multiple points.

This option was not carried forward due to the lack of available space for building multiple large facilities within the existing built environment along the county border and due to operational concerns associated with the number of distribution interconnections.

5.6.4 New Transmission Source to San Francisco

The City could reduce its reliance on PG&E transmission of City-generated power by constructing multiple new transmission lines from SFPUC-owned equipment in Newark to San Francisco, which would require crossing San Francisco Bay. A new substation would be needed in San Francisco as a termination for the new lines. The new transmission lines and substation would be constructed in addition to all other work described for the project or project variant.

A potential new transmission source alternative was not carried forward for more detailed review because it does not have potential to reduce the severity of the project's potential environmental impacts. This alternative concept would create new potentially significant environmental impacts associated with transmission line construction that would not occur under the project. Furthermore, without the project, this concept alone would not meet six of the eight project objectives, same as the No Project Alternative. Consequently, this concept was eliminated from further consideration.

5.6.5 Expanded 115 kV Bus Acquisition or 230 kV Bus Acquisition

Under these concepts, the City would acquire the PG&E transmission and distribution assets within San Francisco, same as the project, but expand the extent of facility acquisition at the Martin Substation. Concepts for expanded bus acquisition include City ownership of the entire 115 kV bus (instead of separating the 115 kV bus) or City ownership of the entire 230 kV bus (instead of metering the City's transmission from the 230 kV bus). Under either concept, the City would meter PG&E's transmission from either bus. Metering equipment would be installed at the Martin Substation, but the transmission separation work at the Martin Substation contemplated under the project would not be needed. Similar to the project, these concepts would require the construction of two new 115 kV/12 kV transformers for PG&E distribution. Construction of the local distribution system separation, distribution express feeders, and system reinforcements would be generally similar to the project; some minor changes might be needed to accommodate changes to transmission configuration.

These concepts would eliminate the need for additional separation work at the Martin Substation and therefore would reduce construction at the Martin Substation. Because they are very similar to Alternative B, these concepts were not carried forward as an alternative for evaluation.[20] These concepts would meet the same objectives as Alternative B and generally result in similar impacts as Alternative B.

[20] For example, the expanded 115 kV bus concept would be atypical compared to usual interconnections because the City's bus would connect PG&E's 230kV and 115kV lines to other PG&E equipment.

5.6.6 Daly City Substation Separation

In this concept, instead of separating the feeders going from Daly City Substation that provide service to customers in San Francisco, these feeders would remain intact and the City would have a presence at the Daly City Substation. This concept would reduce the amount of work needed for the local distribution system separation and system reinforcements and would eliminate the proposed distribution express feeders, but separation work at the Martin Substation would still occur. The City also would construct new facilities at the Daly City Substation. While the distribution express feeders proposed under the project would not be needed, other distribution lines from the Martin Substation and Daly City Substation could be required.

To achieve the project objectives, this alternative would also require major construction at the Daly City Substation or construction of additional transmission lines. The Daly City Substation is within 100 feet of the nearest sensitive receptors, which is less than the distance between the Martin Substation and its nearest sensitive receptors. Therefore, this concept is unlikely to reduce the significant noise impacts associated with the project. Although the distribution express feeders would not be required, due to the other construction needed at and near the Daly City Substation and the proximity of sensitive receptors this concept would not clearly avoid health risk impacts. While this concept would reduce local distribution system separation and system reinforcement work, it would not necessarily reduce biological resources impacts associated with that work because it could still require such work near Lake Merced and San Bruno Mountain State and County Park. In addition, due to the proximity to San Bruno Mountain State and County Park, this concept would not clearly reduce impacts related to special-status species and consistency with the San Bruno Mountain Habitat Conservation Plan. While this concept would meet most of the project objectives, it would not clearly require less construction than the project and could have similar environmental impacts as the project. Consequently, this concept was eliminated from further consideration.

5.6.7 Fringe Area Service Agreements

In this concept, the City would establish fringe area service agreements at certain points for some customers or neighborhoods to avoid the need for local distribution system separation and system reinforcements in those areas. This is an administrative solution, where customers in San Francisco would be served from PG&E lines, from San Mateo County, and vice versa. All other components would be the same as the project.

This concept could reduce impacts associated with the local distribution system separation and system reinforcements in some areas. However, this concept would not clearly reduce the noise, air quality, cultural resources, tribal cultural resources, and paleontological resources impacts of the project because the other project components, and some local distribution system separation work and system reinforcements, would still be required. Depending on the fringe area service agreement, certain customers in San Francisco would still be served by PG&E lines and subject to PG&E's operations, reliability, and investment requirements, thereby reducing this concept's ability to meet project objectives (i.e., to provide the City with operational control of San Francisco's electric grid and expand the City's electricity services to meet the electricity needs of all electric customers in San Francisco).

While this concept would reduce the amount of excavation and construction work associated with the project, this concept would have reduced ability to meet project objectives compared with Alternatives B and C, depending on the extent of fringe area service agreements. Consequently, this concept was eliminated from further consideration.

5.6.8 New Transmission Lines

In this concept, instead of 12 kV distribution express feeders, the City would install new 115 kV transmission lines from the Martin Substation along the distribution express feeders route or a similar route, potentially reducing the total length of the feeders. This concept would require construction of an additional 115/12 kV substation in southwest San Francisco to step down the voltage from the new transmission lines as well as new 12 kV feeders from this substation. All other project components would be similar to the project. While this concept could provide operational advantages and potentially reduce the amount of underground line construction required, the concept would require construction of a substation in southwest San Francisco in addition to the other construction activities described for the project. Therefore, while this concept could meet most project objectives, it would not clearly reduce environmental impacts of the project and was eliminated from further consideration.

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EIR PREPARATION

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APPENDIX A
INITIAL STUDY

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INITIAL STUDY
PG&E POWER ASSET ACQUISITION PROJECT
PLANNING DEPARTMENT CASE NO. 2023-005370ENV

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
ABAG	Association of Bay Area Governments
air district	Bay Area Air Quality Management District
ASCE	American Society of Civil Engineers
basin plan	Water Quality Control Plan for the San Francisco Bay Basin
BMP	best management practice
Cal/OSHA	California Division of Occupational Safety and Health
CEQA	California Environmental Quality Act
City	City and County of San Francisco
Corps	United States Army Corps of Engineers
CPUC	California Public Utilities Commission
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
ERO	environmental review officer
ESHA	environmentally sensitive habitat area
HCP	habitat conservation plan
LCP	local coastal program
LEED®	Leadership in Energy and Environmental Design
LUST	leaking underground storage tank
MRZ	mineral resource zone
MSDS	material safety data sheet
Mw	moment magnitude
NPDES	National Pollutant Discharge Elimination System
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	perchloroethylene
PG&E	Pacific Gas and Electric Company
PM	particulate matter
project	(PG&E) Power Asset Acquisition Project
regional water board	San Francisco Bay Regional Water Quality Control Board

Acronym/Abbreviation	Definition
SF6	sulfur hexafluoride
SFMTA	San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
SFRPD	San Francisco Recreation and Parks Department
SPC	Seismic performance class
state water board	California State Water Resources Control Board
SWPPP	stormwater pollution prevention plan
TCE	tetrachloroethylene
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

INITIAL STUDY

A. Project Description

The description of the Pacific Gas and Electric Company (PG&E) Power Asset Acquisition Project ("the project") is provided in Chapter 2, Project Description, of the environmental impact report (EIR), to which this initial study is appended.

B. Project Setting

The project setting and existing site land use characteristics are described in Chapter 2, Project Description, of the EIR, to which this initial study is appended.

C. Compatibility with Existing Zoning and Plans

	Applicable	Not Applicable
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	☐	☒
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	☒	☐
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	☒	☐

The project does not propose changes to or variances from the San Francisco Planning Code or zoning map. Chapter 2, Project Description, of the EIR discusses potential required approvals and permits from city, regional, state, and federal agencies.

C.1 Introduction

This section describes the land use plans applicable to the project areas and discusses the project's potential to be inconsistent with any of those plans or policies.

C.2 City and County of San Francisco Plans and Policies

C.2.1 SAN FRANCISCO GENERAL PLAN

The San Francisco General Plan, adopted by the planning commission and the board of supervisors, is both a strategic and long-term document, broad in scope and specific in nature. The general plan is the embodiment of the city's collective vision for the future of San Francisco, and comprises a series of elements, each addressing a particular topic, that applies citywide. The general plan contains 10 elements—Housing, Commerce and Industry, Recreation and Open Space, Community Facilities, Urban Design, Environmental

Protection, Transportation, Air Quality, Community Safety, and Arts—that provide goals, policies, and objectives for the physical development of the city. In addition, a land use index cross-references the policies related to land use located throughout the general plan.

The general plan elements that are particularly relevant to planning considerations associated with the project or project variant are the Environmental Protection, Urban Design, and Air Quality elements. The general plan also includes area plans that outline goals and objectives for specific geographic planning areas. Among these are the Western Shoreline Area Plan, Executive Park SubArea Plan, and Bayview Hunters Point Area Plan, which are applicable to the project areas. In an area plan, "the more general policies in the General Plan elements are made more precise as they relate to specific parts of the city".[1] The area plans contain specific policies and objectives that address land use and planning issues in the local context.

General Plan Elements

Environmental Protection Element

The general plan's Environmental Protection Element addresses the impact of urbanization on the natural environment, and emphasizes a balancing of environmental, economic, and social considerations in land use planning and development decisions. Objectives relevant to the project include:

- **Objective 3:** Maintain and improve the quality of the bay, ocean, and shoreline areas.
- **Objective 4:** Assure that the ambient air of San Francisco and the bay region is clean, provides maximum visibility, and meets air quality standards.

As discussed in Initial Study, Section E.17, Hydrology and Water Quality, the project or project variant would not degrade water quality. As discussed in Initial Study, Section E.2, Aesthetics, the project or project variant would not adversely affect scenic vistas that include the bay, ocean, or shoreline. As discussed in Section 3.3, Air Quality, with mitigation the project or project variant would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal, state, or regional ambient air quality standard. As such, it would not obviously conflict with Objectives 3 and 4.

Air Quality Element

The Air Quality Element focuses on adherence to regulatory air quality standards and the reduction of air pollution. Objectives applicable to the project include:

- **Objective 1:** Adhere to state and federal air quality standards and regional programs.
- **Objective 5:** Minimize particulate matter emissions from road and construction sites.

The project or project variant would generate emissions of dust and criteria air pollutants during construction. However, as discussed in Section 3.3, Air Quality, with mitigation the project or project variant would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal, state, or regional ambient air quality standard.

[1] San Francisco Planning Department, San Francisco General Plan Introduction, available online at https://generalplan.sfplanning.org/Introduction.htm, accessed August 18, 2021. This reference information (and all other documents and references cited in this report, unless otherwise noted) is available for review at https//]tinyurl.com/pgepowerasseteir.

Urban Design Element

Objectives of the general plan's Urban Design Element that are applicable to the project include emphasizing the characteristic pattern that gives the city and its neighborhoods an image, a sense of purpose and a means of orientation; and improvement of the neighborhood environment to increase personal safety, comfort, pride and opportunity. The policies applicable to the project are:

- **Policy 1.1:** Recognize and protect major views in the City, with particular attention to those of open space and water.
- **Policy 4.14:** Remove and obscure distracting and cluttering elements.

The overhead local distribution system separation and system reinforcements would include overhead wires on new or existing poles or by underground cables enclosed in new or existing duct banks and vaults, depending on whether the existing distribution system in the area is overhead or underground. The overhead project components also would be similar to existing overhead distribution infrastructure. As discussed in Initial Study, Section E.2, Aesthetics, the project or project variant would not substantially alter scenic vistas that include views of the city or surrounding water, hills, or open spaces and therefore would not conflict with policy 1.1. Urban Design Element Policy 4.14 (remove and obscure distracting and cluttering elements) recommends undergrounding overhead wires within the neighborhood environment. The project or project variant would include overhead components similar to existing infrastructure and would not obviously conflict with policy 4.14.

The Urban Design Element also rates San Francisco streets as "excellent," "good," or "average" for the quality of their views. Street view quality in the project areas is generally "average" or unrated, except for the northern portion of John Muir Drive, which is rated "excellent," and in the Excelsior neighborhood north of McLaren Park and the Portola neighborhood, where some streets are rated "excellent." Pedestrian path users, motorists, and bicyclists along streets rated "excellent" are considered sensitive viewers when considering the potential for aesthetic impacts. The Urban Design Element also rates John Muir Drive as a street that extends the effect of public open space. John Muir Drive is part of the 49-Mile Scenic Drive, and it can be reasonably assumed that users of the pedestrian path expect a high-quality visual setting, given that the streets that comprise the 49-Mile Scenic Drive are recognized for their aesthetic value. Local distribution system separation and system reinforcements could occur along streets rated as having "excellent" quality views; however, the project components would not substantially block or modify the existing visual character of these streets because the proposed distribution infrastructure would be similar to the existing infrastructure in these areas. Therefore, the project or project variant would not obviously conflict with the Urban Design Element.

Western Shoreline Area Plan

The Western Shoreline Area Plan is an area plan within the general plan. The plan includes objectives and policies pertaining to land use and development along the city's western shoreline extending approximately 6 miles, from Point Lobos to Fort Funston, including the Olympic Country Club (also called The Olympic Club), Lake Merced, and the Richmond and Sunset neighborhoods. The Western Shoreline Area Plan also serves as the land use plan portion of the city's certified local coastal program.

The Western Shoreline Area Plan includes specific objectives pertaining to each of the plan's 10 subareas. The project proposes local distribution system separation and system reinforcements work at several areas

surrounding Lake Merced, The Olympic Club, and the Outer Sunset residential neighborhood. Policies and objectives related to the project areas include:

- **Objective 5:** Preserve the recreational and natural habitat of Lake Merced.
- **Policy 5.3:** Only allow those activities in Lake Merced area which will not threaten the quality of the water as a standby reservoir for emergency use.
- **Objective 10:** Retain the open space quality of the Olympic Country Club area.

Project activities near Lake Merced and The Olympic Club would include reconfiguring and separating existing overhead and underground line segments, overhead and underground line reconnections, replacement or addition of electrical equipment, and transitions to change service voltage on existing lines to match the available local supply lines. The San Francisco Public Utilities Commission (SFPUC) would coordinate with The Olympic Club to minimize effects on golf course operations and avoid natural habitats near Lake Merced. After construction, disturbed areas would be restored to the same or similar pre-construction conditions except where new above-ground components are constructed. Thus, the project or project variant would not substantially alter the natural habitat and open space quality around Lake Merced or The Olympic Club area. The project or project variant would not obviously conflict with Objectives 5 and 10 and Policy 5.3.

Executive Park SubArea Plan

The Executive Park SubArea Plan is an area plan within the general plan. The plan includes objectives and policies pertaining to land use and development in a 71-acre neighborhood that comprises the southernmost part of the Bayview neighborhood. The subarea plan includes plans and policies to aid the area's transition from an office park to a mixed-use residential area. However, none of the policies specify land use plans related to electrical infrastructure. The project or project variant would not obviously conflict with the policies of the Executive Park Subarea Plan.

Bayview Hunters Point Area Plan

The Bayview Hunters Point Area Plan, a part of the San Francisco General Plan, includes goals and policies that aim to address local population decline, economic development, harmonization of different land uses, betterment of traffic and congestion, and reduction of health and environmental hazards caused by wastewater discharge and industrial by-products. The Bayview Hunters Point area is located at the southeastern corner of San Francisco and is roughly bounded by Interstate 280 to the north, US 101 to the west, and San Francisco Bay to the east and south. Policies related to the project areas include:

- **Policy 5.1:** Preserve and enhance the existing character of residential neighborhoods.

Project components within the Bayview Hunters Point Area Plan consist of local distribution system separation, system reinforcements, and potentially the operations control center and the operations and maintenance service yard. The overhead local distribution system separation and system reinforcements would either be implemented by overhead wires on new or existing poles or by underground cables enclosed in new or existing duct banks and vaults, depending on whether the existing distribution system in the area is overhead or underground. The operations control center would be located within an existing commercial or office building, and the operations and maintenance service yards would be located on a parcel zoned for that use. Therefore, the project or project variant would not obviously conflict with policies of the Bayview Hunters Point Area Plan.

C.2.2 SAN FRANCISCO PLANNING CODE

The San Francisco Planning Code governs land uses and densities and the configuration of buildings in San Francisco. Permits to construct new buildings or to alter or demolish existing ones may not be issued unless a project conforms to the planning code or an exception is available under the code. The planning code requirements are specified for areas of San Francisco called *zoning use districts* (also known as *use districts*). In addition to use districts, the city has established *height and bulk districts* to further the purposes of the Urban Design Element of the general plan by placing upper limits on the allowed height and bulk of buildings in the city.

Section 203 of the planning code states that the code shall not limit the construction, installation or operation by any public agency or private corporation of any street, of any utility pipe, conduit or sewer, of any power, transmission, communication or transportation line, or of incidental appurtenances to any of the foregoing when located in a street, alley, utility easement or other right-of-way. In San Francisco the distribution express feeders, local distribution system separation, and system reinforcements would generally be completed within streets, utility easements, or other right-of-ways.

Of the project or project variant components in San Francisco, the operations control center, operations and maintenance service yard, and modifications to retain PG&E access to non-electrical facilities would be located within parcels where Section 203 of the planning code would not apply. The operations control center would be located within an existing building zoned for commercial, office, or public use. The operations and maintenance service yards locations would be selected based on size and appropriate zoning (e.g., industrial or public use). Modifications to retain PG&E access to non-electrical facilities would occur within parcels already zoned for industrial use. New project components would appear similar in bulk, size, and appearance to surrounding urban infrastructure. Therefore, the project or project variant would not obviously conflict with applicable requirements of the San Francisco Planning Code.

C.2.3 ACCOUNTABLE PLANNING INITIATIVE

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added section 101.1 to the San Francisco *Planning Code* to establish eight Priority Policies:

1. Preservation and enhancement of neighborhood-serving retail uses
2. Protection of neighborhood character
3. Preservation and enhancement of affordable housing
4. Discouragement of commuter automobiles
5. Protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership
6. Maximization of earthquake preparedness
7. Landmark and historic building preservation
8. Protection of open space

The Priority Policies, which provide general policies and objectives to guide certain land use decisions, contain some policies that relate to physical environmental issues, including the protection of parks and open space and their access to sunlight and vistas.

Before issuing a permit for any project that requires an initial study under the California Environmental Quality Act (CEQA), and before issuing a permit for any demolition, conversion, or change of use, and before taking any action that requires a finding of consistency with the general plan, the city must find that the proposed project or legislation is consistent with the Priority Policies. In evaluating the proposed project's consistency with the general plan, the planning commission or planning department would make the necessary findings of consistency with the Priority Policies. The staff report for the planning commission will analyze the proposed project's consistency with general plan policies.

As described further in EIR Chapter 2, Project Description, Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, and in this initial study, the project or project variant does not propose and would not affect retail uses, housing, or commercial office development; would not detract from earthquake preparedness or increase commuter automobiles; and would not result in the loss of parks or open space. As discussed in Initial Study, Section E.2, Aesthetics, and Initial Study, Section E.11, Shadow, the project or project variant would not substantially impair scenic vistas or create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces. Project components potentially affecting historic resources are discussed in Initial Study, Section E.4, Cultural Resources. For the reasons above and as addressed further in the referenced sections of this document, the project or project variant would not be obviously or substantially inconsistent with the Priority Policies.

C.2.4 SAN FRANCISCO CLIMATE ACTION STRATEGY

The San Francisco Climate Action Strategy is a local action plan that: examines the causes of global climate change and the human activities that contribute to global warming; provides projections of climate change impacts on California and San Francisco based on recent scientific reports; presents estimates of San Francisco's baseline greenhouse gas emissions inventory and reduction targets; and describes recommended actions for reducing the city's GHG emissions. As discussed in Initial Study, Section E.9, Greenhouse Gas Emissions, the project or project variant would not obviously conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

C.2.5 SAN FRANCISCO PUBLIC UTILITIES COMMISSION 2020 STRATEGIC PLAN

The SFPUC's 2020 Strategic Plan[2] provides a framework for planning, managing, and evaluating SFPUC-wide performance, taking into account the long-term economic, environmental, and social impacts of SFPUC's business activities. This plan consists of a "Durable Section" that contains goals, objectives, and performance indicators to implement the SFPUC's vision and values within the topics of reliable service and assets, organizational excellence, effective workforce, financial sustainability, stakeholder and community interest, and environmental stewardship which represent SFPUC's current organizational priorities. The goals and objectives are then used to drive the plan's "Dynamic Section," which contains specific action items, targets, measures, and budgeting. The SFPUC uses the plan to evaluate its performance semiannually to help measure progress on an annual basis.

Implementing the project or project variant would consist of purchase of Pacific Gas and Electric Company (PG&E)-owned electrical transmission and distribution assets located in San Francisco and San Mateo counties that are needed to provide electricity service to customers within San Francisco, and other transactions and physical changes necessary for the City to own, operate, and maintain the electricity grid in

[2] SFPUC. 2016. 2020 Strategic Plan. Available: https://sfpuc.org/about-us/policies-plans/agency-strategic-plan, accessed March 4, 2024.

San Francisco. Project work would proceed in a manner that is generally compatible with the protection of water quality, public health and safety, biological resources, and other key elements of SFPUC's vision and values as expressed in the 2020 Strategic Plan. Overall, the project or project variant would not obviously conflict with the plan's primary objectives.

C.3 San Mateo County

State law and judicial interpretations of state law (California Government Code Section 53090 et seq.) mutually exempt cities and counties from complying with each other's building and zoning ordinances. The SFPUC, which is part of the City and County of San Francisco, is therefore exempt from complying with the building and zoning ordinances of other cities and counties. California Government Code Section 65402(b) requires that the SFPUC inform cities and counties of its plans to construct projects or acquire or dispose of extraterritorial property within their jurisdictions. The local governments then have 40 days to determine if the project is consistent with their general plans; these consistency determinations are advisory to the SFPUC rather than binding. Prior to project implementation, local jurisdictions would be notified pursuant to California Government Code Section 65402(b). Notwithstanding the above, where City-owned facilities are sited outside of San Francisco, the SFPUC seeks to work cooperatively with local jurisdictions to avoid conflicts with local land use plans and building and zoning codes.

Although the SFPUC is not legally bound by the land use plans and policies of other jurisdictions, non-City land use plans are discussed in this section to the extent that they provide land use planning information for the jurisdictions in which the project is located. This information, along with information regarding other non-City regulations, is also relevant to evaluate project impacts related to the specific significance criteria under CEQA that require an analysis of the compatibility of a proposed project with certain aspects of adopted local land use plans and policies. These particular significance criteria are listed below along with the location in this document where the reader can find the impact analysis:

- Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (analyzed in EIR Section 3.2, Noise)
- Conflict with applicable zoning and other regulations governing scenic quality (analyzed in Initial Study, Section E.2, Aesthetics)
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.), or would cause a substantial increase in transit demand that cannot be accommodated by existing or proposed transit capacity or alternative travel modes (analyzed in Initial Study, Section E.6, Transportation and Circulation)
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (analyzed in Initial Study, Section E.15, Biological Resources)
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (analyzed in Initial Study, Section E.15, Biological Resources)
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (not applicable)
- Conflict with existing zoning for agricultural use or a Williamson Act contract (not applicable)

C.3.1 SAN MATEO COUNTY GENERAL PLAN AND LOCAL COASTAL PROGRAM

The San Mateo County General Plan[3] provides information on existing conditions of the physical environment to analyze and identify problems and opportunities concerning resource management and community development. The objectives of the general plan are to: provide information required by state law; ensure that general plan policies are consistent; support area plan policies and ordinances; create a usable document for decision-makers, staff and the public; and provide an opportunity to develop policy that reflects current community values. Portions of the project areas are designated as existing special urban unincorporated areas including the Olympic Country Club and San Bruno Mountain. The components particularly relevant to planning considerations associated with this project are the urban land use policy component, addressed below.

Additionally, the San Mateo County Local Coastal Program (LCP) was approved by the County Board of Supervisors and the California Coastal Commission in 1980, with the County assuming responsibility for implementing the Coastal Act in unincorporated San Mateo County in 1981. The LCP consists of components and specific policies for regulating development in the Coastal Zone. The particularly relevant planning considerations associated with this project are contained in the sensitive habitats component.

General Plan Land Use Policies

- **Urban Land Use Policy 8.4a:** For Olympic Country Club, California Golf Club, Peninsula Gold and Country Club, Edgewood County Park, San Bruno Mountain County Park, Sweeney Ridge Skyline Preserve and Hassler Lands, maintain current private or public park and recreational uses. For private park and recreation uses, allow some land to be converted to residential, commercial, or commercial recreational uses if it would be physically compatible with the facility and contribute to its economic viability.

Portions of the local distribution system separation and system reinforcements work areas overlap with The Olympic Club and San Francisco Golf Club, and a portion of the system reinforcements work area overlaps with San Bruno Mountain State and County Park. However, the project or project variant would not change the current private or public park and recreational uses. The physical environmental effects of the project and project variant related to recreation are discussed in Initial Study, Section E.12, Recreation.

General Plan Visual Quality Policies

- **Visual Quality Policy 4.21:** Utility Structures. Minimize the adverse quality of utility structures, including roads, roadway and building signs, overhead wires, utility poles, t.v. antennae, distributed energy sources, solar water heaters, and satellite dishes.
- **Visual Quality Policy 4.22:** Scenic Corridors. Protect and enhance the visual quality of scenic corridors by managing the location and appearance of structural development.

The General Plan defines visual quality as the visual attributes of natural landscapes, structures, and communities. The overhead local distribution system separation and system reinforcements within unincorporated San Mateo County would be implemented by either overhead wires on new or existing poles or by underground cables enclosed in new or existing duct banks and vaults, depending on whether the existing distribution system in the area is overhead or underground. Therefore, where feasible, components

[3] San Mateo County. 2013. San Mateo County General Plan. Available: https://www.smcgov.org/planning/general-plan-policies, accessed March 15, 2024.

would be undergrounded, consistent with this policy. The overhead project components would be similar to existing overhead distribution infrastructure. Accordingly, the project or project variant would not obviously conflict with this policy.

General Plan Scenic Roads and Corridors Policies

- Scenic Roads and Corridors Policy 4.40: Scenic Roads. Give special recognition and protection to travel routes in rural and unincorporated urban areas which provide outstanding views of scenic vistas, natural landscape features, historical sites and attractive urban development.

County-designated scenic routes listed in the general plan and near or within the project areas consist of John Daly Boulevard, Junipero Serra Freeway from San Francisco to San Bruno (Interstate 280), and Skyline Boulevard from San Francisco to Half Moon Bay. The local distribution system separation and system reinforcements within unincorporated San Mateo County and within view of the county-designated scenic routes would be implemented by either overhead wires on new or existing poles or by underground cables enclosed in new or existing duct banks and vaults, depending on whether the existing distribution system in the area is overhead or underground. Therefore, where feasible, components would be undergrounded, consistent with this policy. The overhead project components would be similar to existing overhead distribution infrastructure. As discussed in Impact AE-1, the project or project variant would not adversely affect scenic vistas. Accordingly, the project or project variant would not obviously conflict with this policy.

San Mateo County Local Coastal Program Sensitive Habitats Component

- **Sensitive Habitats Component 7.3a:** Prohibit any land use or development which would have significant adverse impact on sensitive habitat areas.
- **Sensitive Habitats Component 7.3b:** Development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of the habitats.

Portions of the local distribution system separation and system reinforcements work areas are within unincorporated San Mateo County and overlap with The Olympic Club and the San Francisco Golf Club which are within the coastal zone. Project or project variant construction would avoid sensitive habitats within The Olympic Club and the San Francisco Golf Club. After construction, disturbed areas would be restored to the same or similar pre-construction conditions. Thus, the project or project variant would not substantially alter the natural habitat and open space quality in the coastal zone in San Mateo County, as discussed in greater detail in Initial Study, Section E.15, Biological Resources.

C.3.2 DALY CITY GENERAL PLAN, ZONING, AND LOCAL COASTAL PROGRAM

The Daly City General Plan,[4] adopted by the planning commission and the board of supervisors, is both a strategic and long-term document, with the objective of enabling the community to agree on short- and long-term policies, to establish a vision of the physical nature of Daly City for the future and set the tone for corresponding land use policies, and to provide a basis to evaluate the consistency of public and private development proposals with the policies of the plan. The general plan comprises a series of elements, each addressing a particular topic, that applies citywide. The general plan contains six elements—Land Use,

[4] City of Daly City. 2015. 2030 General Plan. Available: https://www.dalycity.org/DocumentCenter/View/896/2030-General-Plan-amended-with-2015-Housing-Element-PDF, accessed March 1, 2024.

Housing, Circulation, Safety, Resource Management, and Noise—that provide goals, policies, and objectives for the physical development of the city. The Daly City General Plan designates the Daly City Yard as Public Facilities (PF), which applies to all land on which federal, state or local government facilities are located and lands owned by public utilities companies, including electrical switching and corporation yards. The general plan elements that are particularly relevant to planning considerations associated with this project are the Land Use, Circulation, and Resource Management Elements.

Additionally, as a portion of the work area is within the City of Daly City and the coastal zone, relevant Daly City Local Coastal Program[5] policies are discussed below.

Daly City General Plan Land Use Policies

- **Policy LU-5:** Work to ensure that both public and private buildings along Mission Street and Geneva Avenue are continuously maintained in good condition.
- **Policy LU-13:** Continue to underground utilities when funding becomes available.
- **Policy LU-18:** Development activities shall not be allowed to significantly disrupt the natural or urban environment and all reasonable measures shall be taken to identify and prevent or mitigate potentially significant effects.
- **Policy LU-19:** Archeological resources should be preserved where possible.

The project or project variant components within Daly City consist of distribution express feeders along Geneva Avenue, local distribution system separation, system reinforcements, and, in the case of the project variant, a new City substation at the Daly City Yard. This Draft EIR discusses the potential for development activities in Daly City to disrupt the natural or urban environment, and identifies measures that would prevent or mitigate potentially significant impacts. Potential impacts on archeological resources are discussed in Initial Study, Section E.4, Cultural Resources.

Circulation Policies

- **Task CE-15.2:** Amend the Zoning Ordinance to require, in new development projects located along either Mission Street or Geneva Avenue, that all parking spaces provided for projects located be either underground or placed behind buildings.

All project components located within Daly City would not be staffed. Parking spaces would be available on the Martin Substation or new City Substation (project variant) site for City personnel.

Resource Management

- **Policy RME-5:** Assess projected air emissions from new development and associated construction and demolition activities in conformance with the Bay Area Air Quality Management District (air district) CEQA Guidelines, and relative to state and federal standards.
- **Task RME-8.4:** Assess projected stormwater impacts from new development in conformance with the San Mateo County Water Pollution Prevention Program, CEQA Guidelines and relative to state and federal standards.

[5] City of Daly City. 1984. Daly City Coastal Element (Local Coastal Program). Available: https://www.dalycity.org/DocumentCenter/View/898/Coastal-Element-PDF, accessed March 15, 2024.

- **Policy RME-10:** Minimize development in all areas designated as open space preservation.
- **Task RME-17.1:** The City shall continue to consult with the Department of Fish and Game, Army Corps of Engineers, and other regulatory agencies to identify avoidance or mitigation measures where special status species and their respective habitats would be potentially significantly impacted by development proposals (see also Task LU-24.2).
- **Policy RME-18:** Preserve trees that do not pose a threat to the public safety.
- **Policy RME-19:** Undertake measures to protect and preserve historic and archaeological resources.

This Draft EIR discusses projected air emissions in conformance with air district standards in Section 3.3, Air Quality. Stormwater impacts from new development are discussed in Initial Study, Section E.17, Hydrology and Water Quality. The project or project variant would not introduce substantial development in areas designated as open space. Section E.15, Biological Resources, discusses the effects of the project and project variant on special status species, habitats, and trees. Section E.4, Cultural Resources and Section E.5, Tribal Cultural Resources, consider historic and archeological resources, including measures to protect and preserve historic and archeological resources as relevant.

Daly City Zoning

The new City Substation (project variant), and portions of the distribution express feeders, local distribution system separation, and system reinforcements, would occur in areas in Daly City zoned for the following uses: Commercial (C-1, C-2); Residential (R-1, R-1A, R-2, R-3); Open Space (OS); Unzoned (U); Planned Development (PD); Pre- Planned development (Pre-PD); Unzoned (U); Interim (ID); and Industrial (M). The project or project variant would not alter land use or propose facilities inconsistent with Daly City zoning. Pursuant to Chapter 17.22 of the Daly City Zoning Code[6], the open storage of materials or equipment, when adjacent to a residential district, shall be screened by a sight-obscuring fence at least six feet high. The new City Substation at the Daly City Yard would comply with this requirement. Other project components within Daly City would be constructed within the public right-of-way and would not obviously conflict with Daly City zoning.

Daly City Local Coastal Program

The City of Daly City Local Coastal Program (LCP) consists of policies and goals for regulating development in the Coastal Zone, adopted as a General Plan Amendment. Local distribution system separation and system reinforcements would occur within coastal zone areas in Daly City. The Daly City LCP designates the Olympic Country Club as Open Space and areas just south of Lake Merced as residential. The LCP elements that are particularly relevant to planning considerations associated with this project are the following sensitive habitat area goals:

- **Sensitive Habitat Area Goal 1:** Protect, maintain and, where possible, enhance existing plant and animal habitats to allow continued re-establishment of a variety of species.
- **Sensitive Habitat Area Goal 2:** Increase the quality and variety of plant and animal species and, in general, improve overall biological productivity.

Initial Study, Section E.15, Biological Resources, discusses the effects of the project and project variant on special status species and habitats.

[6] Daly City Municipal Code chapter 17.22, M Industrial District.

C.3.3 BRISBANE GENERAL PLAN AND ZONING

The Brisbane General Plan is the blueprint for development in the city and addresses all aspects of development, including land use, housing, traffic, natural resources, open space, safety, and noise. The general plan also contains several subarea plans to guide development in specific neighborhoods to help facilitate conformance with the overarching goals of the general plan. The general plan elements that are particularly relevant to planning considerations associated with this project are the Land Use element and the Northwest Bayshore Neighborhood Subarea Plan.

Land Use

The Brisbane General Plan designates the Martin Substation part of the Northwest Bayshore neighborhood consisting of Martin Substation and the 7 Mile House properties as Commercial/Public Utilities (CPU). The General Plan also identifies a mapped marsh area within the Northwest Bayshore neighborhood.

- **Policy LU.15**: Encourage the maintenance and upgrading of structures and sites that have played important roles in the City's history.

Martin Substation is eligible for listing in the California historic register. As discussed in Section E.4, Cultural Resources, with mitigation the project or project variant would not result in significant adverse impacts on potential archeological resources.

Open Space

The open space element of the Brisbane General Plan includes the following policy relevant to the planning considerations associated with the project:

- **Policy 83**: Maintain the visual beauty of the Mountain, the ridgelines, hilltops, wildlife and plant habitat including the Brisbane Acres.[7]

As discussed in Section E.2, Aesthetics, the project or project variant would not construct facilities that would substantially detract from public views of San Bruno Mountain or other open spaces when viewed from within Brisbane. As discussed in Section E.15, Biological Resources, with mitigation the project or project variant would not result in substantial adverse effects on special status species or habitat, and therefore would not conflict with Policy 83.

Northwest Bayshore Neighborhood Subarea Policies

The Martin Substation is part of the Northwest Bayshore Neighborhood. The following subarea policies are particularly relevant to planning considerations associated with the project:

- **Policy NWB.1:** Establish zoning regulations recognizing existing public utilities use and allowing for infill public utilities and commercial development on the existing sites, recognizing the character, visibility and different scales of the sites and character of development that may be appropriate to each.

[7] The Brisbane Acres is a residential zoning district located with the San Bruno Mountain Area Habitat Conservation Plan (HCP). Source: https://www.brisbaneca.org/cd/page/r-ba-brisbane-acres-residential-district. Accessed August 16, 2024.

The Martin Substation separation would occur within an area zoned Northwest Bayshore Commercial/Public Utilities District, which permits among other uses public utility facilities and building, offices, warehousing, and outdoor storage of trucks and equipment associated with public utilities when screened from public view. The Martin Substation separation would not alter the existing wall that screens the area from public view along Bayshore Boulevard and Geneva Avenue.

Brisbane Zoning

The project areas include areas in Brisbane zoned for the following uses: Commercial (HC, C-1, NCRO-1 SCRO-1); Residential (PAOZ-1, PAOZ-2, TC-1); Commercial/Public Utilities District (C/P-U); Manufacturing (M-1); Open Space (OSD); Planned Development (PD); and Marsh Lagoon Bayfront District (MLB). The Martin Substation is located in an area zoned C/P-U.

The project or project variant would not alter land use or propose facilities inconsistent with Brisbane zoning. In Brisbane, the project would complete the Martin Substation separation and either the project or project variant would conduct local distribution system separation and system reinforcements activities. The Martin Substation separation would not conflict with aesthetics requirements applicable to areas zoned C/P-U because the area would be screened from public view by the existing fence and the structures would be less than 50 feet tall.[8]

C.3.4 SAN BRUNO MOUNTAIN HABITAT CONSERVATION PLAN

The purpose of the San Bruno Mountain Habitat Conservation Plan is to provide habitat on San Bruno Mountain for the indefinite perpetuation of the Mission Blue and Callippe silverspot butterflies, as well as to conserve and enhance the value of the mountain as a whole as a remnant ecosystem or biological refuge which contains other rare or unusual species in addition to the two butterflies.[9]

Portions of the areas identified for system reinforcements are within the San Bruno Mountain area, although primarily within “development areas” or “unplanned areas” as mapped by the habitat conservation plan agreement. A corner of system reinforcements area 1 (shown on Figure 2-8) is within “conserved habitat” area as mapped in the habitat conservation plan agreement. Parts of system reinforcements area 9 also overlap conserved habitat.

Conserved habitat areas of San Bruno Mountain are required to be managed in accordance with Chapter III of the HCP. Land in conserved areas is to be used only for habitat purposes and for other uses consistent with use as a habitat. Restrictions on land use on conserved habitat can only be relaxed or modified with the unanimous consent of the USFWS, California Department of Parks and Recreation, CDFW, San Mateo County, and the cities of Brisbane, Daly City, and South San Francisco. As discussed in Initial Study, Section E.15, Biological Resources, with mitigation the project or project variant would not result in substantial adverse effects on special status species or habitat, and therefore the project or project variant activities in conserved areas would not obviously conflict with the habitat conservation plan.

[8] Brisbane Municipal Code chapter 17.22, C/P-U Northwest Bayshore Commercial/Public Utilities District.
[9] San Bruno Mountain Habitat Conservation Plan Agreement, 1982.

Exhibit D of the habitat conservation plan agreement identifies ongoing restrictions applicable in development areas defined by the plan. Pesticides requiring a special governmental agency permit, or which are applied by aircraft or helicopter, or which are applied on a large-scale basis (in excess of 0.5 acre upon a single application) must be approved, in writing, by the HCP operator. Buffer areas to reduce the risk of wildland fire must be maintained. The project or project variant would not use pesticides and would not affect the size of buffer areas surrounding existing development, and therefore would not obviously conflict with the habitat conservation plan.

C.4 State Plans and Policies

C.4.1 CALIFORNIA COASTAL ACT

The California Coastal Act (Public Resources Code section 30000 et seq.) was enacted by the state legislature in 1976 to provide long-term protection of the Pacific Ocean coastline for the benefit of current and future generations. The Coastal Act and policies apply within California's Coastal Zone, as defined in the Coastal Act.[10]

Project components located within the Coastal Zone include local distribution system separation and system reinforcements around Lake Merced in San Francisco, Daly City, and unincorporated San Mateo County.[11] Within San Francisco, portions of the system reinforcements work areas overlap with Lake Merced, the Olympic Country Club, and other Coastal Zone areas covered by the Western Shoreline Area Plan.[12] Within Daly City and San Mateo County, local distribution system separation and a small area of system reinforcements are proposed within unincorporated San Mateo County and is subject to the San Mateo County Local Coastal Program, and a smaller area of local distribution system separation and system reinforcements is within the City of Daly City Local Coastal Program. Projects exempt from coastal development permits may include repair or maintenance activities that do not result in an enlargement or expansion of the relevant facilities. Project components in the Coastal Zone may be subject to the local coastal programs.

As discussed in Initial Study, Section E.2, Aesthetics, the project or project variant would not substantially alter scenic vistas that include views of the city or surrounding water, hills, or open spaces, including areas within the coastal zone (Lake Merced, The Olympic Club). The project or project variant would not substantially alter the natural habitat in the coastal zone, as discussed in greater detail in Initial Study, Section E.15, Biological Resources. Initial Study, Section E.12, Recreation, discusses the project and project variant's temporary impacts on recreation, including recreational facilities within the coastal zone (none of which include water-oriented recreational activities). The project or project variant would not affect public shoreline access, agricultural lands, or marine resources. The project or project variant would not obviously conflict with the Coastal Act.

[10] The Coastal Zone includes areas offshore to California's outermost line of jurisdiction (or approximately 3 nautical miles), along with coastal land. The Coastal Zone on land varies by location. In developed urban areas, the coastal zone boundary generally extends inland less than 1,000 yards. In other areas the Coastal Zone landward boundary is the first major ridgeline paralleling the ocean, or five miles from the ocean's mean high tide line, whichever is less.

[11] California Coastal Commission, 2024. Coastal Zone Boundary Maps- San Mateo County. Available: https://coastal.ca.gov/maps/czb/, accessed March 15, 2024.

[12] San Francisco Planning Department, 1984. Western Shoreline Area Plan Map 1. Available: https://generalplan.sfplanning.org/Western_Shoreline.htm, accessed March 15, 2024.

D. Summary of Environmental Effects

The project could potentially result in adverse physical effects on the environmental resources checked below. Where those impacts are significant or potentially significant, the California Environmental Quality Act (CEQA) requires identification of mitigation measures to reduce the severity of the impacts to less than significant to the extent feasible. This initial study and the EIR present a more detailed checklist and discussion of each environmental resource. For topics discussed in Chapter 3 of this EIR, the initial study presents a simplified screening checklist indicating potentially significant impacts. Impact conclusions shown for topics discussed in Chapter 3 of this EIR are preliminary.

☐ Land Use and Planning	☐ Greenhouse Gas Emissions	☐ Hydrology and Water Quality
☐ Aesthetics	☐ Wind	☐ Hazards and Hazardous Materials
☐ Population and Housing	☐ Shadow	☐ Mineral Resources
☒ Cultural Resources	☐ Recreation	☐ Energy
☒ Tribal Cultural Resources	☐ Utilities and Service Systems	☐ Agriculture and Forestry Resources
☐ Transportation and Circulation	☐ Public Services	☐ Wildfire
☒ Noise	☒ Biological Resources	☐ Mandatory Findings of Significance
☒ Air Quality	☒ Geology and Soils	

D.1.1 PURPOSE OF THE INITIAL STUDY

This initial study evaluates the potential for the project to result in significant environmental impacts and identifies the environmental resource topics that are appropriately analyzed in the initial study and those that warrant more detailed analysis in the Draft EIR.

Based on this initial study, the resource topics for which there is a potential for impacts to be significant or for which the analysis requires additional detail are analyzed in the Draft EIR and are as follows:

- Noise (all topics)
- Air Quality (all topics)

D.1.2 APPROACH TO CUMULATIVE IMPACT ANALYSIS

The CEQA Guidelines require that the environmental document disclose the cumulative impacts of a project. CEQA Guidelines section 15355 defines “cumulative impacts” as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. EIR Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, Section 3.1.5, Approach to Cumulative Impacts Analysis and Cumulative Projects, describes the overall approach used in this document to conduct the cumulative analysis. The cumulative impact analyses for topics addressed in this initial study are presented in Initial Study, Section E, Evaluation of Environmental Effects, and use the list-based approach, a projections approach, or a hybrid of the two as appropriate. Development and infrastructure projects that could produce related or cumulative impacts are listed in Table 3.1-3, Projects Considered in Cumulative Impact Analysis, of EIR Section 3.1, Overview, and mapped in Figure 3.1-1, Cumulative Projects.

E. Evaluation of Environmental Effects

E.1 Land Use and Planning

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
1. LAND USE AND PLANNING. Would the project:					
a) Physically divide an established community?	☐	☐	☐	☒	☐
b) Cause a significant physical environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐

Impact LU-1: The project or project variant would not physically divide an established community. ***(No Impact)***

All Project Components

The areas where project or project variant activities would occur are primarily in the southern portions of San Francisco and the northern parts of Brisbane and Daly City, along the San Francisco-San Mateo County border. These areas contain a mix of residential, commercial, industrial, open space, public utilities, and public use land uses.

Physical division of an established community would typically involve construction of a physical barrier to neighborhood access, such as a new freeway, or removal of a means of access, such as a bridge or a roadway, which would not occur under the project or project variant. The Martin Substation separation, operations control center, operations and maintenance service yard, and new City substation (project variant) would be within existing parcels zoned for the proposed use. The distribution express feeders and underground work for the local distribution system separation and system reinforcements would be underground, and therefore, would not divide established communities when complete. The aboveground work for the local distribution system separation and system reinforcements would consist of new power poles and other equipment that would not modify existing streets or otherwise create barriers to access. The project or project variant would temporarily close travel lanes for construction of the project components. However, the project or project variant would not physically divide an established community because the lane closures would be temporary and these areas do not act as the sole corridors between or within existing neighborhoods. Overall, the project or project variant would not physically divide an established community. There would be ***no impact***.

Mitigation: None required.

Impact LU-2: The project or project variant would not cause a significant physical environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. ***(Less than Significant)***

All Project Components

Land use impacts are considered significant if the project or project variant would conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Environmental plans are those that directly address environmental issues and/or contain targets or standards that must be met in order to preserve or improve characteristics of San Francisco's physical environment. Conflicts with land use plans, policies, and regulations do not necessarily indicate a significant environmental land use impact under CEQA, unless a project substantially conflicts with a land use plan or policy that was adopted for the purpose of avoiding or mitigating an environmental effect such that a substantial adverse physical change in the environment would result. To the extent that physical environmental impacts may result from such conflicts, the physical impacts are evaluated under the relevant environmental topic sections of this initial study.

Applicable land use plans, policies, and regulations that govern local development within the project areas include the San Francisco General Plan, Brisbane General Plan, Daly City General Plan, San Mateo County General Plan, and associated planning codes.[13]

As described in Initial Study, Section C, Compatibility with Existing Zoning and Plans, the project or project variant would not substantially conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Project consistency with applicable plans, policies, and regulations of agencies with jurisdiction would continue to be analyzed and considered as part of the respective agencies' permit application review and approval process required for the project, independent of CEQA review. Any such potential conflicts would also be considered by decision-makers during their deliberations on the merits of the project and as part of their actions to approve, modify, or disapprove the project. Therefore, the project or project variant would have a ***less-than-significant*** impact regarding conflicts with existing plans, policies, and regulations.

Mitigation: None required.

Impact C-LU-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to land use and planning. ***(Less than Significant)***

All Project Components

A cumulative land use impact would occur if the incremental impact of the project or project variant, in combination with the incremental impacts of the cumulative projects, would result in the physical division of an established community or result in a significant physical environmental impact due to conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. The geographic scope of cumulative land use impacts includes the project areas and the relevant geographies of applicable plans, policies or regulations adopted for the purpose of avoiding or

[13] Other regional plans, such as the 2017 Clean Air Plan and the Basin Plan concerning San Francisco Bay, address specific environmental resources and are discussed in the relevant sections of this initial study and EIR.

mitigating an environmental effect. Cumulative development in the project's vicinity includes projects as listed in Table 3.1-3, Projects Considered in Cumulative Impact Analysis.

The project or project variant would not physically divide an established community, and therefore would have no potential to combine with cumulative projects to result in a significant physical environmental impact related to dividing an established community. The cumulative projects would maintain existing land uses in the project vicinity and, like the project, would be required to comply with applicable regulations. It is therefore expected that, in general, implementation of the cumulative projects in combination with the project or project variant would be consistent with relevant plans and policies adopted for the purpose of avoiding or mitigating an environmental impact and would not result in a significant cumulative impact related to land use and planning (***less than significant)***.

E.2 Aesthetics

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
2. AESTHETICS. Except as provided in Public Resources Code section 21099, would the project:					
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	☐
b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐	☐

E.2.1 CONCEPTS AND TERMINOLOGY

Visual character is a general description of the visual attributes of a particular setting. The purpose of defining the visual character of an area is to provide the context within which the visual quality of a particular site or locale is most likely to be perceived by the viewing public. For urban areas, like the project areas, visual character is typically described on the neighborhood level, or in terms of areas with common land use, development intensity, and/or urban design features.

Scenic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Scenic resources may include trees, rock

outcroppings, and other unique landscape features that contribute to the visual character and scenic qualities of public views.

Visual quality is defined as the overall visual impression or attractiveness of a site or locale as determined by its aesthetic qualities (such as color, variety, vividness, coherence, uniqueness, harmony, and pattern).

Scenic vistas are locations from which the public can experience unique and exemplary views, typically from elevated vantage points that offer panoramic views of great breadth and depth.

A *viewshed* is an area of land, water, or other urban or environmental element that is visible to the human eye from a fixed vantage point.

E.2.2 IMPACTS AND MITIGATION MEASURES

Impact AE-1: The project or project variant would not have a substantial adverse effect on a scenic vista. *(Less than Significant)*

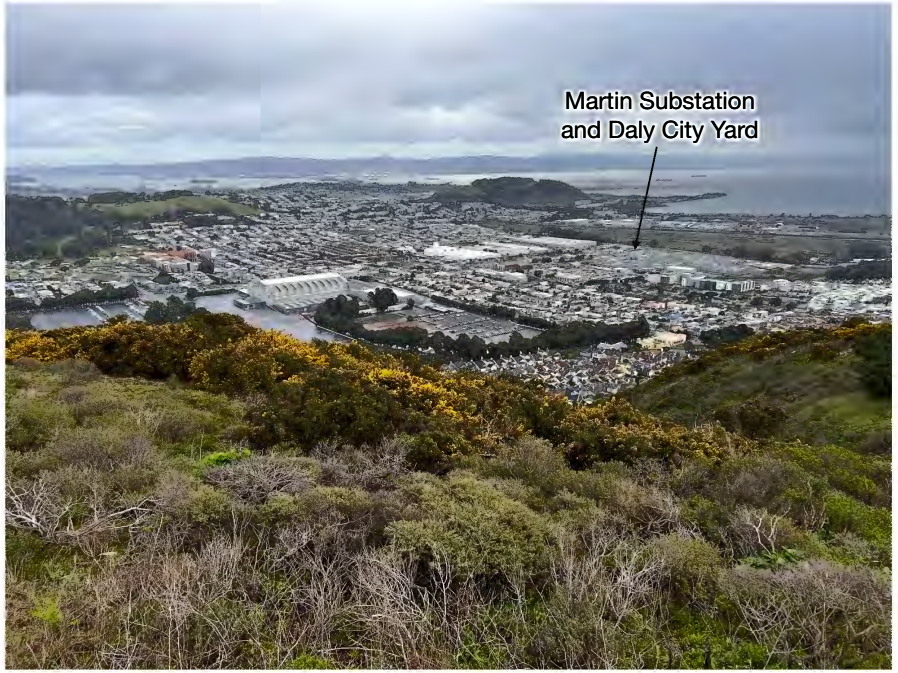
Publicly accessible scenic vistas that include the project areas are available from Bayview Park, San Bruno Mountain (shown in **Figure 1**), and McLaren Park, and other smaller public parks and open spaces. The project areas are generally urban or developed, containing a variety of industrial, commercial, and residential land uses on both sloped and flat, low-lying areas. Scenic vistas that include the project areas generally encompass expansive views of San Francisco Bay and distant hills in the east bay along the horizon, along with mid-range views of hilltop parks interspersed among urban development.

A project would have a significant effect on scenic vistas if the project would substantially degrade unique and exemplary views from the public, particularly those from elevated vantage points that offer panoramic views of great breadth and depth.

Construction Impacts – All Project Components

Construction activities and associated equipment would not have a significant effect on scenic vistas because the project sites are generally not visible or substantially distinguishable from existing urban infrastructure as seen from scenic vistas. Project construction at the Martin Substation or Daly City Yard could be minimally visible within scenic vistas from San Bruno Mountain, McLaren Park, Bayview Park, and some elevated neighborhood open spaces and parks; however, the relative scale of construction equipment would not interrupt or diminish the expansive views of San Francisco Bay, the east bay hills, San Bruno Mountain, or mid-range hilltop parks available at publicly accessible scenic vistas. Construction of the distribution express feeders, local distribution system separation, system reinforcements, and other separation components (including the operations control center; operations and maintenance service yards; materials and equipment staging; and modifications to allow PG&E access to non-electrical facilities) would occur in locations that presently include urban elements in the viewshed such as existing power lines, buildings, trucks, and vehicles and would not be easily distinguishable from scenic vistas. Accordingly, construction of the project or project variant would not have a substantial adverse effect on a scenic vista; therefore, impacts on scenic vistas would be ***less than significant***.

View Looking East from Oakridge Drive



View Looking Northeast from San Bruno Mountain State and County Park

SOURCE: ESA, 2024

PG&E Asset Acquisition Project

Figure 1
Publicly Accessible Views of
Martin Substation and Daly City Yard

Operation Impacts – All Project Components

New electrical equipment at the Martin Substation (for the proposed project) such as transformers, circuit breakers, a control house, switchgear buildings, perimeter fencing, and new overhead lines/transitions and utility poles would be visible from scenic vistas. However, given the maximum height of the new equipment, the new electrical equipment would not block, interrupt, or diminish the dominance of San Francisco Bay, the east bay hills, San Bruno Mountain, or mid-range hilltop parks visible in the scenic vistas that include the Martin Substation.

The new City Substation at Daly City Yard for the project variant would include new enclosed gas insulated switchgear buildings, transformers, and lighting and fencing. These structures would be visible from scenic vistas. However, given the maximum height of the project variant structures (up to 30 feet tall), and the location of the new substation adjacent to the existing Martin Substation and other industrial, commercial, and residential development, the new City Substation would not block, interrupt, or diminish the dominance of San Francisco Bay, the east bay hills, San Bruno Mountain, or mid-range hilltop parks visible in the scenic vistas that include the Martin Substation or Daly City Yard. Furthermore, for the project or project variant, new project components would appear similar in bulk, size, and appearance to other similar existing infrastructure in the vicinity.

The overhead local distribution system separation, system reinforcements, and other separation components would be similar size and appearance to existing distribution system infrastructure sited within a mix of urban, public utility, recreational, residential, and open space land uses, and not clearly distinguishable from surrounding development when viewed from scenic vistas. Distribution express feeders would be underground, as would underground components of the local distribution system separation and system reinforcements.

Therefore, operation impacts from the project or project variant on scenic vistas would be ***less than significant.***

Mitigation: None required.

Impact AE-2: The project or project variant would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. ***(Less than Significant)***

All Project Components

There are no officially designated state scenic highways in the vicinity of the proposed project. However, State Route 1 (also known as Highway 1), Interstate 280, and State Route 35, all traverse the project areas and are identified as eligible for designation as state scenic highways.[14] No corridor protection programs have been developed or adopted for eligible state highways in the project areas.[15] The Urban Design Element of the San Francisco General Plan contains objectives and policies to protect natural resources such as sand

[14] California Department of Transportation, *Scenic Highways*, *n.d.,* https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed March 3, 2024.
[15] California Department of Transportation, *Scenic Highways – Frequently Asked Questions*, *n.d.,* https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2, accessed March 3, 2024.

dunes, hills, cliffs, open spaces (including recreational resources), the San Francisco Bay, and the Pacific Ocean, all of which contribute to the visual framework of the city. Scenic resources in the project areas and within view of eligible state highways include San Bruno Mountain, The Olympic Club and San Francisco Golf Club golf courses, and Head and Brotherhood Mini Park.[16]

The project components that could be visible from eligible state highways are overhead local distribution system separation and system reinforcements, which would generally occur along the public right-of-way in areas that have already been developed. The project or project variant would not remove or substantially alter historic buildings within view of eligible state highways. The overhead local distribution system separation and system reinforcements do not require substantial vegetation removal or grading that could affect the scenic resources within view of eligible state highways.

Therefore, the project or project variant would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, and the impact would be ***less than significant***.

Mitigation: None required.

Impact AE-3: The project or project variant would not conflict with applicable zoning and other regulations governing scenic quality. ***(No Impact)***

All Project Components

San Francisco, Daly City, Brisbane, and northern San Mateo County are considered part of an urbanized area, as defined in CEQA Guidelines section 15387 and as mapped by the U.S. Census;[17] thus, impacts associated with degradation of existing visual character or quality may be considered in the context of the potential to conflict with applicable zoning and other regulations governing scenic quality. As discussed in Section C, the project or project variant would not obviously conflict with zoning and other regulations related to scenic quality. The project or project variant would not substantially alter scenic vistas or existing visual character because where appropriate, new components would be underground, or if they are placed aboveground, components would be similar to the existing electrical infrastructure already present along streets, and relevant project components would be within areas zoned for the proposed use. Therefore, the project or project variant would have ***no impact*** related to conflicts with applicable zoning and other regulations governing scenic quality.

Mitigation: None required.

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[16] See Figure 3, Recreational Facilities, for locations of recreational resources.
[17] U.S. Census Bureau, 2010 Census – Urbanized Area Reference Map for San Francisco–Oakland, California.

Impact AE-4: The project or project variant would not create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area. ***(Less than Significant)***

Construction Impacts – All Project Components

As discussed in Chapter 2, Section 2.5.2, Construction Schedule, temporary lighting would be used when workdays are short (for example, during late fall and winter), and during project activities at the Martin Substation when nighttime work would be necessary to maintain the project schedule. In all work locations, temporary lighting would be oriented downward to illuminate work areas and away from surrounding areas and would be of short duration (generally less than a month for each average city block), although work at the Martin Substation and Daly City Yard would be stationary and of longer duration. However, as shown in **Figure 2**, the Martin Substation and Daly City Yard have existing night lighting. While additional nighttime lighting may be used at this project site, including near Geneva Avenue and Schwerin Street, the lighting would be oriented downward toward work areas and away from surrounding areas, and the area is already lit at night. Therefore, temporary lighting would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, a ***less-than-significant*** impact.

Operation Impacts – All Project Components

Neither the project nor the project variant proposes any new components with highly reflective materials such as glass panes that would introduce a new source of glare. The operations control center, operations and maintenance service yard, and new City Substation would include nighttime lighting during project operation. The operations control center and operations and maintenance service yards would be within existing facilities within San Francisco; any new lighting installed would comply with the City's Design Standards for Bird-Safe Buildings[18] and the California Green Building Code. Among other requirements, the Design Standards for Bird-Safe Buildings require that lighting be shielded, and no uplighting is permitted. The California Green Building Code requires non-residential mandatory measures contained in section 5.106.8, Light Pollution Reduction, which requires that exterior lights be shielded or meet "cutoff" lighting standards and meet specified backlight, uplight, and glare ratings designed to limit the amount of light that escapes beyond a site's boundary.[19]

Although the proposed new City Substation (project variant) would not be constructed in San Francisco, its exterior lighting and transformers would generally be shielded and directed downward consistent with City requirements unless required otherwise for safe operations. The Daly City Yard is currently lit (as shown in Figure 2) and is surrounded by streets with nighttime street lighting. Security lighting would not result in a substantial source of light that could adversely affect nighttime views in the area.

For these reasons, the project or project variant would have a ***less-than-significant*** impact related to new sources of substantial light or glare that would adversely affect daytime or nighttime views in the area.

Mitigation: None required.

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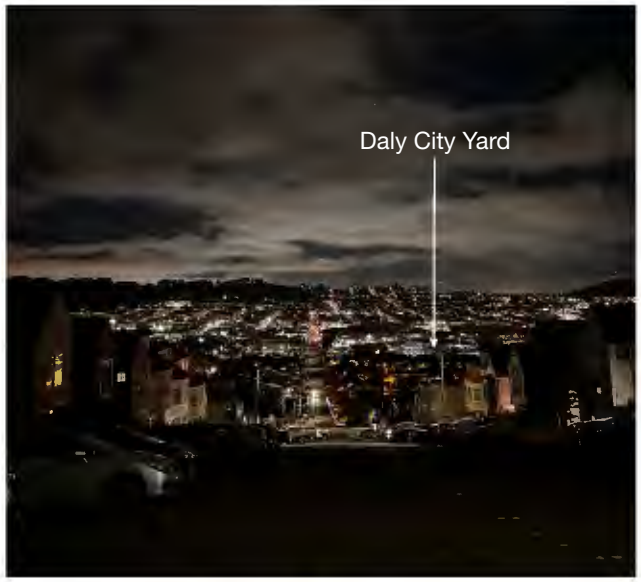
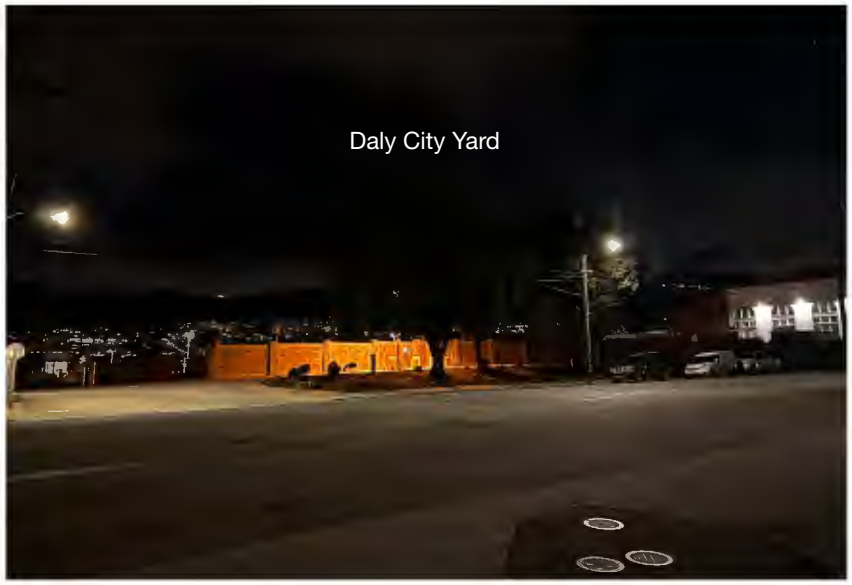
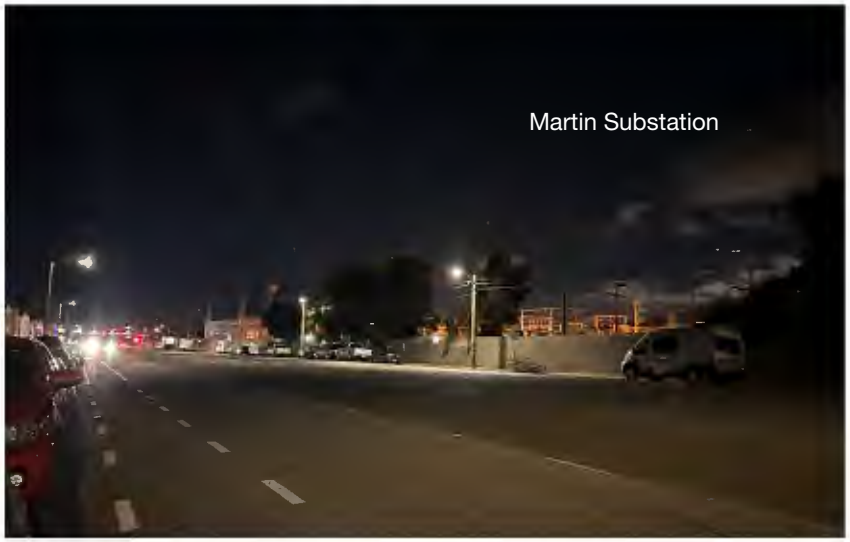
[18] San Francisco Planning Code section 139.
[19] 2022 California Green Building Standards Code, Title 24 Part 11, Chapter 5.



View Looking North from Schwerin Street



Views Looking South from Geneva Avenue



Views Looking Southeast from Geneva Avenue

SOURCE: ESA, 2024

PG&E Asset Acquisition Project

Figure 2
Publicly Accessible Nighttime Views of
Martin Substation and Daly City Yard

Impact C-AE-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to aesthetics. ***(Less than Significant)***

The geographic scope of the cumulative analysis includes all projects that would be located within the publicly accessible viewshed of the project or project variant: Candlestick Point-Hunters Point Shipyard, Executive Park Subarea Plan-Thomas Mellon Waterfront Residences, Brisbane Baylands Specific Plan, Baylands North, Transbay Downtown Rail Extension, Midway Village Redevelopment, Sunnydale Hope SF, Pacific Place Retail Conversion, and Cormorant Battery Storage Facility. The cumulative project sites do not need to be visible simultaneously with the project site from one fixed vantage point, but for an impact to occur, the sites must be visible in the same general vicinity as a viewer looks around or travels about.

Construction Impacts – All Project Components

Construction activities for cumulative projects visible from San Bruno Mountain, McLaren Park, Bayview Park, and other smaller public parks with views of Visitacion Valley could be visible from scenic vistas at the same time as construction of the Martin Substation separation or new City Substation (project variant); however, due to the locations of the cumulative projects in or adjacent to existing developed areas, and the relative scale of scenic resources visible from scenic vistas (i.e., the expanse of San Francisco Bay, east bay hills, and sky) compared with the scale of developed areas, cumulative construction activity would not result in a significant adverse cumulative impact on scenic vistas.

Construction activities for cumulative projects visible from eligible state highways could coincide with construction of local distribution system separation or system reinforcements. These areas are generally already developed. As discussed in Impact AE-2, the project or project variant would not remove or substantially alter historic buildings within view of eligible state highways or require substantial vegetation removal that could affect scenic resources in these areas. While cumulative projects could affect such scenic resources, a potentially significant cumulative impact, the project or project variant would not have a cumulatively considerable contribution to a potentially significant impact on scenic resources within view of eligible state highways.

Cumulative impacts related to lighting could occur if the proposed project, in combination with cumulative projects, were to adversely affect nighttime views in the area. As discussed in Impact AE-4, lighting would be needed to illuminate construction work areas when days are shorter, which would likely apply to multiple cumulative construction projects. Similar to the project or project variant, temporary lighting at cumulative project sites would be expected to be directed downward towards work areas. While construction of immediately adjacent cumulative projects could also require nighttime lighting, the lighting would be temporary and therefore would not create a new source of substantial light or glare. Therefore, construction of the project or project variant, in combination with cumulative projects would not result in a significant cumulative impact related to construction lighting (***less than significant***).

Operation Impacts – All Project Components

Project or project variant operation would not require activities that could affect scenic resources within view of an eligible state highway. The project or project variant would include new permanent structures in the Martin Substation or Daly City Yard, respectively. The proposed project would include new electrical equipment at the Martin Substation such as transformers, circuit breakers, a control house, switchgear buildings, perimeter fencing, and new overhead lines/ transitions and utility poles and related accessories. Cumulative projects that would also be visible within scenic vistas from nearby public areas are listed above.

Cumulative development visible within the same vistas as the project or project variant would increase development density in the vicinity of Bayview Park and Brisbane Baylands, including buildings up to 170 feet tall. However, increased development in these areas would not obscure scenic vistas because Bayview Park hill (over 300 feet tall), San Francisco Bay, the east bay ridgeline and sky would remain visible and continue to dominate scenic vistas. The project or project variant development would occur within existing developed areas and would be 30 feet tall or less.

Therefore, the project or project variant in combination with other cumulative projects would not result in a significant cumulative impact on scenic vistas (***less than significant***).

The cumulative projects could include nighttime lighting from new streetlights, and exterior and interior building illumination. Lighting installed for the project or project variant would meet the requirements of the California Green Building Code, including that lighting generally be shielded and directed downward unless required otherwise for safe operations. Similar California Green Building Code requirements would apply to the cumulative projects. Therefore, the project or project variant, in combination with other cumulative projects, would not result in a significant cumulative impact related to light or glare (***less than significant***).

Scenic resources in the project areas and within view of eligible state scenic highways include San Bruno Mountain, The Olympic Club and San Francisco Golf Club golf courses, and Head and Brotherhood Mini Park. The project components that could be visible from eligible state scenic highways are overhead local distribution system separation and system reinforcements, which would generally occur along the public right-of-way in areas that have already been developed and would be similar to existing overhead equipment in the area. While the overhead components of the local distribution system separation and system reinforcements could be visible alongside the Parkmerced Project from an eligible state scenic highway (Highway 1 or Cabrillo Highway), the projects are within developed areas and would not affect views of the scenic resources listed above. Therefore, the project or project variant in combination with other cumulative projects would not result in a significant cumulative impact on scenic resources within view of eligible state scenic highways (***less than significant***).

E.3 Population and Housing

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
3. POPULATION AND HOUSING. Would the project:					
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐	☐
b) Displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing?	☐	☐	☐	☒	☐

Impact PH-1: The project or project variant would not induce substantial unplanned population growth, either directly or indirectly. ***(Less than Significant)***

This analysis considers population growth in the context of local and regional plans as well as population, housing, and employment projections. Generally, a project that induces population growth is not viewed as having a significant impact on the environment unless the physical changes that would be needed to accommodate project-related population growth would have adverse impacts on the environment. CEQA Guidelines section 15064(e) states that an economic or social change by itself would not be considered a significant effect on the environment.

The analysis considers whether population growth would occur directly or indirectly as a result of implementation of the project or project variant, and whether the growth would be considered substantial relative to the planned growth in the city. Association of Bay Area Governments (ABAG) projections were used to analyze whether the growth caused by the project or project variant would be within planned growth projections.

Construction Impacts – All Project Components

Project construction is anticipated to occur over approximately three years. Construction work is considered temporary, and workers would be involved in construction in various locations when multiple construction activities overlap. The number of workers at each location would vary throughout construction, depending on the specific construction activities being performed and the number of construction activities overlapping. The maximum number of construction workers would be approximately 76 workers per day.

According to the California Employment Development Department, approximately 38,800 people worked in construction jobs in San Francisco and San Mateo counties in 2024, and approximately 80,900 people worked in construction jobs in San Francisco and the other surrounding counties (Marin, Alameda, and Contra Costa).[20] The peak number of construction jobs for the project—76—would represent 0.1 percent of the construction jobs in San Francisco and San Mateo counties in 2024 and 0.06 percent of the construction jobs in the five-county region in 2024; in addition, 76 jobs would be substantially fewer than the 5,700 new construction jobs that the state estimates will be added in San Francisco and San Mateo Counties between 2020 and 2030.[21] Given the size of the regional construction workforce compared to the number of workers needed for project construction even during peak construction periods, project construction workers would likely be drawn primarily from the local and regional construction workforce. Project construction workers who do not live in the project vicinity would likely commute from elsewhere in San Francisco or the bay area rather than relocate from more distant cities or towns. Once the construction is complete, construction workers typically seek employment at other job sites in the region that require their particular skills.

Consequently, construction of the project or project variant would not induce population growth by attracting many construction workers from outside the region to relocate to the area and would not create substantial demand for additional housing or other facilities and services associated with growth. Therefore,

[20] California Employment Development Department, Industry Employment Data San Francisco-Redwood City-South San Francisco Metropolitan Division (San Francisco and San Mateo Counties), January 24, 2025; California Employment Development Department, Industry Employment Data for Oakland-Hayward-Berkeley Metropolitan Division (Alameda and Contra Costa Counties, January 24, 2025; California Employment Development Department, Industry Employment Data for San Rafael (Marin County), January 24, 2025.

[21] California Employment Development Department, 2020-2030 Local Employment Projections Highlights for San Francisco-Redwood City-South San Francisco MD (San Francisco and San Mateo Counties), https://labormarketinfo.edd.ca.gov/data/employment-projections.html, accessed September 17, 2024.

based on the above, construction of the project or project variant would not induce substantial unplanned population growth, and the impact would be ***less than significant***.

Operation Impacts – All Project Components

The project or project variant would require the administration, operation, and maintenance of electrical system facilities, which may generate an estimated 400 jobs under the project or project variant.[22] According to Plan Bay Area 2050, San Francisco is expected to have 918,000 workers by 2050, or an increase of 236,000 jobs compared to Plan Bay Area's baseline of 2015.[23] Similarly, San Mateo County is estimated to add 114,000 new jobs, bringing the total number of workers to 507,000 by 2050.[24] The jobs created by the project or project variant would represent 0.2 percent of the 236,000 new jobs expected for San Francisco by 2050. The jobs created by the project or project variant would represent 0.4 percent of the 114,000 new jobs expected for San Mateo County by 2050.

The San Francisco Housing Inventory, April 2023, reports that there are approximately 413,265 housing units in San Francisco.[25] According to the U.S. Census Bureau, San Francisco had a population of approximately 808,437 residents as of July 2022.[26] According to the U.S. Census Bureau, the estimated population of San Mateo County in July 2023 was 726,353.[27] By 2050, the population of San Francisco is projected to increase by approximately 591,359, for a total population of 1,406,560.[28] ABAG projections estimate that the population of San Mateo County will increase to 916,590 by 2040.[29] New employees may include people who are already residents of San Francisco or San Mateo County. However, even if all the employees associated with the project or project variant were conservatively assumed to be new to San Francisco or San Mateo County, the increase in residents associated with 400 jobs would represent less than 1 percent of the projected population growth for San Francisco and San Mateo counties.

Additionally, the project or project variant do not propose housing, would not expand upon available energy supplies, and would not alter existing land uses. Thus, the employment growth attributable to the project or project variant would not result in an increase in population growth that is not planned for in citywide and countywide projections. The project or project variant would not constitute substantial unplanned population growth and would not create substantial demand for additional housing or other facilities and services associated with growth; therefore, this impact would be ***less than significant***.

Mitigation: None required.

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[22] While the employees would likely be hired from the San Francisco bay area, including San Francisco and San Mateo counties, this analysis assumes the project or project variant would generate new jobs in these counties.
[23] Association of Bay Area Governments and Metropolitan Transportation Commission, Plan Bay Area 2050 Growth Pattern, updated January 21, 2021.
[24] Association of Bay Area Governments and Metropolitan Transportation Commission, Plan Bay Area 2050 Growth Pattern, updated January 21, 2021.
[25] San Francisco Planning Department, 2022 San Francisco Housing Inventory, April 2023, https://sfplanning.s3.amazonaws.com/default/files/publications_reports/2022_Housing_Inventory.pdf, accessed February 12, 2024.
[26] U.S. Census Bureau, QuickFacts, San Francisco City, California; San Francisco County, California, 2022, https://www.census.gov/quickfacts/fact/table/sanfranciscocitycalifornia,sanfranciscocountycalifornia,US, accessed February 12, 2024.
[27] U.S Census Bureau, San Mateo County, California, 2020, https://data.census.gov/profile/Brisbane_city,_California?g=160XX00US0608310, accessed February 12, 2024.
[28] The total population in 2050 is from San Francisco Planning Department, *San Francisco Housing Element 2022 Update Draft EIR* (2022), p. 4.1-68.
[29] Association of Bay Area Governments and Metropolitan Transportation Commission, Plan Bay Area Projections 2040, A Companion to Plan Bay Area, adopted July 26, 2017.

Impact PH-2: The project or project variant would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere. ***(No Impact)***

All Project Components

The project areas comprise a mix of residential, commercial, industrial, and public uses. The project or project variant would not displace existing people due to demolition or removal of existing housing units, nor would there be any need for the construction of replacement housing elsewhere. Therefore, there would be ***no impact.***

Mitigation: None required.

Impact C-PH-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to population and housing. ***(Less than Significant)***

The geographical area for cumulative impacts includes all projects in San Francisco and San Mateo counties not already accounted for in existing planning documents. A significant cumulative impact related to population and housing would occur if the project or project variant, in combination with cumulative projects, would induce substantial unplanned population growth in San Francisco or San Mateo counties.

Construction Impacts – All Project Components

As discussed above, the project or project variant would hire a maximum of approximately 76 daily workers during the construction period (approximately three years).[30] The estimated cumulative number of temporary construction jobs created by the project or project variant (including cumulative projects listed in Table 3.1-3, Projects Considered in Cumulative Impact Analysis, in EIR Section 3.1, Overview) would generate an estimated 4,060 temporary construction jobs (76+3,990), which would represent approximately 46 percent of the 8,719 new construction jobs expected for San Francisco by 2040. The cumulative number of temporary construction jobs is substantially smaller than the existing number of construction jobs (approximately 23,200 in San Francisco in 2022 and approximately 124,100 in the five-county Bay Area region) and less than half than the projected growth in construction jobs in San Francisco alone between 2020 and 2040. Consequently, construction of the project or project variant would not induce population growth by attracting a sufficient number of construction workers from outside the region to relocate to the area so as to create a substantial demand for additional housing or other facilities and services associated with growth. Construction of the project or project variant, along with cumulative projects, would not stimulate new population growth within San Francisco that is not already projected to occur by regional growth forecasts and regional planning efforts. Therefore, construction of the project or project variant in combination with construction of cumulative projects would not result in a significant cumulative impact related to unplanned population growth (***less than significant)***.

[30] Given the size of the regional construction workforce compared to the number of workers needed for project construction even during peak construction periods, project construction workers would likely be drawn primarily from the local and regional construction workforce. Project construction workers who do not live in the project vicinity would likely commute from elsewhere in the bay area rather than relocate from more distant cities or towns. Once the construction is complete, construction workers typically seek employment at other job sites in the region that require their particular skills.

Operation Impacts – All Project Components

As discussed above in Impact PH-1, the project or project variant would hire an estimated 400 employees.[31] The project or project variant, in addition to cumulative projects, would generate approximately 29,880 jobs (400 + 29,480),[32] which would represent approximately 13 percent of the 236,000 new jobs expected for San Francisco by 2050 and approximately 26 percent of the 114,000 new jobs expected for San Mateo County by 2050. Conservatively assuming that all employment-related growth attributable to the project or project variant and cumulative projects were to require housing in San Francisco or San Mateo County, and each employee lived in a separate household, the employment growth would account for 14 percent of the projected increase of 213,000 households in San Francisco by 2050 and 23 percent of the projected increase of 129,000 households in San Mateo County by 2050.

Therefore, the increase in population and housing growth attributable to the project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to an increase in employment growth not planned for in citywide and countywide projections (***less than significant)***.

E.4 Cultural Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
4. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code?	☐	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	☐

Impact CR-1: The project or project variant could cause a substantial adverse change in the significance of a historic architectural resource. ***(Less than Significant with Mitigation)***

CEQA Guidelines section 15064.5 requires the lead agency to consider the effects of a project on historical resources. A historical resource is defined as a building, structure, site, object, or district (including landscapes)

[31] While employees would likely be hired from the San Francisco Bay area, including San Francisco and San Mateo counties, this analysis assumes the project or project variant would generate new jobs in these counties.

[32] The employee generation rates are based on square footage of proposed land uses for the cumulative projects in Table 3.1-3 and Leadership in Energy and Environmental Design (LEED) Reference for Building Design and Construction, Version 4.1 Appendix 2 – Table 1. Default Occupancy Numbers. For retail and commercial use, the general retail rate (550 gross square feet per employee) was used. For commercial office use, the general office rate (250 gross square feet per employee) was used. For community use the educational (daycare) rate (630 gross square feet per employee) was used.

listed in or determined to be eligible for listing in the California Register of Historical Resources (California Register), included in a local register or identified as significant in an historical resource survey, or determined by a lead agency to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California. Resources that are eligible for the California Register may also be eligible for the National Register of Historic Places (National Register). The following discussion focuses on architectural resources. Archeological resources, including archeological resources that are potentially historical resources according to CEQA Guidelines section 15064.5, are addressed under Impact CR-2.

This analysis addresses the potential for the project to materially impair the significance of a historic architectural resource by causing direct or indirect changes to the physical characteristics of the resource that convey its historic significance. This analysis also addresses potential project-related changes to the immediate setting of historic resources, including consideration of how projects within the vicinity of a historic architectural resource could feasibly cause material impairment if new construction removes or obscures components of the resource's immediate setting that allow it to convey its significance.

Direct impacts on historical resources include such actions as physical destruction, damage, alteration, or relocation of the resource. Indirect impacts include the introduction of visual or vibration impacts, as well as neglect of a historical resource. Cumulative impacts include multiple small changes that individually may not diminish the integrity of a historical resource, but when considered together result in a more substantial reduction of those qualities that qualify the property for listing in the National Register, California Register, or as a San Francisco Landmark.

The analysis evaluates project components at either a project level or a program level depending upon the level of detail available. For project-level components, details regarding construction activities and location of work are available; for program-level components, the location of work is more generalized.

Inventory of Architectural Resources

Table 1 presents the historic architectural resources identified by San Francisco Planning Department staff in the vicinity of the project areas.[33]

Table 1 Historic Architectural Resources in or Adjacent to the Project Areas

Project-Level Components	Historic Resource(s)	Location Relative to Project Areas
Martin Substation Separation / Modifications to Retain Access at Martin Substation	Martin Substation Historic District, 3150 Geneva Avenue, Brisbane	In project area
Distribution Express Feeders	Martin Substation Historic District, 3150 Geneva Avenue, Brisbane	In project area
	Cow Palace, 2500 Geneva Avenue, Daly City	Adjacent
	2398 Alemany Boulevard, San Francisco	Adjacent

[33] Greving, Justin, Senior Preservation Planner, San Francisco Planning Department, Memorandum to File Re: Pacific Gas and Electric Company (PG&E) Power Asset Acquisition Project (2023-005370ENV), to Julie Moore, Principal Environmental Planner, San Francisco Planning Department, January 29, 2025.

Table 1 Historic Architectural Resources in or Adjacent to the Project Areas

Project-Level Components	Historic Resource(s)	Location Relative to Project Areas
Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation	Potrero Substation (Station A), Illinois Street, San Francisco	Adjacent
Project Variant: New City Substation	Martin Substation Warehouse (Building 4176), 3150 Geneva Avenue, Brisbane	Adjacent
Program-Level Components	**Historic Resource(s)**	**Location Relative to Project Areas**
Local Distribution System Separation	266 Curtis Street, San Francisco	Adjacent
	16 De Long Street, San Francisco	Adjacent
	Crocker Masonic Lodge, 17 Hillcrest Drive, Daly City	Adjacent
	Site of the Broderick-Terry Duel, 1100 Lake Merced Boulevard, Daly City	In project area
System Reinforcements	266 Curtis Street, San Francisco	Adjacent
	Site of the Broderick-Terry Duel, 1100 Lake Merced Boulevard, Daly City	In project area
	Balboa Terrace Historic District, San Francisco	In project area
	Ingleside Terrace Historic District, San Francisco	In project area
	El Rey Theater, 1970 Ocean Avenue, San Francisco	Adjacent
	Balboa Park Soccer Stadium Bleachers, 166 Havelock Street, San Francisco	Adjacent
	Geneva Office Building and Powerhouse, 500 Geneva Avenue, San Francisco	Adjacent
	Martin Substation Building, 3150 Geneva Avenue, Brisbane	In project area
	Cow Palace, 2500 Geneva Avenue, Daly City	Adjacent
	Little Hollywood Historic District, San Francisco	In project area
	95–97 Leland Avenue, San Francisco	Adjacent
	186 Leland Avenue, San Francisco	Adjacent
	3340 San Bruno Avenue, San Francisco	Adjacent
	Schlage Lock Factory Site	Adjacent
	Schlage Lock Factory Office Building, 2201 Bayshore Boulevard, San Francisco	Adjacent
	San Francisco Zoo Historic District, San Francisco	Adjacent

Table 1 Historic Architectural Resources in or Adjacent to the Project Areas

Program-Level Components	Historic Resource(s)	Location Relative to Project Areas
	Salvation Army Territorial Training College, 801–831 Silver Avenue, San Francisco	Adjacent
	Home of the Good Shepherd School, 501 Cambridge Street, San Francisco	Adjacent
Operations Control Center	Unknown	
Operations and Maintenance Service Yards	Unknown	

Martin Substation Building, 3150 Geneva Avenue, Brisbane and Daly City

The Martin Substation building has been determined to be eligible for listing in the California Register under Criteria 1 (events) and 3 (distinctive characteristics, work of a master or high artistic value). Although the substation was previously identified as a historic district, some of the contributors to the district are no longer extant, including the Martin Substation Pump House (also referred to as the Martin Substation Security Station), and the Martin Substation Transformer Handling House. The Martin Substation building is the only extant structure in the historic district. The Martin Substation building is located in the northern portion of the Martin Substation project site, near Geneva Avenue.

Martin Substation Warehouse (Building 4176), 3150 Geneva Avenue, Brisbane and Daly City

The Martin Substation Warehouse (Building 4176) has been determined eligible for listing in the California Register under Criteria 1 and 3. The Martin Substation Warehouse is located at the northwest corner of the Daly City Yard, approximately 500 feet west of the Martin Substation project site and 220 feet north of the new City Substation (project variant) site.

Potrero Substation (Station A), Illinois Street, San Francisco

Portions of the Potrero Substation have been determined eligible for listing in the California Register under Criteria 1 and 3 as contributors to the Third Street Industrial Historic District. This historic district is a sub-district of the Central Waterfront/Potrero Point Historic District first identified by the San Francisco Planning Department in the Central Waterfront Survey in 2001. Contributors to the Third Street Industrial Historic District that are located within the Potrero Substation were reassessed in 2018 as part of the Potrero Power Station Mixed-Use Development environmental review process. As updated in 2018, the contributors are Station A, the Meter House, the Compressor House, the Gate House, the Boiler Stack, and the Unit 3 Power Block.[34] As of October 2024, within the vicinity of the Potrero Substation, only portions of Station A remain. This building has also been determined individually eligible for listing in the California Register under Criteria 1 and 3. Station A is located approximately 200 feet east of the Potrero Substation.

[34] Page & Turnbull, *Draft Environmental Impact Report: Potrero Power Station Mixed-Use Development, Appendix I - Historic Resource Evaluation (Part I and II and HRER,* October 2018, p.108, 250-251.

266 Curtis Street, San Francisco

The residence at 266 Curtis Street is a detached, one-story-over-raised-basement single-family home built in 1941 and designed in the Streamline Moderne style. It was determined eligible for listing in the California Register under Criterion 3 as a significant example of Streamline Moderne style in San Francisco.[35]

16 De Long Street, San Francisco

The building at 16 De Long Street is composed of two Type A earthquake refugee shacks that were originally constructed in 1906. It is listed in the California Register under Criterion 1 for its association with the 1906 Earthquake and Fire and under Criterion 3 as a relatively intact and rare example of a distinctive regional building type (i.e., earthquake refugee shack).[36]

Crocker Masonic Lodge, 17 Hillcrest Drive, Daly City

The Crocker Masonic Lodge was determined individually eligible for listing in the National Register and in California Register. The building was constructed ca. 1936 and is currently used by the Freemason organization as Crocker Lodge No. 212. A plaque on the building indicates that the property was once occupied by the San Mateo Dairy which was owned by John Daly, who subdivided the land in 1907 and developed the first large-scale housing development in Daly City.[37]

Site of the Broderick-Terry Duel, 1100 Lake Merced Boulevard, Daly City

As outlined in California Public Resources Code section 5031(a), California Registered Historical Landmark Nos. 770 and above are automatically listed in the California Register; lower numbers are not automatically listed because they are not presumed to have been evaluated using the framework currently required for California Register eligibility. Because the site of the Broderick-Terry Duel is California Registered Historical Landmark No. 19, it is not automatically determined to be a historic resource, but it is considered to be a historic resource for the purposes of environmental analysis.[38]

Balboa Terrace Historic District, San Francisco

The California Register-eligible Balboa Terrace Historic District was identified in 2011 and comprises the area bounded by Monterey Boulevard on the north, Junipero Serra Boulevard on the west, Ocean Avenue on the south, and the eastern line of Aptos School on the east. The predominantly residential neighborhood was constructed during the 1920s and 1930s in a variety of historic revival styles including Spanish Colonial, Tudor, Classical, and Colonial revivals. The historic district was determined eligible under Criterion 3 because it is a representative example of architecture and suburban residential development from the period of the early 20th century.[39]

Ingleside Terrace Historic District, San Francisco

The California Register-eligible Ingleside Terrace Historic District was identified in 2009 and comprises the area bounded by Ocean Avenue on the north, Ashton Avenue on the east, Holloway Avenue on the south, and

[35] Vanderslice, Allison, Preservation Planner, San Francisco Planning Department, Historic Resource Evaluation Response (2013-0236E), August 26, 2013.
[36] Gunther, Gretel, San Francisco Planning Department, Part II Historic Resource Evaluation Response (2022-010584ENV), May 18, 2023.
[37] Dyett & Bhatia, City of Daly City General Plan Update Draft Environmental Impact Report, October 2012, p. 3.4-4.
[38] Greving, Justin, Senior Preservation Planner, San Francisco Planning Department, Memorandum to File Re: Pacific Gas and Electric Company (PG&E) Power Asset Acquisition Project (2023-005370ENV), to Julie Moore, Principal Environmental Planner, San Francisco Planning Department, January 29, 2025.
[39] Weintraub, Matt, Preservation Planner, San Francisco Planning Department, Historic Resource Evaluation Response (2011.0197E), August 30, 2011.

Junipero Serra Boulevard on the east. The neighborhood of approximately 750 detached, single-family dwellings was constructed between 1913 and 1930 in the Craftsman style and a variety of historic revival styles including Spanish Eclectic and Mediterranean revivals. The historic district was determined eligible under Criterion 3 for its association with prominent real estate developer Joseph Leonard; Ingleside Terrace is considered to be Leonard's most successful attempt at creating a garden park development in San Francisco.[40]

El Rey Theater, 1970 Ocean Avenue, San Francisco

The El Rey Theater was listed as a San Francisco Planning Code Article 10 Landmark Number 274 in 2017. The theater conveys its architectural significance as an embodiment of the distinctive characteristics of the Art Deco style and represents the work of master architect Timothy Pflueger.[41]

Balboa Park Soccer Stadium Bleachers, 166 Havelock Street, San Francisco

The Balboa Park Soccer Stadium Bleachers are contributors to the California Register-eligible Midcentury Modern Recreational Historic District that is significant under Criterion 1 for association with the 1947 recreation bond measure that funded the largest expansion of recreational facilities in San Francisco's history as well as under Criterion 3 for embodying distinctive characteristics of the Midcentury Modern style and for exemplifying the work of architect William Gladstone Merchant.[42]

Geneva Office Building and Powerhouse, 500 Geneva Avenue, San Francisco

The Geneva Office Building and Powerhouse is also known as the San Francisco and San Mateo Railroad Company Office Building and Powerhouse with the address of 2301 San Jose Avenue. It was listed on the National Register in 2010 under Criterion A for its local association with the development of San Francisco's electrical railway system, as well as for its local association with labor history in San Francisco. It is also listed under Criterion C because the complex embodies the characteristics of both the Romanesque and Queen Anne styles in an eclectic blend that also incorporates industrial elements appropriate for a working rail yard. The brick masonry construction is representative of the pre-1906 Earthquake period in San Francisco. In a city where brick is no longer a predominant building material, the Geneva Complex is a good example of pre-Earthquake use of brick to convey architectural detailing.[43]

Little Hollywood Historic District, San Francisco

The Little Hollywood Historic District was determined eligible for listing in the California Register in 2011 under Criterion 1 for its association with its ca. 1928–31 development as a residential enclave in the largely commercial/industrial area of Visitacion Valley and under Criterion 3 as an intact concentration of Mediterranean Revival-style residences with a strong architectural presence.[44]

95–97 Leland Avenue, San Francisco

This single-family residence was constructed in 1908. It was determined eligible for listing in the California Register under Criteria 1 and 3 as one of the earliest extant structures from the initial development of the

[40] Smith, Michael, Preservation Planner, San Francisco Planning Department, Historic Resource Evaluation Response (2009.0235E), November 19, 2009.
[41] City of San Francisco Historic Resources Commission (HRC), Resolution No. 861: Resolution to Recommend to the Board of Supervisors Article 10 Landmark Designation of 1970 Ocean Avenue, April 5, 2017.
[42] Page & Turnbull, Final Historic Resource Evaluation for Cayuga Clubhouse, October 25, 2010, p. 50.
[43] Maley, Bridget and Lardinois, Sara, Architectural Resources Group, National Register Nomination: Geneva Office Building and Powerhouse, July 14, 2009, listed February 18, 2010.
[44] Sullivan, Tara, Preservation Planner, San Francisco Planning Department, Historic Resource Evaluation Response (2011.0121E), February 25, 2011.

Leland Avenue Neighborhood Commercial District, making it a tangible link to the early development of Visitacion Valley.[45]

186 Leland Avenue, San Francisco

The building at 186 Leland Avenue has been determined individually eligible for listing in the California Register as part of the 2015 Neighborhood Commercial Corridors Survey.

3340 San Bruno Avenue, San Francisco

The building at 3340 San Bruno Avenue has been determined individually eligible for listing in the California Register under Criterion 1 because it represents one of the early European immigrant settlements within Visitacion Valley. It is also eligible under Criterion 3 because it is a rare surviving example of a single-family home in the neighborhood and as a unique architectural expression combining elements of the Bungalow, Arts and Crafts, First Bay Tradition, and other vernacular styles.[46]

San Francisco Zoo Historic District, San Francisco

The San Francisco Zoo was evaluated in 1996 and determined to be eligible for listing as a historic district in the California Register under Criterion 1. The period of significance is 1925–40, which represents the period of development of the first and second zoos.[47]

Salvation Army Territorial Training College, 801–831 Silver Avenue, San Francisco

This building was constructed in 1927 as the gymnasium for the Salvation Army Territorial Training College. It has been determined eligible for listing in the National Register and the California Register under Criterion C/3 as “one of the best collegiate ... designs in this city. The building is intact as to walls, roof shape, fenestration, materials, entry, design, and location."[48]

Home of the Good Shepherd School, 501 Cambridge Street, San Francisco

The former Home of the Good Shepherd School was designed by noted architect Henry A. Milton. In 2005, it was determined eligible for listing in the National Register through the Section 106 process. It is listed on the California Register.

Cow Palace, 2500 Geneva Avenue, Daly City

The Cow Palace was determined individually eligible for listing in the National Register and the California Register. The building was constructed in 1941 as part of the federal government’s Works Progress Administration (WPA). It originally functioned as a livestock exhibition center and served many other uses including as a barracks for soldiers during World War II and as a music and performance venue.[49]

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[45] Dwyer, Debra, MEA Planner, San Francisco Planning Department, Historic Resources Evaluation Response: 95-97 Leland Avenue (2006.1082E), July 31, 2007.

[46] Dwyer, Debra, MEA Planner, San Francsico Planning Department, Exemption from Environmental Review (2006.1078E), August 4, 2010.

[47] Archeological/Historical Consultants. Historic Landscape and Architecture Survey of the San Francisco Zoological Gardens. July 1996. The 1996 report erroneously states that the San Francisco Zoo is eligible as a historic district under California Register Criterion A, when it should be California Register Criterion 1.

[48] Lammers, Jonathan, Preservation Planner, San Francisco Planning Department, Historic Resource Evaluation Response: 801-831 Silver Avenue (2014.0866E), November 24, 2014.

[49] Dyett & Bhatia, City of Daly City General Plan Update Draft Environmental Impact Report, October 2012, p. 3.4-4.

2398 Alemany Boulevard, San Francisco

This single-family residence was determined individually eligible for listing in the California Register under Criterion 3 as a rare example of the Storybook architectural style in San Francisco and for its association with the prominent developer Baldwin & Howell.[50]

Schlage Lock Factory Site and Office Building, 2201 Bayshore Boulevard, San Francisco

The former site of the Schlage Lock Factory is bounded by Arleta Avenue on the north, Tunnel Avenue on the east, the San Francisco-San Mateo county line on the south, and Bayshore Boulevard on the west. Before most of the contributing buildings were demolished, the site was determined eligible for listing in the National Register and the California Register under Criteria A/1 and B/2. Additionally, the former office building (Building A) is individually eligible for listing under Criterion C/3 because it was designed by prominent San Francisco architect and engineer William P. Day, and it represents an important shift in Day's career from the ornate and eclectic designs of his earlier commercial and institutional buildings to a modernized, more simplistic aesthetic intended for industrial functions.[51]

Impact Discussion

Project-Level Analysis

Martin Substation Separation and Modifications to Retain PG&E Access to non-Electrical Facilities at Martin Substation

The Martin Substation is located at 3150 Geneva Avenue at the corner of Bayshore Boulevard and Geneva Avenue in Brisbane. The substation is currently the location of PG&E's incoming transmission lines from San Mateo County, which supply electricity to San Francisco. The project would separate the existing PG&E-owned Martin Substation transmission and distribution infrastructure to create separate City-owned and PG&E-owned systems in two separate areas within the substation property. Work would include the construction of new transformers, circuit breakers, metering devices, a new control house with associated equipment, and underground duct banks and vaults. The project would also make site modifications, such as fencing and driveway additions or improvements, where necessary to allow PG&E continued access to its non-electrical facilities at Martin Substation. The size, shape, and location of new aboveground infrastructure, including the new control house and switchgear buildings, would be compatible with the industrial nature of the Martin Substation. Specifically, the new control house would be a pre-engineered or prefabricated concrete or metal building approximately 30 feet wide, 60 feet long, and 20 feet high. The two proposed switchgear buildings would be prefabricated buildings approximately 20 feet wide, 50 feet long, and 12 feet high each. All three buildings would be installed on the Martin Substation project site.

The Martin Substation separation would occur entirely within the Martin Substation project site shown in Figure 2-2 and would not require demolition of or external modification to the Martin Substation building. However, the new control house and switchgear buildings could be located in an area where they could affect the historic significance of the Martin Substation building through changes to the immediate setting of the building. To avoid impacts associated with location of the control house within the immediate setting of the Martin Substation building, **Mitigation Measure M-CR-1a (Martin Substation Historic Resources Setting Protection)** requires the control house and switchgear buildings to be separated from the Martin

[50] Vanderslice, Allison, Preservation Planner, San Francisco Planning Department, Historic Resource Evaluation Response (2013.0038E), June 20, 2014.
[51] San Francisco Planning Department, Visitation Valley Redevelopment Program Draft Environmental Impact Report, May 2008, pp. 10-12–10-13.

Substation building by at least 20 feet and to be set back from Geneva Avenue by a minimum of 30 feet. The small size of the proposed buildings compared with the historic resource, combined with the required setback distances and the location of the perimeter fence, would limit visibility of the control house and switchgear buildings as seen from the public right-of-way. Additionally, the Martin Substation building would remain the largest and most visible building on the site. Therefore, Mitigation Measure M-CR-1a would minimize impacts that may result from placement of the proposed buildings.

Some of the construction work for the Martin Substation separation could also occur near the Martin Substation building, even if the proposed buildings are sited away from the building. The use of cranes or other large equipment could accidentally damage the Martin Substation building during construction. **Mitigation Measure M-CR-1b (Historic Resources Protection Program)** would require the SFPUC to implement measures that protect and avoid damage to onsite and adjacent historic resources, including at the Martin Substation.

As discussed in EIR Section 3.2, Noise and Vibration, at distances less than 8 feet there is potential for vibration levels associated with certain construction equipment to temporarily exceed 0.25 inches per second (in/sec) peak particle velocity (PPV) which could damage character-defining features of the Martin Substation building. Implementation of **Mitigation Measure M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction**, see Impact NO-4**)** would identify appropriate construction equipment and methods to reduce vibration levels below 0.25 in/sec PPV, such as avoiding work within certain distances of potential historic resources. Beyond this distance, the potential for damage to sensitive character-defining features is greatly reduced.

With implementation of Mitigation Measure M-CR-1a, Mitigation Measure M-CR-1b, and Mitigation Measure M-NO-4a, the impact of the Martin Substation separation on historic resources would be ***less than significant with mitigation***.

Mitigation Measure M-CR-1a: Martin Substation Historic Resources Setting Protection

This measure applies to: Martin Substation separation

- Where the project includes placement of new, permanent, aboveground structures, those structures shall be located at a distance that minimizes impacts on the setting of adjacent historic resources. At a minimum, new buildings shall be set back at least 20 feet from any historic resource and at least 30 feet from Geneva Avenue. This measure applies to the Martin Substation separation where a new control building and two switchgear buildings would be installed.

Other locations for new aboveground structures near historic resources, if proposed, would be subject to review and approval by San Francisco Planning Department preservation staff to ensure conformance with Secretary of the Interior's Standards regarding the setting of the historic resource.

Mitigation Measure M-CR-1b: Historic Resources Protection Program

This measure applies to: Martin Substation separation, New City Substation (Project Variant), Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

To protect historic resources that are adjacent to construction activities (activities such as excavation, trenching, and new building construction), the SFPUC shall protect and avoid damage to onsite and adjacent historic resources. Contract specifications shall be reviewed and approved by

San Francisco Planning Department preservation staff prior to the start of construction. Specifications shall include, but not be limited to, the following:

- If aerial work would occur above the roofline of adjacent historic buildings and have the potential to cause building damage from falling objects, the roof of the adjacent structure shall be covered to avoid damage.
- A buffer zone of 20 feet between historic resources and heavy equipment use and/or staging of equipment and materials shall be established and maintained, if feasible.
- If a minimum buffer zone of 20 feet is not possible, barriers or construction monitoring shall be included to ensure no damage to historic resources occurs.
- Any damage to historic resources incurred as a result of construction activities shall be immediately reported to the ERO or the ERO's designee, and any damage to the historic resource shall be repaired to match pre-construction conditions per the Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic resources professional and San Francisco Planning Department preservation staff.

Distribution Express Feeders

The proposed distribution express feeders would connect the separated Martin Substation to the existing distribution system near the intersection of Brotherhood Way and Arch Street in San Francisco. The distribution express feeders would be installed in underground duct banks within the public right-of-way. The proposed alignment is shown in Figure 2-1. Two identified historic resources (the Cow Palace located at 2500 Geneva Avenue in Daly City and a single-family home located at 2398 Alemany Boulevard in San Francisco) are located on parcels adjacent to the public right-of-way where the project would take place. Due to the length of the distribution express feeders and variety of structures along the route, additional unidentified historic resources could be present along the distribution express feeders alignment. The distribution express feeders would not require the alteration or removal of any buildings identified as historic resources or as potential historic resources because construction would take place entirely below grade and within the public right-of-way. The Martin Substation building, the Cow Palace, and 2398 Alemany Boulevard do not have any character-defining features located within the public right-of-way, and it is unlikely that unidentified historic resources, if present, include character-defining features located within the public right-of-way.

While the distribution express feeders would not directly alter character-defining features of any known or potential historic resources, indirect impacts could occur from vibration levels associated with the use of vibratory rollers in the project areas during construction. Distances between known historic resources and the public right-of-way range from approximately 10 feet to 60 feet. As discussed in EIR Section 3.2, Noise and Vibration, the types of construction equipment that would be used for implementation of the project are of types and sizes that would not generate vibrations that could exceed the recommended thresholds for historic buildings (0.25 in/sec PPV) at distances greater than 8 feet, except for sheet pile driving associated with the trenchless construction work areas. If linear construction occurs within 8 feet of potentially historic resources, or trenchless construction sheet pile driving occurs within 60 feet of potentially historic resources, vibration levels associated with construction could temporarily exceed the recommended 0.25 in/sec PPV threshold for historic buildings and construction of the distribution express feeders could damage historic resources, a potentially significant impact. Implementation of **Mitigation Measure M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction**, see Impact NO-4**)** and **Mitigation Measure M-NO-4b (Paving Vibration Minimization**, see Impact NO-4**)**, would require additional

surveys when construction is near potentially historic resources and limit use of certain construction equipment. Because the distribution express feeders would be entirely below grade and would not alter character-defining features of any known or potential historic resources, and with implementation of Mitigation Measures M-NO-4a and M-NO-4b to reduce the potential for damage resulting from construction-related vibration, the impact of the distribution express feeders on historic resources would be ***less than significant with mitigation***.

Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

At the Potrero Substation, PG&E-owned natural gas and electrical equipment are located on the same site. The City would acquire the electrical equipment at the site, and site modifications, such as fencing and driveway additions or improvements, would be made where necessary to allow PG&E continued access to its non-electrical facilities. Construction at the Potrero Substation could occur approximately 50 feet from the nearest potentially historic building (Station A, an unreinforced masonry building located just east of the Potrero Substation that is both a contributor to the Third Street Industrial historic district and an individually eligible historic resource). While construction of fencing, installation of curb cuts, relocation of access gates, and other such site modifications are unlikely to alter character-defining features of known or potential historic resources within the Potrero Substation, such impacts could occur. With implementation of **Mitigation Measures M-CR-1b (Historic Resources Protection Program)** and **M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction**, see Impact NO-4) to reduce the potential for damage, impacts on historic resources associated with this project component would be ***less than significant with mitigation***.

New City Substation (Project Variant)

Under the project variant, a new city substation in the Daly City Yard would be constructed instead of separating equipment at the existing Martin Substation. The new City Substation would consist of a new gas-insulated substation along with new incoming transmission lines from the Martin Substation to the new City Substation and outgoing distribution and transmission lines to the existing distribution and transmission system. Other components of the new City Substation would include new lighting and fencing.

All construction associated with the new City Substation would take place within an area of the Daly City Yard that does not contain any historic resources or potential historic resources and would not require the demolition of any historic resources or potential historic resources. Although some work would occur within the Martin Substation to connect the two substations, this work is consistent with the industrial nature of the site. Impacts on the Martin Substation Warehouse, located northwest of the new City Substation site, could occur as a result of construction activities if construction access or staging occurs near the Warehouse building. Implementation of **Mitigation Measure M-CR-1b (Historic Resources Protection Program)** would protect the historic resource during construction. Therefore, impacts associated with the project variant would be ***less than significant with mitigation***.

Program-Level Analysis

Local Distribution System Separation

Local distribution system separation work would occur at up to 70 locations. The local distribution system separation areas are shown in Figure 2-7. Historic resources in or adjacent to local distribution system separation sites are presented in Table 1 and include:

- 266 Curtis Street, San Francisco
- 16 DeLong Street, San Francisco
- Crocker Masonic Lodge, 17 Hillcrest Drive, Daly City
- Site of the Broderick-Terry Duel, 1100 Lake Merced Boulevard, Daly City

Most of the identified historic resources within the local distribution system separation are individual historic resources that do not have character-defining features in the public right-of-way. Local distribution system separation mainly involves modifications to existing infrastructure within or near the public right-of-way.

Construction of the local distribution system separation would involve the same equipment that would be used for the distribution express feeders (except for trenchless construction equipment) and would take place near buildings; therefore, for the same reasons discussed above for the distribution express feeders, underground work associated with the local distribution system separation could cause temporary vibrations in excess of 0.25 in/sec PPV and possibly damage historic resources. Implementation of **Mitigation Measure M-NO-4b (Paving Vibration Minimization**, see Impact NO-4**)** would limit potential impacts from construction associated with the local distribution system separation.

To summarize the anticipated permanent impacts associated with local distribution system separation, **Table 2** presents types of activities that are anticipated along with relevant impact scenarios and the anticipated level of impact prior to mitigation for each scenario. Given the dense urban setting of the local distribution system separation, modifications to existing overhead and underground distribution lines, and in some cases new overhead and underground distribution lines and the installation of new duct banks and vaults, would minimally change the existing setting of the identified historic resources. It is highly unlikely that a new overhead distribution line would have an indirect or direct impact on a historic resource in this area.

However, as the specific work areas are not identified for the local distribution system separation, there may be historic resources within the project areas that were not previously identified. Additionally, in some instances if the historic resource is a district or designated landscape or is located within a park (such as the Broderick-Terry Duel site), construction activities associated with new aboveground or belowground equipment, including telecommunications equipment installed on the proposed structures, could adversely affect the setting of a historic resource, resulting in a potentially significant impact. In addition, new overhead poles or lines also could adversely affect the setting within historic districts, a potentially significant impact. Implementation of **Mitigation Measure M-CR-1c (Historic Resource Impact Minimization within Historic Resources and Historic Districts)** would avoid adverse effects on historic resources by requiring protection of historic materials contributing to the character-defining features of historic districts, reinstallation or replacement of the features in-kind, and that new equipment installed within historic resources or districts conform to Secretary of the Interior standards.

With implementation of Mitigation Measure M-NO-4b, to address construction-related vibration and Mitigation Measure M-CR-1c, the impacts of the local distribution system separation would be ***less than significant with mitigation***.

Table 2 Potential Impacts of Local Distribution System Separation and System Reinforcement Activities on Distinctive Features or Setting of Historic Resources

Activity Type	Example Scenario	Anticipated Project-Level Impact
Overhead disconnections or reconnections in right-of-way adjacent to historic resources	New poles or lines adjacent to historic resources	Less than significant
Overhead disconnections or reconnections and installation of new or upgraded structures or electrical and telecommunications equipment within historic resources	New poles or lines within a historic resource (e.g., Broderick-Terry Duel site)	Potentially significant
Underground disconnections or reconnections in right-of-way adjacent to historic resources	Construction of underground equipment requires removal of distinctive features of a historic resource or district (e.g., historic curbs)	Potentially significant
Underground disconnections or reconnections within or adjacent to historic resources	New/removed underground lines and equipment in historic resource (e.g., Broderick-Terry Duel site) or historic district	Less than significant
Install additional equipment on existing electrical structures	New transformers or telecommunications equipment on existing poles adjacent to a historic resource	Less than significant

Mitigation Measure M-CR-1c: Historic Resources Impact Minimization within Historic Resources and Historic Districts

This measure applies to: Local Distribution System Separation (Broderick-Terry Duel site); System Reinforcements (Balboa Terrace Historic District, Ingleside Terrace Historic District; Little Hollywood Historic District)

For project components that would occur within historic resources or historic districts that have distinctive features within the public right-of-way (unusual sidewalk and roadway elements including brick surfacing, brick gutters, gutters lined with former cemetery furniture [broken head and foot stones], granite curbs, cobblestones, railway and streetcar rails, sidewalk lights, street lamps, street furniture, monuments or plaques, and/or utility plates), and where these character-defining features appear to be 45 years or older, the SFPUC shall treat such features as potentially character-defining features of their setting. For those locations, historic materials shall be protected in place. Where protection in place is not possible, materials shall be salvaged and reinstalled, or replaced in-kind to match the existing color, texture, material, and character of the feature.

For project components that would occur within historic resources or historic districts that have character-defining features related to setting, placement of new poles and/or installation of new electrical or telecommunications equipment shall be in locations that follow established patterns. If maintenance of the current pattern of poles and equipment installation is not possible, locations for new poles, if proposed, would be subject to review and approval by San Francisco Planning

Department preservation staff to ensure conformance with Secretary of the Interior's Standards regarding the setting of the historic resource.

System Reinforcements

System reinforcements would occur within 11 different geographic areas in San Francisco and San Mateo counties. The system reinforcements work would primarily occur within the public right-of-way or on existing electric equipment. The physical activities associated with system reinforcements are similar to the activities associated with the local distribution system separation.

Most of the identified historic resources within the 11 system reinforcement areas, presented in Table 1 (refer to Figure 2-8 for system reinforcement areas), are individual historic resources that do not have character-defining features in the public right-of-way. Because system reinforcements would take place primarily in the public right-of-way or would be located on existing electric equipment, the physical change to the existing environment would be minimal. The installation of new poles and duct banks would cause the greatest change in the physical environment affecting known historic resources. The installation of new poles near the identified historic resources would be a minimal change to the individual historic resources identified within system reinforcement areas due to the fact that all of the identified historic resources are located within a dense urban environment where the prevalence of electrical equipment, both aboveground and belowground, is common.

However, within historic districts and selected individual historic resources there is the potential for the system reinforcements to affect features of those historic districts or individual historic resources that are located within the public right-of-way. Implementation of **Mitigation Measure M-CR-1c (Historic Resources Impact Minimization within Historic Resources and Historic Districts)**, included above, would prevent the system reinforcements from removing or substantially altering the character-defining features located within or near the public right-of-ways in these historic districts and thereby avoid adverse impacts on historic resources. Construction of the system reinforcements would also involve the same equipment that would be used for the distribution express feeders (except for trenchless construction equipment) and would take place near buildings; therefore, for the same reasons discussed above for the distribution express feeders, underground work associated with the system reinforcements could cause temporary vibrations in excess of 0.25 in/sec PPV and possibly damage historic resources. Implementation of **Mitigation Measure M-NO-4b (Paving Vibration Minimization**, see Impact NO-4**)** would limit potential impacts from construction associated with the system reinforcements.

Therefore, with implementation of Mitigation Measures M-CR-1c and M-NO-4b, impacts of the system reinforcements on historic resources would be ***less than significant with mitigation***.

Operations Control Center

The City would modify an existing building within the southeastern part of San Francisco to house a centralized operations control center. The modifications would include the following exterior alterations to the building: installation of fencing; a heating, ventilation, and air conditioning (HVAC) system; upgraded utility connections; and a standby diesel generator.

Because the location of the operations control center is unknown it is possible, although unlikely, that the operations control center could be located in a building that is a potential historic architectural resource. If the operations control center is proposed within a historic architectural resource, changes to character-

defining features could adversely affect the significance of the historic resource. If the operations control center were to be within a building that has not yet been evaluated as a potential historic resource, implementation of **Mitigation Measure M-CR-1d (Historic Resources Impact Minimization for Adaptive Reuse)** would require a qualified architectural historian under the direction of the ERO to determine if the building meets the criteria for listing in the California Register or as a local landmark. If the building is determined to be a historic resource, Mitigation Measure M-CR-1d would require adaptive reuse of the building in a manner consistent with the Secretary of the Interior's Standards. Implementation of Mitigation Measure M-CR-1d would prevent the project from removing or substantially altering any of the character-defining features of the operations control center building and thereby avoid adverse impacts on historic resources. Therefore, with implementation of Mitigation Measure M-CR-1d, impacts of the operations control center on historic resources would be ***less than significant with mitigation***.

> **Mitigation Measure M-CR-1d: Historic Resources Impact Minimization for Adaptive Reuse**
>
> *This measure applies to: Operations Control Center*
>
> After selection of a proposed building for the operations control center, the SFPUC shall notify the ERO of the selected building. If required based upon ERO and preservation staff review, the SFPUC shall engage a qualified architectural historian to evaluate the historic significance of the operations control center building and provide the relevant historic resource documentation to the ERO. If the building is a historic resource, then the character-defining features of the historic resource shall be preserved or reconstructed consistent with Secretary of the Interior's Standards. The SFPUC shall submit proposed renovation plans to the ERO for review and approval prior to construction to ensure the work conforms to the Secretary of the Interior's Standards.

Operations and Maintenance Service Yards

The City would secure 150,000 to 200,000 square feet of maintenance and storage facilities somewhere in the southeastern part of San Francisco for operations and maintenance service yards to house equipment, trucks, and parking. Modifications such as fencing would be needed to securely store equipment and material in the service yards.

Materials and equipment storage is most likely to be on open parcels of land such as parking lots or vacant and unimproved lots, or within areas already used for materials and equipment storage. In these cases, no historic architectural resources would be present. However, it is possible that the operations and maintenance service yards would be located on parcels where historic resources are immediately adjacent. Fencing and other security features are typically free-standing, minimally attached to buildings or other structures, and are considered reversible. They have a low potential to result in impacts on historic resources. However, while these types of improvements are generally minor, there is the potential for construction activities to affect historic resources. Implementation of **Mitigation Measure M-CR-1e (Historic Resources Impact Minimization for Service Yards Improvements),** would reduce the potential for damage during construction by requiring the SFPUC to implement measures that protect and avoid damage to any onsite and adjacent historic resources. Additionally, implementation of **Mitigation Measure M-NO-4a (Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction**, see Impact NO-4**)** would avoid construction vibration impacts on adjacent historic resources. Therefore, the impacts on historic resources that could result from the types of modifications associated with the operations and maintenance service yards would be ***less than significant with mitigation***.

Mitigation Measure M-CR-1e: Historic Resources Impact Minimization for Service Yards Improvements

This measure applies to: Operations and Maintenance Service Yards within 20 feet of buildings

After selection of proposed service yard locations, the SFPUC shall engage a qualified architectural historian to evaluate the historic significance of buildings on surrounding parcels of the service yards' location. If historic resources are identified on adjacent parcels, then the SFPUC shall incorporate into contract specifications a requirement that the contractor(s) protect and avoid damage to adjacent historic resources. These contract specifications shall be reviewed and approved by the San Francisco Planning Department preservation staff prior to the start of construction. Specifications shall include the following:

- If aerial work would occur above the roofline of adjacent historic buildings and would have the potential to cause building damage from falling objects, the roof of the adjacent structure shall be covered to avoid damage.
- A buffer zone of 20 feet between historic resources and heavy equipment use and/or staging of equipment and materials shall be established and maintained, if feasible.
- If a minimum buffer zone of 20 feet is not possible, barriers or construction monitoring shall be included to ensure no damage to historic resources occurs.
- Any damage to historic resources incurred as a result of construction activities shall be immediately reported to the ERO or the ERO's designee, and any damage to the historic resource shall be repaired to match pre-construction conditions per the Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic resources professional and San Francisco Planning Department preservation staff.

Significance after Mitigation: Less than Significant.

Impact CR-2: The project or project variant could cause a substantial adverse change in the significance of an archeological resource. ***(Less than Significant with Mitigation)***

This section discusses archeological resources, which may be either potential historic resources according to CEQA Guidelines section 15064.5 or unique archeological resources as defined in CEQA section 21083.2(g). The mitigation measures below also address impacts to archeological resources that are also tribal cultural resources. Tribal cultural resources are defined and discussed in Section E.5 of this document.

Archeological Sensitivity Assessment

This section is derived from information provided in a Cultural Resource Review memorandum that was completed for the proposed project.[52] The memorandum includes a summary of the Preliminary Archeological Review (PAR) completed in 2020 and provides a detailed context, applicable regulatory framework, and a sensitivity analysis of the potential for Native American archeological resources and historic-period archeological resources to be in the project areas and to be affected by ground disturbance.

[52] San Francisco Environmental Planning, Cultural Resource Review Memo, PG&E Power Asset Acquisition Project, Prepared by Allison Vanderslice and Kari Hervey-Lentz. On file at Environmental Planning, January 29, 2025.

The Cultural Resource Review memorandum was supplemented by records searches from the Northwest Information Center of the California Historical Resources Information System on August 31, 2023 - File No. 23-0287 and on September 12, 2024 – File No. 24-0395.

Native American property types that might be encountered during the project include midden, artifact and/or ecofact scatters, burials, isolated finds, and re-deposited Native American material.[53] Recently, Far Western developed the San Francisco Planning Department's citywide sensitivity model for Prehistoric Resources, a Native American archeological sensitivity model covering the entire city and county of San Francisco.[54] The model addresses sensitivity for surface archeological resources (Native American archeological deposits that tend to occur at or near the present ground surface, or the historic-period surface as it existed before about 1850 A.D., including those that are capped by built structures or covered by artificial deposits), buried archeological resources (land surfaces that were covered by terrestrial sediments, such as alluvium, colluvium, or wind-blown dune sand, subsequent to the formation of the deposit and before the historical period), and submerged archeological resources associated generally with the submerged pre-Middle Holocene (8,200 to 4,200 B.P.) land surface, but potentially submerged much more recently, depending on setting. The sensitivity model is based on a diachronic reconstruction of the bay and ocean shoreline at 1000-year intervals (based on known rate of sea-level rise and pre-bay landform elevations, developed based on bathymetric and geotechnical coring data; degree of slope; proximity to the bay shore, creeks, creek confluences, and other water sources; distance from recorded Native American archeological resources; landform history (e.g., whether an area was subject to alluvial burial or erosion); and available data on areas of extensive historic or modern grading. This modeling suggests that areas located within a 200 to 240-meter (about 650 to 800 feet) radius of a perennial stream channel or lake or of the bayshore have the highest sensitivity for the presence of Native American archeological resources.[55] While similar studies have not been done in the project vicinity in San Mateo County, this is highly consistent with the historically-documented distribution of Native American archeological resources in San Francisco,[56] and as documented in the confidential San Francisco and San Mateo County archeological records on file at the California Historical Resources Inventory System, Northwest Information Center at Sonoma State University.

There are several Native American resources in the vicinity of the proposed project, including midden sites and shellmounds. Portions of the project have very high sensitivity for Native American archeological resources based on distance from historical water sources, including the bay shore, as well as proximity of Native American archaeological sites in a similar setting.

Historic maps and documents indicate that historic-period archeological deposits could include artifact-bearing sheet refuse deposits and/or hollow-filled pit features (i.e., privies and wells) associated with early construction. However, most of the project areas are within established roadways and/or highly disturbed locations. As such, there is a relatively low sensitivity for encountering historic-period archeological resources during construction of the project or project variant throughout most of the project areas.

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[53] Byrd, Brian F., Jack Meyer, Rebecca Allen, Bryan Larson, Chris McMorris, Meta Bunse, *Archeological Research Design and Treatment Plan for the Central SoMa Plan Area, San Francisco, California*, prepared by Far Western Anthropological Research Group, ESA Inc., and JRP Historical, prepared for the City and County of San Francisco Planning Department, San Francisco, CA, 2014.

[54] Meyer, Jack and Paul Brandy, *Geoarcheological Assessment and Site Sensitivity Model for the City and County of San Francisco, California*, prepared by Far Western for the Environmental Planning Division of the San Francisco Planning Department, 2019.

[55] Ibid.

[56] Nelson, N. 1908. Shellmounds of the San Francisco Bay. University of California Publications in Archeology and Ethnography. Berkeley

Redeposited historic-period artifacts may be encountered within the historic fill, and filled drainages have the potential to contain historic period refuse and other materials.

Martin Substation Separation and Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation

Martin Substation has high sensitivity for Native American archeological resources based on distance from historical water sources and proximity of Native American archeological resources in a similar setting. The Martin Substation site was first developed in the 1870s, but development remained minimal until the early 20th century when the Southern Pacific Railroad had spurs within the site and the California Gas & Electric Company (headed by Eugene de Sabla and John Martin) built the Martin Station. Although there is some disturbance from the 20th century development, the location likely retains intact stratigraphy.

Martin Substation was undeveloped prior to construction of the structures related to the substation. There is a low potential to encounter historic-period archeological materials.

Distribution Express Feeders

Portions of the distribution express feeders alignment (Geneva Avenue between Bayshore Boulevard to Talbert Street, between intersection of Geneva Avenue and Alemany Boulevard and 225 feet southwest of the intersection of Niagara Avenue and Alemany Boulevard) have very high sensitivity for Native American archeological resources based on distance from historical water sources and proximity of Native American archeological resources in a similar setting.

Some portions of the distribution express feeders alignment have sensitivity for historic-period archeological resources. Historic maps show several locations where historic structures were located prior to establishing the existing road network. Locations that show buildings dating to the 1860s have a high historic-period archeological sensitivity. These locations include Geneva Avenue between Esquina Drive and Parque Drive, Huron Avenue near the intersection of Moneta Way, and Sickles Avenue near San Jose Avenue. Therefore, portions of the alignment have sensitivity for Native American and historic-period archeological resources.

Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

The Potrero Substation is along the historical shoreline. Most of the site is fill and therefore located within the historical bay. Consequently, surface and buried Native American sensitivity is low while there is high sensitivity for submerged Native American archeological resources at this location.

The Tubbs Cordage Company's ropewalk structure, associated with the first rope-making facility in the West Coast dating to the mid-1850s, extended into the southwest corner of Potrero Substation along 23rd Street. Based on review of historical maps and previous archeological investigation of the ropewalk,[57] the ropewalk structure was removed in this area by the early 20th century and several rounds of filling occurred in this area during the late 19th and early 20th centuries, which would have covered historic-period features in at least several feet of fill.

[57] San Francisco Planning Department, Environmental Planning Cultural Resource Review (CRR) Memo, PG&E Power Asset Acquisition Project, Prepared by Allison Vanderslice and Kari Hervey-Lentz. On file at Environmental Planning, January 29, 2025.

Project Variant: New City Substation

Daly City Yard, where the new City Substation would be built under the project variant, has high sensitivity for Native American archeological resources based on distance from historical water sources and proximity of Native American archeological resources in a similar setting. Although there is some disturbance from the 20th century development, the location likely retains intact stratigraphy.

The location of the proposed New City Substation (project variant) was undeveloped prior to construction of the structures related to Martin Substation. There is a low potential to encounter historic-period archeological materials.

Local Distribution System Separation, System Reinforcements

The local distribution system separation and system reinforcements have a variable sensitivity for Native American archeological resources based on distance from historical water sources and proximity of Native American archeological resources in a similar setting. Some locations have known Native American archeological sites within or within the vicinity of the program level areas.

The local distribution system separation and system reinforcements also have a variable sensitivity for historic-period archeological resources based on a review of historic maps, with known historic-period archeological resources within some program level areas.

Operations Control Center, Operation and Maintenance Service Yards

The operations control center and operation and maintenance service yards have an unknown Native American archeological sensitivity as their exact locations have not been determined.

The operations control center and operation and maintenance service yards similarly have an unknown historic-period archeological sensitivity because their exact locations have not been determined.

Impact Discussion

Planning archeological staff completed a Preliminary Archeological Review for the project.[58] Impacts related to specific project components are provided below. Ground disturbance associated with all project components has the potential to affect unknown archeological resources. Implementation of **Mitigation Measure M-CR-2a** (**Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance)** for all project-level and program-level components would reduce impacts. Under Mitigation Measure M-CR-2a, work would halt if an archeological resource is inadvertently discovered during project implementation and procedures would be followed for the appropriate treatment of significant archeological resources. Implementation of Mitigation Measure M-CR-2a would minimize the potential for significant impacts on archeological resources during construction.

[58] San Francisco Planning Department. Environmental Planning Cultural Resource Review Memo for PG&E Power Asset Acquisition Project, Prepared by Allison Vanderslice and Kari Hervey-Lentz. On file at Environmental Planning, January 29, 2025.

Project-Level Analysis

Martin Substation Separation, Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation

The archeological analysis indicates that there is a very high potential for Native American archeological resources to be present at the Martin Substation Separation project site. Construction of the modifications to retain PG&E access to Martin Substation would result in ground disturbance of 3 feet deep for installation of new fencing and curb cuts. Project construction associated with the Martin Substation separation would result in ground disturbance of 4 to 15 feet deep. This depth and volume of work could impact Native American archeological resources, if present. Implementation of **Mitigation Measure M-CR-2b (Archeological Testing Program)** would reduce impacts. Under Mitigation Measure M-CR-2b, a qualified archeological consultant under the direction of the ERO would develop an archeological testing program that includes archeological testing prior to project-related ground disturbance. The testing program would identify the specific locations within the project areas where testing is required, as well as the methodology of testing to be conducted. Under the testing program, if archeological resources were uncovered, it would be determined whether any archeological resource encountered constitutes a historical resource under CEQA and proper procedures would be followed to provide appropriate treatment of significant archeological resources. In addition, under Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) work would halt if an archeological resource is inadvertently discovered during project implementation and procedures would be followed for the appropriate treatment of significant archeological resources. Implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) and Mitigation Measure M-CR-2b (Archeological Testing Program) would minimize the potential for significant impacts on archeological resources. Impacts on archeological resources would be ***less than significant with mitigation***.

Distribution Express Feeders

The archeological analysis indicates that there is a very high potential for Native American resources and historic-period archeological resources to be in some proposed locations of the distribution express feeders. Project activity would result in variable ground disturbance and depending on the location, ground disturbance could impact archeological resources if present. Implementation of **Mitigation Measure M-CR-2c (Archeological Monitoring Program)** would reduce impacts. Archeological monitoring would focus on areas sensitive for Native American resources at 1) Geneva Avenue between Bayshore Boulevard to Talbert Street and 2) Huron Avenue between Geneva Avenue and Mt. Vernon Avenue. Archeological monitoring would focus on potential historic-period archeological resources associated with 1860s development at 1) Geneva Avenue between Esquina Drive and Parque Drive, 2) Huron Avenue near intersection of Moneta Way, and 3) Sickles Avenue near San Jose Avenue.

Under Mitigation Measure M-CR-2c (Archeological Monitoring Program), a qualified archeological consultant under the direction of the ERO would develop an archeological monitoring program. The monitoring program would identify the specific locations within the project areas where monitoring is required, as well as the type and frequency of monitoring to be conducted. Under the monitoring program, if archeological resources are uncovered during project implementation, nearby work would be required to halt, pending documentation of the find and evaluation of whether any archeological resource encountered constitutes a historical resource under CEQA, and proper procedures would be followed for the appropriate treatment of significant archeological resources. In addition, under Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance), work would halt if an archeological

resource is inadvertently discovered during project implementation and procedures would be followed for the appropriate treatment of significant archeological resources. Implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) and Mitigation Measure M-CR-2c (Archeological Monitoring Program) would minimize the potential for significant impacts on archeological resources during construction. Impacts to archeological resources would be ***less than significant with mitigation***.

Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

The archeological analysis indicates that there is the potential for submerged Native American archeological resources to be in the project area for modifications to retain PG&E access to non-electrical facilities at the Potrero Substation. Project construction would result in ground disturbance of up to 3 feet deep for installation of new fencing and curb cuts. Project activities at Potrero Substation therefore are unlikely to reach soils sensitive for submerged Native American resources. Given the limited area and depth of disturbance, there is relatively low potential to affect archeological resources. In addition, it is unlikely that project activities will encounter any structural remains associated with the ropewalk and there is a low potential to encounter historic-period archeological materials. Implementation of **Mitigation Measure M-CR-2a** (**Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance)** for construction at Potrero Substation would reduce impacts. Under Mitigation Measure M-CR-2a, work would halt if an archeological resource is inadvertently discovered during project implementation and procedures would be followed for the appropriate treatment of significant archeological resources. Impacts on archeological resources would be ***less than significant with mitigation***.

New City Substation (Project Variant)

The archeological analysis indicates that there is the potential for Native American resources to be present in Daly City Yard, which is the proposed location of the new City substation under the project variant. Project variant construction would result in ground disturbance of 4 to 15 feet deep, as well as pile driving up to 80 feet deep. This depth and volume of work could impact Native American archeological resources, if present. Implementation of **Mitigation Measure M-CR-2b** (**Archeological Testing Program)** would reduce this impact. Under Mitigation Measure M-CR-2b, a qualified archeological consultant under the direction of the ERO would develop an archeological testing program that includes archeological testing prior to project-related ground disturbance. The testing program would identify the specific locations within the project areas where testing is required, as well as the methodology of testing to be conducted. Under the testing program, if archeological resources were uncovered, it would be determined whether any archeological resource encountered constitutes a historical resource under CEQA and proper procedures would be followed to provide appropriate treatment of significant archeological resources. In addition, under Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) nearby work would halt if an archeological resource is inadvertently discovered during project implementation and procedures would be followed for the appropriate treatment of significant archeological resources. Implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) and Mitigation Measure M-CR-2b (Archeological Testing Program) would minimize the potential for significant impacts on archeological resources. With implementation of this required measure, impacts to archeological resources would be ***less than significant with mitigation***.

Program-Level Analysis

Local Distribution System Separation, System Reinforcements, Operations Control Center, Operation and Maintenance Service Yards

Native American resources and historic-period archeological resources are present or have the potential to be present in some locations of the local distribution system separation and system reinforcements areas where soil-disturbing activities such as excavation, utility installation, grading, or compaction, could potentially impact these resources. The operations control center and operations and maintenance service yards have an unknown archeological sensitivity, and therefore construction of these project components could also impact Native American or historic-period archeological resources. Implementation of **Mitigation Measure M-CR-2d (Archeological Treatment Program)** would reduce these impacts. Under this measure, a qualified archeological consultant under the direction of the ERO in coordination with SFPUC and EP cultural resources staff would develop an archeological treatment program, which may include archeological monitoring, testing, or accidental discovery provisions. The program would review project soil disturbance (e.g., extent, depth, and volume of proposed soil disturbance); existing archeological resource data; relevant historic archival maps and records; site soils and stratigraphy, based on available geotechnical coring data; historic and Native American environmental data; and Native American sensitivity modeling to identify locations that merit additional archeological testing or monitoring. The treatment program would also include provisions for sensitivity training, collection, discovery treatment, consultation, and data recovery to meet EP requirements. In addition, under Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) nearby work would halt if an archeological resource is inadvertently discovered during project implementation and procedures would be followed for the appropriate treatment of significant archeological resources. Implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) and Mitigation Measure M-CR-2d (Archeological Treatment Program), impacts of local distribution system separation, system reinforcements, operations control center, and operations and maintenance service yards on archeological resources would be ***less than significant with mitigation***.

Conclusion

Implementation of **Mitigation Measures M-CR-2a, M-CR-2b, M-CR-2c, and M-CR-2d** would require that archeological resources are identified, evaluated, and treated appropriately. With implementation of these mitigation measures, the project or project variant's impact would be ***less than significant with mitigation***.

> **Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance**
>
> *This measure applies to: All project components during ground disturbance.*
>
> The SFPUC shall implement the following measures.
>
> - ***ALERT sheet.*** The SFPUC shall distribute the planning department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils-disturbing activities within the project site. The "ALERT" sheet will provide information on cultural resources, including regulations and protocol in the event of an unanticipated discovery. Prior to any soils-disturbing activities being undertaken, each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel, including

machine operators, field crew, pile drivers, supervisory personnel, etc. The SFPUC shall provide the environmental review officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) confirming that all field personnel involved in soil-disturbing activities have received copies of the "ALERT" sheet.

- ***Procedures Upon Discovery of a Suspected Archeological Resource***. The following measures shall be implemented in the event of a suspected archeological discovery during project soil-disturbing activities:
- ***Discovery Stop Work and Environmental Review Officer Notification***. Should any indication of an archeological resource be encountered during any soils-disturbing activity of the project, the SFPUC shall immediately notify the ERO and shall immediately suspend any soils-disturbing activities within 25 feet of the discovery and protect the find in place until the significance of the find has been evaluated and the ERO has determined whether and what additional measures are warranted, and these measures have been implemented, as detailed below.
- ***Archeological Consultant Identification***. If the preliminary archeological review did not require archeological monitoring or testing, an archeological discovery during construction occurs prior to the identification of a project archeologist, and the ERO determines that the discovery may represent a significant archeological resource, then the SFPUC shall retain the services of an archeological consultant (hereinafter "project archeologist") either listed on the Qualified Archeological Consultant list maintained by the department or as otherwise approved by the ERO to identify, document, and evaluate the resource, under the direction of the ERO. The SFPUC shall ensure that the project archeologist or designee is empowered, for the remainder of soil-disturbing project activity, to halt soil disturbing activity in the vicinity of potential archeological finds, and that work remains halted until the discovery has been assessed and a treatment determination made, as detailed below.
- ***Resource Evaluation and Treatment Determination***. If an archeological find is encountered during construction or archeological monitoring or testing, the project archeologist shall redirect soil-disturbing and heavy equipment activity in the vicinity away from the find. If in the case of pile driving activity (e.g., foundation, shoring, etc.), the project archeologist has cause to believe that the pile driving activity may affect an archeological resource, the SFPUC shall ensure that pile driving is halted until an appropriate evaluation of the resource has been made. The ERO may also require that the SFPUC immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.
- ***Initial documentation and assessment***. The project archeologist shall document the find and make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit through sampling or testing, as needed. The SFPUC shall make provisions to ensure that the project archeologist can safely enter the excavation, if feasible, and in compliance with a site-specific health and safety plan developed for archeological investigations. The SFPUC shall ensure that the find is protected until the ERO has been consulted and has determined appropriate subsequent treatment in consultation with the project archeologist, and the treatment has been implemented, as detailed below.

  The project archeologist shall make a preliminary assessment of the significance and physical integrity of the archeological resource and shall present the findings to the ERO. If, based on this information, the ERO determines that construction would result in impacts to a significant

resource, then the ERO shall consult with the SFPUC and other parties regarding the feasibility and effectiveness of preservation-in-place of the resource, as detailed below.

- ***Native American Archeological Deposits and Tribal Notification***. All Native American archeological deposits shall be assumed to be significant unless determined otherwise in consultation with the ERO. If a Native American archeological deposit is encountered, soil disturbing work shall be halted as detailed above. In addition, the ERO shall notify any tribal representatives who, in response to the project tribal cultural resource notification, requested to be notified of discovery of Native American archeological resources in order to coordinate on the treatment of archeological and tribal cultural resources. Further, the project archeologist shall offer a Native American representative the opportunity to monitor any subsequent soil disturbing activity that could affect the find.
- ***Submerged Paleosols***. Should a submerged paleosol[59] be identified, the project archeologist shall extract and process samples for dating, paleobotanical analysis, and other applicable special analyses pertinent to identification of possible cultural soils and for environmental reconstruction.
- ***Archeological Site Records***. After assessment of any discovered resources is complete, the project archeologist shall prepare an archeological site record or primary record (Department of Parks and Recreation [DPR] 523 series) for each documented resource, unless the Planning Department determines that documenting the discovery in the final report is adequate. In addition, a primary record shall be prepared for any prehistoric isolate. Each such record shall be accompanied by a map and GIS location file. Records shall be submitted to the planning department for review as attachments to the archeological resources report (see below) and once approved by the ERO, to the Northwest Information Center.
- ***Plans and Reports***. All archeological plans and reports identified herein and in the subsequent measures, shall be submitted by the project archeologist directly to the ERO for review and comment and shall be considered draft reports subject to revision until final approval by the ERO. The project archeologist may submit draft reports to the SFPUC simultaneously with submittal to ERO.
- ***Limit on Construction Delays for Archeological Treatment***. Archeological testing and as applicable data recovery programs required to address archeological discoveries, pursuant to this measure, could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less-than-significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section 15064.5 or Public Resources Code section 21083.2(g).
- ***Preservation-in-Place Consideration***. Should an archeological resource that meets California Register significance criteria be discovered during soil disturbing activities including archeological testing, preservation-in-place (i.e., permanently protecting the resource from further disturbance and take actions, as needed, to preserve depositional and physical integrity) of the entire deposit or feature is the preferred treatment option. The ERO shall consult with the SFPUC and, for Native American archeological resources, with tribal representatives, if

[59] Paleosols represent landforms in the past that were stable and thus suitable for human habitation prior to subsequent sediment deposition. Paleosols have the potential to preserve archaeological resources if humans occupied or settled the area.

requested, to consider the feasibility of permanently preserving the resource in place. The ERO's determination of feasibility shall be based upon the ability to relocate or redesign proposed project activities to avoid the identified resource and preserve its historical significance. Preservation options that shall be considered for feasibility include redesign of the project to place open space over the resource location; foundation redesign to avoid the soil disturbance within the sensitive area; and a plan to expose and conserve the resource in place and include it in an on-site interpretive exhibit. If the ERO determines that preservation in place is feasible and effective, then the project archeologist, in consultation with the ERO, shall prepare a Cultural Resources Preservation Plan. For Native American archeological resources, the project archeologist shall also consult with the tribal representatives, and the Cultural Resources Preservation Plan shall take into consideration the cultural significance of the tribal cultural resource to the tribes. The SFPUC shall ensure that the approved plan is implemented and shall coordinate with the planning department to ensure that disturbance of the resource will not occur in future, such as establishing a preservation easement.

If, based on this consultation, the ERO determines that preservation-in-place is infeasible or would be ineffective in preserving the significance of the resource, then archeological data recovery, public interpretation of the resource, and archeological testing or monitoring if necessary to further characterize or protect the resource during project activities shall be carried out, as detailed below.

- ***Coordination with Descendant Communities***. On discovery of an archeological site associated with descendant Native Americans, Chinese, or other identified descendant cultural group, the project archeologist shall contact an appropriate representative of the descendant group and the ERO. The representative of the descendant group shall be offered the opportunity to monitor archeological field investigations of the site and to offer recommendations to the ERO regarding appropriate archeological treatment of the site and data recovered from the site, and, if applicable, any interpretative treatment of the site. The project archeologist shall provide a copy of the Archeological Resources Report to the representative of the descendant group.
- ***Compensation***. Following the initial tribal consultation, the ERO, SFPUC and project archeologist, as appropriate, shall work with the tribal representative or other descendant or descendant community representatives to identify the scope of work for a representative to fulfill the requirements of this mitigation measure, which may include participation in archeological monitoring, preparation and review of deliverables (e.g., plans, interpretive materials, artwork). Tribal representatives or other descendant community representatives for archeological resources or tribal cultural resources, who complete tasks in the agreed upon scope of work project, shall be compensated for their work as identified in the agreed upon scope of work.
- ***Archeological Data Recovery Program***. The project archeologist shall prepare an archeological data recovery plan if all three of the following apply: (1) a potentially significant resource is discovered; (2) preservation-in-place is not feasible, as determined by the ERO after implementation of the Preservation-in-Place Consideration procedures; and (3) the ERO determines that the project impacts on the archeological resource will be reduced by archeological data recovery. When the ERO makes such a determination, the project archeologist, SFPUC, ERO and, for tribal cultural archeological resources, the tribal representative, if requested by a tribe, shall consult on the scope of the data recovery program. The project archeologist shall prepare a draft archeological data recovery plan and submit it to the ERO for review and approval. If the time needed for preparation and review of a comprehensive archeological data recovery plan

would result in a significant construction delay, the scope of data recovery may instead be agreed upon in consultation between the project archeologist and the ERO and documented by the project archeologist in a memo to the ERO and the ADRP will be finalized during the data recovery and subsequent analysis. The archeological data recovery plan/memo shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan/memo will identify what scientific/historical research questions are applicable to the expected or discovered resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the property that could be adversely affected by the proposed project.

- The archeological data recovery plan/memo shall include the following elements:
  - Field Methods and Procedures: Descriptions of proposed field strategies, procedures, and operations
  - Cataloguing and Laboratory Analysis: Description of selected cataloguing system and artifact analysis procedures
  - Discard Policy: Description of and rationale for field and post-field discard and deaccession policies
  - Security Measures: Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities
  - Report of Data Recovery Results: Description of proposed report format and distribution of results
  - Public Interpretation: Description of potential types of interpretive products and locations of interpretive exhibits based on consultation with SFPUC
  - Curation: Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities
- The project archeologist shall implement the archeological data recovery program upon approval of the archeological data recovery plan/memo by the ERO.
- ***Coordination of Archeological Data Recovery Investigations***. In cases in which the same resource has been or is being affected by another project for which data recovery has been conducted, is in progress, or is planned, the following measures shall be implemented to maximize the scientific and interpretive value of the data recovered from both archeological investigations:
  - In cases where an investigation has not yet begun, project archeologists for each project impacting the same resource and the ERO, as applicable, shall consult on coordinating and collaborating on archeological research design, data recovery methods, analytical methods, reporting, curation and interpretation to ensure consistent data recovery and treatment of the resource.
  - In cases where archeological data recovery investigation is under way or has been completed for a project, the project archeologist for the subsequent project shall consult with the prior project archeologist, if available; review prior treatment plans, findings and reporting; and

inspect and assess existing archeological collections/inventories from the site prior to preparation of the archeological treatment plan for the subsequent discovery, and shall incorporate prior findings in the final report for the subsequent investigation. The objectives of this coordination and review of prior methods and findings shall be to identify refined research questions; determine appropriate data recovery methods and analyses; assess new findings relative to prior research findings; and integrate prior findings into subsequent reporting and interpretation.

- ***Treatment of Human Remains and Funerary Objects***. If human remains or suspected human remains are encountered during construction, the contractor and SFPUC shall ensure that ground-disturbing work within 25 feet of the remains is halted immediately and shall arrange for the protection in place of the remains until appropriate treatment and disposition have been agreed upon and implemented in accordance with this measure. The treatment of any human remains and funerary objects discovered during any soil- disturbing activity shall comply with applicable state laws, including Health and Safety Code section 7050.5 and Public Resources Code section 5097.98. Upon determining that the remains are human, the project archeologist shall immediately notify the Medical Examiner of the City and County of San Francisco, the ERO, and the SFPUC of the find.

  In the event of the Medical Examiner's determination that the human remains are Native American remains, the Medical Examiner shall notify the California State Native American Heritage Commission, which will appoint a Most Likely Descendant (MLD). The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98(a)).

- The landowner shall then make all reasonable efforts to develop a burial agreement (agreement) with the MLD, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). Per Public Resources Code section 5097.98(c)(1), the agreement shall address, as applicable and to the degree consistent with the wishes of the most likely descendant, the appropriate excavation, removal, recordation, scientific analysis, custodianship prior to reinternment or curation, and final disposition of the human remains and funerary objects. If the most likely descendant agrees to scientific analyses of the remains and/or funerary objects, then the project archeologist shall retain possession of the remains and funerary objects until completion of any such analyses, after which the remains and funerary objects shall be reinterred or curated as specified in the agreement.

- If the landowner or designee and the MLD are not able to reach an agreement on the treatment of the remains and/or funerary objects, then the ERO, in consultation with the SFPUC shall ensure that the remains and/or funerary objects are stored securely and respectfully until they can be reinterred on the project site, with appropriate dignity, in a location not subject to further or future subsurface disturbance, in accordance with the provisions of state law. Treatment of historic-period human remains and/or funerary objects discovered during any soil-disturbing activity shall be in accordance with protocols laid out in the research design in the project archeological monitoring plan, archeological testing plan, archeological data recovery plan, and other relevant agreements established between the SFPUC, medical examiner, and the ERO. The project archeologist shall retain custody of the remains and associated materials while any scientific study scoped in the treatment document is conducted and the remains shall then be curated or respectfully reinterred by arrangement on a case-by case-basis.

- ***Cultural Resources Public Interpretation Plan and Land Acknowledgement***. If a significant archeological resource (i.e., a historical resource or unique archeological resources as defined by CEQA Guidelines section 15064.5) is identified and the ERO determines in consultation with Native American representatives for Native American archeological resources, that public interpretation is warranted, the project archeologist shall prepare a Cultural Resources Public Interpretation Plan. The Cultural Resources Public Interpretation Plan shall describe the interpretive products, locations or distribution of interpretive materials or displays, the proposed content and materials, the producers or artists of the displays or installation, and a long-term maintenance program.
- If the resource to be interpreted is a tribal cultural resource, the department shall notify Native American tribal representatives that public interpretation is being planned. If requested by tribal representatives, the Cultural Resources Public Interpretation Plan shall be prepared in consultation with and developed with the participation of Native American tribal representatives. For public projects or projects that include dedicated public spaces, the interpretive materials may include an acknowledgement that the project is located upon traditional Ohlone lands. For interpretation of a tribal cultural resource, the interpretive program may include a combination of artwork, preferably by local Native American artists, educational panels or other informational displays, a plaque, or other interpretative elements including digital products that address Native American experience and the layers of history. As feasible, and where landscaping is proposed, the interpretive effort may include the use and the interpretation of native and traditional plants incorporated into the proposed landscaping.
- The project archeologist shall submit the Cultural Resources Public Interpretation Plan and drafts of any interpretive materials that are subsequently prepared to the ERO for review and approval. The SFPUC shall ensure that the Cultural Resources Public Interpretation Plan is implemented prior to occupancy of the project.
- ***Archeological Resources Report***. If significant archeological resources, as defined by CEQA Guidelines section 15064.5, are encountered, then the project archeologist shall submit a confidential draft Archeological Resources Report to the ERO. This report shall evaluate the significance of any discovered archeological resource, describe the archeological and historical research methods employed in the archeological programs undertaken, the results and interpretation of analyses, and discuss curation arrangements. Once approved by the ERO, the project archeologist shall distribute the approved Archeological Resources Report as follows: copies that meet current information center requirements at the time the report is completed to the California Archeological Site Survey Northwest Information Center, and a copy of the transmittal of the approved Archeological Resources Report to the Northwest Information Center to the ERO; one bound hardcopy of the Archeological Resources Report, along with digital files that include an unlocked, searchable PDF version of the Archeological Resources Report, GIS shapefiles of the site and feature locations, any formal site recordation forms (CA DPR 523 series), and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources, via USB or other stable storage device, to the environmental planning division of the planning department; and, if a descendant group was consulted, a digital or hard copy of the Archeological Resources Report to the descendant group, depending on their preference.

- ***Curation***. If archeological data recovery is undertaken, then the project archeologist and the SFPUC shall ensure that any significant archeological collections and paleoenvironmental samples of future research value shall be permanently curated at an established curatorial facility. The facility shall be selected in consultation with the ERO. Upon submittal of the collection for curation the SFPUC or archeologist shall provide a copy of the signed curatorial agreement to the ERO.

Mitigation Measure M-CR-2b: Archeological Testing Program

This measure applies to: Martin Substation Separation; New City Substation (Project Variant)

The project archeologist shall develop and implement an archeological testing program prior to construction at the Martin Substation and New City Substation in Daly City as specified herein, and shall conduct an archeological monitoring and/or data recovery program if required to address archeological discoveries during testing or the assessed potential for archeological discoveries during construction, pursuant to this measure and Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance.

Qualified Archeologist Identification. Prior to construction or as directed by the ERO, the SFPUC shall contact the department archeologist to obtain the names and contact information for qualified archeological consultants on the department's list or as otherwise approved by the ERO and shall retain a qualified archeologist (hereinafter "project archeologist") from this list of three to develop and implement the archeological testing program.

Construction Crew Archeological Awareness. Prior to any soils-disturbing activities being undertaken where monitoring is required, the project archeologist shall conduct a brief on-site archeological awareness training that describes the types of resources that might be encountered and how they might be recognized, and requirements and procedures for work stoppage, resource protection and notification in the event of a potential archeological discovery. The project archeologist also shall distribute an "Alert" wallet card, based on the department's "ALERT" sheet, that summarizes stop work requirements and provides necessary contact information for the project archeologist, SFPUC and the to all field personnel involved in soil disturbing activities, including machine operators, field crew, pile drivers, supervisory personnel, etc., have received. The project archeologist shall repeat the training at intervals during construction, as determined necessary by the project archaeologist or as directed by the ERO, including when new construction personnel start work and prior to periods of soil disturbing work when the project archeologist will not be on site.

Tribal Cultural Resources Sensitivity Training. In addition to and concurrently with the archeological awareness training, for sites at which the ERO has determined that there is the potential for the discovery of Native American archeological resources or if requested by a tribe pursuant to the department's tribal cultural resources notification process, the SFPUC shall ensure that a Native American representative is afforded the opportunity to provide a Native American cultural resources sensitivity training to all construction personnel.

Archeological Testing Program. The project archeologist shall develop and undertake an archeological testing program as specified herein to determine to the extent possible the presence or absence of archeological resources in areas of project soil disturbance and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA. In addition, the consultant shall be available to conduct an archeological

monitoring and/or data recovery program if required to address archeological discoveries during testing or the assessed potential for archeological discoveries during construction, pursuant to this measure. The SFPUC shall make provisions to ensure that the project archeologist can safely undertake the testing program or monitoring/data recovery program in compliance with a site-specific health and safety plan developed for archeological investigations.

Archeological Testing Plan. The project archeologist shall consult with the ERO reasonably prior to the commencement of any project-related soils disturbing activities to determine the appropriate scope of archeological testing. The archeological testing program shall be conducted in accordance with an approved Archeological Testing Plan, prepared by the project archeologist consistent with the approved scope of work. The Archeological Testing Plan shall be submitted first and directly to the ERO for review and comment and shall be considered a draft subject to revision until final approval by the ERO. Project-related soils disturbing activities shall not commence where testing is required until the testing plan has been approved and any testing scope to occur in advance of construction has been completed. The project archeologist shall implement the testing as specified in the approved Archeological Testing Plan prior to and/or during construction.

The Archeological Testing Plan shall include the following:

- *Project Description*: Description of all anticipated soil disturbing activities, with locations and depths of disturbance, including foundation and utility demolition, hazardous soils remediation, site grading, shoring excavations, piles or soil improvements, and foundation, elevator, utility and landscaping excavations, with project plans and profiles, as needed, to illustrate the locations of anticipated soil disturbance.
- *Site Specific Environmental and Cultural Context*: Pre-contact and historic environmental and cultural setting of the project site as pertinent to potential Native American use and historic period development, any available information pertaining to past soil disturbance; soils information, such as stratigraphic and water table data from prior geotechnical testing. As appropriate based on the scale and scope of the project, the Archeological Testing Plan should include historic maps as a basis for predicting resource types that might be encountered and their potential locations. An overlay of the project site on the city's prehistoric sensitivity model mapping should be included, as should the locations of all known archeological sites within 0.25 mile of the project site.
- *Brief Research Design*: Scientific/historical research questions applicable to the expected resource(s), what data classes potential resources may be expected to possess, and how the expected data classes would address the applicable research questions.
- *Anticipated Resources or Resource Types*: Likely resources that might be encountered and at what locations and depths, based on known resources in the vicinity, the site's predevelopment setting and development history, and the anticipated depth and extent of project soil disturbances.
- *Proposed Scope of Archeological Testing and Rationale*: Testing methods to be used (e.g., coring, mechanical trenching, manual excavation, or combination of methods); locations and depths of testing in relation to anticipated project soil disturbance; strata to be investigated; any uncertainties on stratigraphy that would affect locations or depths of tests and might require archeological monitoring of construction excavations subsequent to testing.

- *Resource Documentation and Significance Assessment Procedures*: ERO and Native American consultation requirements upon making a discovery; pre-data recovery assessment process, burial treatment procedures, and reporting and curation requirements, consistent with the specifications of Mitigation Measure M-CR-2a.

Archeological Testing Results Memo. Irrespective of whether archeological resources are discovered, the project archeologist shall submit a written summary of the findings to the ERO at the completion of the archeological testing program. The findings report/memo shall describe each resource, provide an initial assessment of the integrity and significance of encountered archeological deposits encountered during testing, and provide recommendations for subsequent treatment of any resources encountered.

Resource Evaluation and Treatment Determination. Upon discovery of a suspected archeological resource during archeological testing, Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations shall be implemented as specified in that measure.

Additional Applicable Measures. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in the Mitigation Measure M-CR-2a shall be implemented as specified in that measure:

- Archeological Data Recovery Program
- Treatment of Human Remains and Funerary Objects (as applicable)
- Coordination of Archeological Data Recovery Investigations
- Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable)
- Archeological Resources Report
- Curation

Mitigation Measure M-CR-2c: Archeological Monitoring Program

This measure applies to: Distribution Express Feeders (in the locations specified in measure)

The project archeologist shall develop and implement an archeological monitoring program as specified herein and, in the event of a discovery during monitoring, shall conduct an archeological testing and/or data recovery program if required by the ERO to address archeological discoveries or the assessed potential for archeological discoveries, pursuant to this measure and Mitigation Measure M-CR-2a. Archeological monitoring shall be completed for the distribution express feeders at the following locations: 1) Geneva Avenue between Bayshore Boulevard to Talbert Street; 2) Huron Avenue between Geneva Avenue and Mt. Vernon Avenue; 3) Geneva Avenue between Esquina Drive and Parque Drive; 4) Huron Avenue near intersection of Moneta Way; and 5) Sickles Avenue near San Jose Avenue.

Qualified Archeologist Identification. Prior to construction or as directed by the environmental review officer (ERO), the SFPUC shall retain an archeological consultant ("project archeologist") to develop and implement an archeological monitoring program under the direction of the ERO.

Construction Crew Archeological Awareness. Prior to any soil-disturbing activity where monitoring is required, the project archeologist shall conduct a brief on-site archeological awareness training

that describes the types of resources that might be encountered and how they might be recognized, and requirements and procedures for work stoppage, resource protection and notification in the event of a potential archeological discovery. The project archeologist also shall distribute an "Alert" wallet card (based on the department's "ALERT" sheet) to all field personnel (e.g., machine operators, field crew, pile drivers, supervisory personnel) involved in soil disturbing activities, which summarizes stop work requirements and provides information on how to contact the project archeologist and ERO. The project archeologist shall repeat the training at intervals during construction, as determined necessary by the project archaeologist or as directed by the ERO, including when new construction personnel start work and prior to periods of soil disturbing work when the project archeologist will not be on site.

Tribal Cultural Resources Sensitivity Training. In addition to the archeological awareness training, for sites at which the ERO has determined that there is the potential for the discovery of Native American archeological resources or if requested by a tribe pursuant to the department's tribal cultural resources notification process, the SFPUC shall ensure that a Native American representative is afforded the opportunity to provide a Native American cultural resources sensitivity training to all construction personnel.

Archeological Monitoring Program. Based on the results of information provided in the preliminary archeological review and additional historical research as needed, the project archeologist shall consult with the ERO prior to the commencement of any project-related soils disturbing activities to determine the appropriate scope of archeological monitoring, allowing for required document preparation and review time. The SFPUC shall make provisions to ensure that the project archeologist can safely monitor and in compliance with a site-specific health and safety plan developed for archeological investigations. The archeological monitoring program shall be set forth in an Archeological Monitoring Plan, as detailed below.

- The project archeologist shall be present on the project site according to a schedule agreed upon by the project archeologist and the ERO until the ERO has, in consultation with the project archeologist, determined that project construction activities could have no effects on significant archeological deposits. The project archeologist shall prepare a daily monitoring log documenting activities and locations monitored, soil disturbance depth, stratigraphy, and findings.
- The project archeologist has the authority to temporarily stop soil disturbing construction activity in the vicinity of a suspected find to document the resource, collect samples as needed, and assess its significance. The SFPUC shall ensure that the find is protected in place in accordance with the archeologist's direction, and that it remains protected until the archeologist, after consultation with the ERO, notifies the SFPUC that assessment and any subsequent mitigation are complete. The SFPUC shall also ensure that the construction foreperson or other on-site delegee, is aware of the stop work and protection requirements.

In the event of a discovery of a potentially significant archeological resources during monitoring or construction, the project archeologist shall conduct preliminary investigation of the discovery, including the collection of soil samples and artifactual/ ecofactual material, as needed to assess potential significance and integrity. Once this initial assessment has been made, the project archeologist shall consult with the ERO on the results of the assessment. If the resource is assessed as potentially significant, the SFPUC shall ensure that soil disturbance remains halted at the

discovery location until appropriate treatment has been determined in consultation with the ERO and implemented, as detailed below.

Archeological Monitoring Plan. The archeological monitoring plan shall include the following provisions:

- *Project Description*: Description of all anticipated soil disturbing activities (e.g., foundation and utility demolition, hazardous soils remediation, site grading, shoring excavations, piles or soil improvements, and foundation, elevator, utility, and landscaping excavations), with project plans and profiles, as needed, to illustrate the anticipated soil disturbance.
- *Site Specific Environmental and Cultural Context*: Pre-contact and historic environmental and cultural setting of the project site as pertains to potential Native American use and historic period development; any available information pertaining to subsequent soil disturbance, current knowledge of soil stratigraphy. As appropriate based on the scale and scope of the project, the Archeological Monitoring Plan should include historic maps, as a basis for predicting resource types that might be encountered and their potential locations. An overlay of the project site on the city's prehistoric sensitivity model mapping should be included, as should the locations of all known archeological sites within 0.25 mile of the project site.
- *Anticipated Resources or Resource Types*: Likely resources that might be encountered and at what locations and depths, based on known resources in the vicinity, the site's predevelopment setting and development history, and the anticipated depth and extent of project soil disturbances.
- *Proposed Scope of Archeological Monitoring*: Include soil-disturbing activities/ disturbance depths to be monitored and relevant measures or activities required pursuant to the site-specific health and safety plan developed for archeological investigations.
- *Synopsis of Required Procedures*: For the assessment and treatment of discoveries, ERO and Native American consultation requirements; burial treatment procedures; and reporting and curation requirements, consistent with the specifications of Mitigation Measure M-CR-2a.

Resource Evaluation and Treatment Determination. Upon discovery of a suspected archeological resource during construction or archeological monitoring, Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations shall be implemented as specified in that measure.

Additional Applicable Measures. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in Mitigation Measure M-CR-2a shall be implemented as specified in that measure:

- Archeological Data Recovery Program
- Treatment of Human Remains and Funerary Objects (as applicable)
- Coordination of Archeological Data Recovery Investigations
- Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable)
- Archeological Resources Report
- Curation

Mitigation Measure M-CR-2d: Archeological Treatment Program

This measure applies to: Local Distribution System Separation, System Reinforcements, Operations Control Center, Operation and Maintenance Service Yards

The following mitigation measure shall be implemented for any program-level component located in an area for which the preliminary archeological review conducted by qualified San Francisco Planning Department archeological staff identifies the potential for significant archeological impacts.

The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Planning (EP) Archeologist. All scopes, plans, and reports prepared by the consultant as specified herein shall be submitted first and directly to the EP Archeologist for review and comment and shall be considered draft reports subject to revision until final approval by the EP Archaeologist.

Archeological Treatment Plan. The archeological treatment program shall be conducted in accordance with an approved Archeological Treatment Plan. Once program-level components are developed to a project level the SFPUC shall contract with an archeological consultant to prepare an Archeological Treatment Plan for these components. The archeological consultant must have experience in historic era and Native American archaeology in the Bay Area and California who meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61). The archeological consultant will be selected by SFPUC in consultation with the Environmental Planning Archeologist (EP Archeologist) in regard to qualifications.

As part of the Archeological Treatment Plan, the archeological consultant shall determine locations that merit archeological monitoring or testing through a screening process. No screening is required for activities that do not entail ground disturbance. Ground disturbance includes, but is not limited to augering, trenching, and demolition of existing infrastructure that extends below the ground surface. If the project has ground disturbance, it will be subject to archeological screening. In conjunction with the submission of the project application, the SFPUC will provide the archeological consultant with a project description, relevant figures, and available geotechnical information.

As part of the Archeological Treatment Plan the archeological consultant shall screen projects with the below criteria to determine if the project could impact potentially significant archeological resources:

- If a records search has not been completed in the past five years, the archeological consultant shall conduct an updated record search at the Northwest Information Center for recorded archeological resources within the programmatic areas that will have ground disturbance. Results of the record search including resource shapefiles shall be shared with the EP Archeologist. The archeological consultant shall use the results to determine if the project would impact recorded archeological sites or within 50 feet of a recorded site.
- Second, the archeological consultant will determine if the project would impact historic-period archeological resources within the public right-or-way dating to the mid-19th century (pre-1870) as identified in the Cultural Resource Review.

If the project does not meet one or both the criteria, then inadvertent discovery procedures would apply to the project (consistent with the procedures laid out in Mitigation Measure M-CR-2a). If the

project could impact a known archeological resource and/or a potential historic-period resource, then archeological monitoring, in accordance with Mitigation Measure M-CR-2c, shall be conducted at locations where potentially significant archeological resources could be impacted by the project. If SFPUC and the EP Archeologist determine that testing is preferable or more feasible, then testing would be implemented in accordance with Mitigation Measure M-CR-2b. A Native American monitor will be present for all areas with Native American sensitivity.

The scope of the Archeological Treatment Plan generally shall include the following elements, at minimum:

- Results of the record search
- Historical context for project location including historical maps and photographs
- Discussion of property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project
- Reference applicable scientific/ historical research questions in the Housing Element EIR Volume I (Section 4.2)
- Project activities to be archeologically monitored or tested, intensity of monitoring or testing, and location of monitoring or testing;
- Procedures for the documentation, data recovery, significance and integrity assessment, interpretation and reporting of the types of resources likely to be encountered following provisions in Mitigation Measure M-CR-2a.
- Ground disturbing activities in archeologically sensitive areas, as identified through the above screening, shall not begin until the Archeological Treatment Plan has been finalized.

Additional Applicable Measures. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in the Mitigation Measure M-CR-2a shall be implemented as specified in that measure:

- Archeological Data Recovery Program
- Treatment of Human Remains and Funerary Objects (as applicable)
- Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable)
- Archeological Resources Report
- Curation
- Consultation with Descendant Communities

Significance after Mitigation: Less than Significant.

Impact CR-3: The project or project variant could disturb human remains, including those interred outside of formal cemeteries*. (Less than Significant with Mitigation)*

All Project Components

There are no known human remains, including those interred outside of dedicated cemeteries, located in the project areas or in the immediate vicinity of the project. While unlikely, ground disturbance associated with project activities could uncover previously undiscovered human remains. If construction or operations activities were to disturb unknown human remains within the project areas, then any inadvertent damage to human remains would be considered a significant impact. The proposed project is subject to the provisions of California Health and Safety Code section 7050.5, with respect to the discovery of human remains. California Health and Safety Code section 7050.5 states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Public Resources Code section 5097.99. The Public Resources Code, section 5097.98, regulates the treatment and disposition of human remains encountered during construction. Furthermore, **Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance**, applicable to all project components**)** outlines halt work and agency notification protocols in the event human remains and any funerary objects are encountered during construction, and development of a treatment plan. Compliance with state regulatory requirements and implementation of Mitigation Measure M-CR-2a would require that any human remains uncovered during construction be promptly identified and appropriately protected and treated in consultation with the most likely descendant appointed by the Native American Heritage Commission, and therefore would minimize the potential for significant impacts to human remains and associated funerary objects. As a result, the project or project variant would have a less-than-significant impact on previously unknown human remains if encountered during construction.

Implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance) would ensure that the provisions of the California Health and Safety Code and Public Resources Code are followed. With implementation of this mitigation measure, the project or project variant's impact would be ***less than significant with mitigation***.

> **Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance** (see Impact CR-2; applicable to all project components)
>
> **Significance after Mitigation:** Less than Significant.

Impact C-CR-1: The project or project variant, in combination with cumulative projects, could result in demolition and/or alteration of historical resources, as defined in CEQA Guidelines section 15064.5. *(Less than Significant with Mitigation)*

The cumulative context for historical resources includes urban development projects, transportation, and streetscape improvements occurring within and surrounding the project areas, which together could result in impacts on historical resources. The context for the project's cumulative historic resources impact analysis is based on consideration of the cumulative projects identified and described in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, Table 3.1-3. The cumulative project list includes projects that would construct new buildings; establish plans for redevelopment of specific areas of the cities of Brisbane,

Daly City, or San Francisco; or modify existing sites. The project does not include any of these actions except for construction of three new buildings at the Martin Substation (or, under the project variant, at Daly City Yard). Therefore, the most relevant projects are those that would also modify historic resources in the project areas.

Martin Substation Separation, Modifications to Retain PG&E Access to Non-Electrical Facilities, Distribution Express Feeders, New City Substation (Project Variant)

Cumulative projects that could affect historic resources at Martin Substation and Potrero Substation include:

- **PG&E Egbert Switching Station Project** –The project includes a transmission line across Geneva Avenue near the Martin Substation.
- **Cormorant Battery Storage Facility** – A line with above- and underground sections would connect the battery storage facility to Martin Substation. The underground portion of the line would transition to overhead at a riser at the southwest corner of the Daly City Yard.
- **Potrero Power Station Mixed-Use Development Project** – Includes demolition of contributors to the Third Street Industrial District, including Station A building, which is located approximately 200 feet away from the Potrero Substation.

The first two projects would install overhead or underground equipment in or near the Martin Substation site but would not construct additional buildings near Martin Substation building. Therefore, the project or project variant in combination with cumulative projects would not result in a substantial cumulative impact on historic architectural resources at Martin Substation (***less than significant***). The Potrero Power Station Mixed-Use Development Project would demolish the potentially historic structure nearest to the proposed modifications to retain PG&E access at the Potrero Substation. Therefore, while the cumulative projects would have a significant impact on the Third Street Industrial District, the project or project variant would not have a cumulatively considerable contribution to a significant cumulative impact on historic architectural resources near Potrero Substation (***less than significant***).

Local Distribution System Separation, System Reinforcements, Operations Control Center, Operations and Maintenance Service Yards

It is possible that cumulative projects could affect the same historic resources that could be affected by the local distribution system separation, system reinforcements, operations control center, or operations and maintenance service yards. For instance, construction associated with these project components, along with one or more cumulative projects, could occur within the same historic district, or within the vicinity of the same individual resource or historic district. This would be a potentially significant cumulative impact. The project or project variant could have a cumulatively considerable contribution to the significant impact. Implementation of Mitigation Measure M-CR-1c (Historic Resources Impact Minimization within Historic Resources and Historic Districts, applicable to local distribution system separation and system reinforcements**)**, Mitigation Measure M-CR-1d (Historic Resources Impact Minimization for Adaptive Reuse, applicable to operations control center), Mitigation Measure M-CR-1e (Historic Resources Impact Minimization for Service Yards Improvements, applicable to the operations and maintenance service yards), and Mitigation Measure M-NO-4b (Paving Vibration Minimization, applicable to distribution express feeders, local distribution system separation, and system reinforcements) would reduce the project's contribution to the significant cumulative impact such that the impact would be ***less than significant with mitigation***.

Significance after mitigation: Less than significant.

Impact C-CR-2: The project or project variant, in combination with cumulative projects, could result in a significant cumulative impact related to archeological resources or human remains. ***(Less than Significant with Mitigation)***

The cumulative context for archeological resources and human remains includes urban development projects, transportation, and streetscape improvements occurring within and surrounding the project, which together could lead to ground-disturbing activities that could result in impacts on archeological resources and human remains. The cumulative projects within and surrounding the project are listed in Table 3.1-3. The cumulative analysis for archeological resources considers nearby projects that involve ground disturbance, all of which have the potential for archeological discoveries. These cumulative projects, in combination with the project or project variant, have the potential to demolish, destroy, relocate, or alter archeological resources and human remains. Taken together, the project could have the potential to result in an overall cumulative impact on archeological resources and/or human remains, including some previously documented archeological resources, portions of which have been affected by other past projects.

As described under Impact CR-2, the project would result in ground-disturbing activities in areas identified as having moderate to very high sensitivity for containing buried historic and Native American archeological resources or human remains, and therefore has the potential to result in significant impacts to these resources. The cumulative projects identified above that would include soil disturbance, in combination with the project, have the potential to result in significant cumulative impacts to the same archeological resources through demolition, destruction, relocation, or alteration of archeological resources and human remains. The project has the potential to contribute considerably to the overall cumulative impact on archeological resources and human remains; therefore, the cumulative impact would be significant.

Implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance, applicable to all project components), Mitigation Measure M-CR-2b (Archeological Testing Program, applicable to Martin Substation Separation and new City Substation [project variant]), Mitigation Measure M-CR-2c (Archeological Monitoring Program, applicable to distribution express feeders or if inadvertent discovery is made during ground disturbance), and Mitigation Measure M-CR-2d (Archeological Treatment Program, applicable to local distribution system separation, system reinforcements, operations control center, and operations and maintenance service yards) would reduce the contribution of the project or project variant to the significant cumulative impact by preserving and interpreting the significant information represented by the resource, and through coordination of investigation and analytical efforts by different researchers and/or interpretation of investigative results of both investigations.

With implementation of these mitigation measures, the project or project variant's contribution to the significant cumulative impact on archeological resources and human remains would be ***less than significant with mitigation***.

Significance after Mitigation: Less than Significant.

E.5 Tribal Cultural Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
5. TRIBAL CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐	☐

Impact TCR-1: The project or project variant could result in a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. ***(Less than Significant with Mitigation)***

CEQA section 21074.2 requires the lead agency to consider the effects of a project on tribal cultural resources. As defined in section 21074, tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, on the national, state, or local register of historical resources. In San Francisco, Native American archeological resources are presumed to be potential tribal cultural resources.

Beyond the identification of Native American archeological resources as tribal cultural resources, Native American tribal consultation undertaken for the Housing Element 2022 Update Environmental Impact Report[60] identified both San Francisco's modern shorelines and the location of historical waterways as potential tribal cultural resources. The project areas are not located on the modern San Francisco Bay and

[60] San Francisco Planning Department, San Francisco Housing Element 2022 Update Environmental Impact Report, Section 4.3, Tribal Cultural Resources. November 2022.

ocean shoreline or on the shores of remnant creek channels, lakes, or ponds that are characterized by above-ground water today.

A tribal cultural resource is adversely affected when a project causes a substantial adverse change in the resource's significance.

At the time of the arrival of Europeans in central California, in the 18th century, Ohlone Native Americans occupied an extensive territory that encompassed the San Francisco Peninsula, extended southward to Big Sur and San Juan Bautista, and included inland areas along both sides of Carquinez Strait. The territory also extended eastward, beyond the East Bay hills to Walnut Creek and Livermore.[61] The Ohlone were speakers of the Penutian language (also referred to as Costanoan or Ohlone), which comprised six languages or dialect clusters: Karkin, Mutsun, Awaswas, Rumsen, Chalon, and San Francisco Bay Costanoan, which comprised three dialects— Ramaytush, Tamien, and Chochenyo[62] — each the primary dialect of Ohlone peoples in different geographic areas of the bay region.[63] On the basis of linguistic studies,[64] the greater San Francisco Peninsula, including the area now occupied by San Francisco and most of San Mateo County, was home to the *Ramaytush* Ohlone tribe.

Pursuant to CEQA section 21080.3.1(d), within 14 days of a determination that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency is required to contact the Native American tribes that are culturally or traditionally affiliated with the geographic area in which the project is located. Notified tribes have 30 days to request consultation with the lead agency to discuss potential impacts on tribal cultural resources and measures for addressing those impacts. On October 11, 2023, the San Francisco Planning Department contacted Native American individuals and organizations for San Francisco and San Mateo Counties regarding this project, providing a description of the project and requesting comments on the identification, presence, and significance of tribal cultural resources in the project vicinity.

During the 30-day comment period, one Native American tribal representative responded. Indian Canyon Mutsun Band of Costanoan Ohlone People re-emphasized previous consultation that occurred associated with an earlier iteration of this project from 2021 with recommendations for Native American sensitivity training for construction workers, as well as a land acknowledgement to be developed in consultation with local Native American representative to be included in public outreach for the project. The presence of known Native American archeological sites, which are considered to be tribal cultural resources, in the vicinity of project areas as well as identification of areas of high Native American archeological sensitivity were discussed in relationship to the project.

All Project Components

As discussed in Section E.4, Cultural Resources, previously recorded Native American archeological resources are documented within or in the vicinity of the proposed project and project variant components. Additionally, the potential for inadvertent discovery of archeological resources remains, and unknown archeological

[61] Levy, R., Costanoan, in California, *Handbook of the Indians of North America*, volume 8, R. Heizer (ed.), Smithsonian Institution, Washington, D.C., 1978, pp. 485–486

[62] Golla, Victor, *California Indian Languages*, University of California Press, Berkeley, 2011.

[63] A Native American representative notes that it is likely that these dialects and the "boundaries" among them undoubtedly changed over time.

[64] Levy, R., Costanoan, in California, *Handbook of the Indians of North America*, volume 8, R. Heizer (ed.). Smithsonian Institution, Washington, D.C., 1978, p. 485; Levy, R., *Costanoan Internal Relationships*, manuscript prepared for the Archaeological Research Facility, Department of Anthropology, University of California, Berkeley by Richard Levy, Department of Anthropology, University of Kentucky, 1976, Figure 1, p. 57.

resources that may be encountered could be identified as tribal cultural resources at the time of discovery or at a later date. Therefore, the potential adverse effects of the project or project variant on Native American archeological resources also represent a potentially significant impact on tribal cultural resources.

Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance), Mitigation Measure M-CR-2b (Archeological Testing Program), Mitigation Measure M-CR-2c (Archeological Monitoring Program), and Mitigation Measure M-CR-2d (Archeological Treatment Program) set forth procedures for identification, protection, and treatment of archeological resources (which may also be tribal cultural resources). These mitigation measures would require that any potential tribal cultural resources encountered during testing and/or construction excavation be promptly recognized, appropriately treated and, if applicable, subject to an interpretive program developed in consultation with the associated Native American tribal representatives. The measures also include coordination with the local Native American community as well as Tribal Cultural Resources Sensitivity Training, conducted by a Native American representative to all construction personnel in locations where monitoring is required given heightened sensitivity for resources to be present.

Regarding non-archeological potential tribal cultural resources, proposed project activities are either not occurring along modern shorelines (such as the Pacific Ocean) or are limited such that they would result in minimal to no change along modern shorelines (such as the shores of Lake Merced). However, proposed project activities are located within 50 feet of known historical waterway locations, including remnant creek channels extending east from Lake Merced and other small historical creek channels. Additionally, the eastern edge of the project crosses filled areas that were submerged by water due to natural environmental change of the San Francisco Bay shoreline between about 8,000 years ago and 170 years ago. Regarding historical water sources, local Native American representatives identified such former waterways as potential sources of paleoenvironmental data, which is information about plant species, wetlands and other water resources, wildfires, rainfall, and other environmental factors that are important in understanding how Ohlone life changed in San Francisco over the past 8,000 years. Included in the above mitigation measures, if deposits associated with historical creek channels are identified during soil disturbing project activities, irrespective of whether cultural material is present, samples shall be extracted and processed for dating, flotation for paleobotanical analysis, and other applicable special analyses pertinent to identification of possible cultural soils and for environmental reconstruction. Therefore, paleoenvironmental information would be gathered and would be used to assist with environmental reconstruction and public interpretation. The above analysis indicates that there is the potential for non-archeological potential tribal cultural resources in the proposed project and project variant locations, including the project-level and program-level components. Implementation of **Mitigation Measure M-TCR-1 (Public Interpretation Land Acknowledgement)** would reduce this impact to less than significant. Under Mitigation Measure M-TCR-1, the SFPUC would, in consultation with local Native American representatives, design and implement public interpretation acknowledging that the project is built on traditional Ohlone land. With implementation of Mitigation Measure M-CR-2a (Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance), Mitigation Measure M-CR-2b (Archeological Testing Program), Mitigation Measure M-CR-2c (Archeological Monitoring Program), Mitigation Measure M-CR-2d (Archeological Treatment Program), and M-TCR-1 (Public Interpretation Land Acknowledgement), the project or project variant's impact would be ***less than significant with mitigation***.

> **Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance** (refer to Section E.4, Cultural Resources)

Mitigation Measure M-CR-2b: Archeological Testing Program (refer to Section E.4, Cultural Resources)

Mitigation Measure M-CR-2c: Archeological Monitoring Program (refer to Section E.4, Cultural Resources)

Mitigation Measure M-CR-2d: Archeological Treatment Program (refer to Section E.4, Cultural Resources)

Mitigation Measure M-TCR-1: Public Interpretation Land Acknowledgement

This measure applies to: All project components

The SFPUC shall, in consultation with local Native American representatives, design and implement public interpretation acknowledging that this project is built on traditional Ohlone land. The public interpretive land acknowledgement program may include a land acknowledgement, information on local Native Americans, or artwork, preferably by local Native American artists, to be included as part of public outreach and education about the project, such as project notifications sent to the public or project websites. Prior to completion of project construction, the SFPUC shall prepare and implement an interpretation plan in consultation with affiliated local Native American representatives and the ERO to guide the acknowledgment program. The plan shall identify, as appropriate, the proposed location or distribution for the acknowledgement program to include project outreach materials such as project webpages or other online project education or notification outreach and the proposed content of the land acknowledgement public interpretation program. The detailed content, media, and other characteristics of such an interpretive program shall be coordinated and approved by the local Native American representatives and the ERO. The final components of the public interpretation program shall be distributed following the agreed upon schedule in the public interpretation land acknowledgement plan. Tribal representatives shall be compensated for their work as identified in the agreed upon scope of work.

Significance after Mitigation: Less than Significant.

Impact C-TCR-1. The project or project variant, in combination with cumulative projects, could result in a significant cumulative impact on tribal cultural resources. ***(Less than Significant with Mitigation)***

All Project Components

Similar to Native American archeological resources, which are also considered to be tribal cultural resources, the cumulative context for tribal cultural resources includes urban development projects, transportation, and streetscape improvements occurring within and surrounding the project, which together could lead to ground-disturbing activities that could result in impacts on Native American archeological resources, which are considered to be tribal cultural resources. The cumulative projects within and surrounding the project are listed in Table 3.1-3. The cumulative analysis for tribal cultural resources considers nearby projects that involve ground disturbance, all of which have the potential for archeological discoveries. These cumulative projects, in combination with the project or project variant, have the potential to demolish, destroy, relocate, or alter archeological resources, which are also considered to be tribal cultural resources. Tribal cultural

resources are nonrenewable, finite resources. All adverse effects to tribal cultural resources have the potential to erode a dwindling cultural resource base.

State laws protect tribal cultural resources in most cases, either through project redesign or through mitigation efforts designed during consultation with the culturally affiliated Native American tribe(s).

As discussed under Impact CR-2, previously recorded Native American archeological resources are documented both within proposed project areas and in the vicinity of the proposed project. Additionally, there is the potential for inadvertent discovery of archeological resources remains, and unknown archeological resources that may be encountered could be identified as tribal cultural resources at the time of discovery or at a later date. There are reasonably foreseeable future projects that could impact the same tribal cultural resources as the project or project variant, if identified, which could result in a significant cumulative impact. The project or project variant could have a cumulatively considerable contribution to the significant cumulative impact on tribal cultural resources. Implementation of Mitigation Measures M-CR-2a, M-CR-2b, M-CR-2c, M-CR-2d, and M-TCR-1, as applicable, would ensure the project's contribution to the significant cumulative impact would be ***less than significant with mitigation*** by preserving and interpreting the significant information represented by the resource, and through coordination of investigation and analytical efforts by different researchers and/or interpretation of results of both investigations.

E.6 Transportation and Circulation

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
6. TRANSPORTATION AND CIRCULATION. Would the project:					
a) Involve construction that would require a substantially extended duration or intensive activity, the effects of which would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with emergency access or accessibility for people walking or bicycling; or substantially delay public transit?	☐	☐	☒	☐	☐
b) Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations?	☐	☐	☒	☐	☐
c) Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access?	☐	☐	☒	☐	☐
d) Substantially delay public transit?	☐	☐	☒	☐	☐
e) Cause substantial additional vehicle miles traveled or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network?	☐	☐	☒	☐	☐

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
f) Result in a loading deficit, the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving; or substantially delay public transit?	☐	☐	☒	☐	☐
g) Result in a substantial vehicular parking deficit, the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving; or interfere with accessibility for people walking or bicycling or inadequate access for emergency vehicles; or substantially delay public transit?	☐	☐	☒	☐	☐

This section describes the existing transportation and circulation conditions in the transportation study area and evaluates the potential impacts of the project or project variant on transportation and circulation. The analysis was conducted in accordance with the planning department's Transportation Impact Analysis Guidelines for Environmental Review (also known as the SF transportation guidelines),[65] which were updated in October 2019. Supporting information for this analysis is provided in the travel demand memorandum prepared for the proposed project and project variant and other supporting information (see **Appendix G**).

E.6.1 ENVIRONMENTAL SETTING

The transportation study area encompasses areas near project components involving physical changes to the environment, as shown on Figure 2-1**,** where the project could potentially affect transportation and circulation. The description of the environmental setting focuses on the transportation network around the proposed project and project variant components that are analyzed at a project level (i.e., Martin Substation separation, distribution express feeders, modifications to retain PG&E access, and new City Substation components) and more general descriptions are provided for the remaining components that are analyzed at a program-level.

Regional and Local Roadways

United States Highway 101 (U.S. 101) serves San Francisco and the Peninsula/South Bay and extends north via the Golden Gate Bridge to Marin County and the rest of the North Bay. U.S. 101 intersects with Interstate 80 (I-80) approximately 4.5 miles north of Geneva Avenue and connects San Francisco to the East Bay via the San Francisco-Oakland Bay Bridge and connects with Interstate 280 (I-280 about two miles north of Geneva Avenue). U.S. 101 in San Francisco has eight lanes (four lanes each way). The closest access the project areas have to and from U.S. 101 is provided at the Harney Way/Alana Way/Beatty Avenue northbound and southbound ramps, located approximately 1.5 miles to the east of the intersection of Geneva Avenue and Bayshore Boulevard.

[65] San Francisco Planning Department, Transportation Impact Analysis Guidelines for Environmental Review, October 2019, https://sfplanning.org/project/transportation-impact-analysis-guidelines-environmental-review-update, accessed June 14, 2024.

Interstate 280 (I-280) provides regional access to and from San Francisco from the South Bay and Peninsula. I-280, which is generally a six-lane freeway, connects with State Route (SR) 1 at Junipero Serra Boulevard on the west side of the city and U.S. 101 near Bayshore Boulevard. It terminates in the South of Market area at King Street. Near the project area, I-280 is a six- to eight-lane freeway, and the closest access to and from I-280 is located at John Daly Boulevard/Junipero Serra Boulevard; I-280 can also be reached via U.S. 101 north or south.

State Route 1 (SR 1) is a major north-south highway that generally travels along the California coast and connects San Francisco and the City of Daly City with Peninsula and North Bay communities. SR 1 connects the Golden Gate Bridge to I-280 via Park Presidio Drive, 19th Avenue, and Junipero Serra Boulevard. Along 19th Avenue and Park Presidio Drive, SR1 is a six-lane arterial. To the south, it becomes Junipero Serra Boulevard and transitions into a six-lane freeway before reaching John Daly Boulevard, where it overlaps with I-280 for approximately two miles. In the project area, Junipero Serra Boulevard (SR 1) has an interchange with Brotherhood Way.

The project areas are served by a network of roadways, including arterials designed to carry traffic through an area, collectors designed to connect arterials to local roads and land uses, and local roads which provide direct access to land uses. **Table 3** presents the roadway characteristics (e.g., number of travel lanes, sidewalks, parking availability, etc.) for the key roadways nearby the existing Martin Substation and Daly City Yard, and roadways along the distribution express feeders alignment. Alemany Boulevard, Bayshore Boulevard, and Brotherhood Way are arterial streets, often with median dividers, that generally have two travel lanes each way, with turn lanes at signalized intersection. Huron Avenue, Schwerin Street and Sickles Avenue have one travel lane each way. Sagamore Street, which connects with Brotherhood Way and Junipero Serra Boulevard to the west, has two westbound travel lanes and one eastbound travel lane. Most local streets in areas on either side of the San Francisco-San Mateo County line where other construction activities could occur generally have one travel lane each way and sidewalks and on-street parking on both sides of the street, with some exceptions.

Table 4 summarizes the existing weekday a.m. and p.m. peak hour vehicular traffic volumes for roadway segments adjacent to the Martin Substation and along the distribution express feeders alignment, where available. As shown in the table, traffic volumes are generally greater during the p.m. peak hour than during the a.m. peak hour. Weekday peak hour volumes range between about 430 and 980 vehicles per hour each way on Bayshore Boulevard, between 400 and 990 vehicles per hour each way on Geneva Avenue, and between 530 and 640 vehicles per hour each way on Alemany Boulevard. Weekday peak hour traffic volumes on Sagamore Street and Brotherhood Way, which serve as access routes to and from Junipero Serra Boulevard/SR 1, are higher than on other roadway segments (i.e., between 940 and 1,280 vehicles per hour each way). The exception is eastbound Sagamore Street, which has only one travel lane, and peak hour volumes for the one-lane segment range between 130 and 250 vehicles per hour.

Walking Conditions

Sidewalks are provided on both sides of most city streets, and crosswalks are provided at many crossing locations. Bayshore Boulevard south of Geneva Avenue does not have any sidewalks, with the exception of the sidewalk on the west side for a distance of about 250 feet south of Geneva Avenue. Geneva Avenue between Moscow and Santos streets is designated on the Vision Zero High-Injury Network. Vision Zero is a City policy adopted in 2014 that aims to reduce severe and fatal injuries to people walking, bicycling, and driving, through traffic safety investments where most severe or fatal injuries are concentrated.

Table 3 Characteristics of Roadways in the Project Areas

Street Name	Jurisdiction	Number of Lanes per Direction	SF Better Streets Plan Classification	Bike Facility [66]	Sidewalks	On-Street Parking	Public Transit Routes
Alemany Boulevard	San Francisco	2	Residential Throughway	class II	Yes	Yes	No
Bayshore Boulevard	San Francisco, Brisbane	2	Commercial Throughway	class II	Yes	Yes	SamTrans: 24, 29, 292
Brotherhood Way	San Francisco	2	Residential Throughway	class IV	No	No	Muni: 58
Geneva Avenue	Brisbane, Daly City, San Francisco	2	Residential Throughway [67]	class II and III	Yes	Yes	Muni: 8, 8AX, 8BX, 9, 9R, 43, 54 SamTrans: 24, 29, 292
Huron Avenue	San Francisco	1	Neighborhood Residential	No	Yes	Yes	No
Sagamore Street	San Francisco	2 WB, 1 EB	Neighborhood Residential	class II	Yes	Yes	Muni: 54
Schwerin Street	Daly City	1	Neighborhood Residential	class III	Yes	Yes	No
Sickles Avenue	San Francisco	1	Neighborhood Residential	No	Yes	Yes	No

SOURCE: Bicycle facility and sidewalk information from field surveys and the San Mateo County Bicycle Transportation Map of the San Francisco Peninsula. Bus information from SamTrans and San Francisco Municipal Transportation Agency service maps. Streets classification from the San Francisco Better Streets Plan (2010).

NOTES:

SamTrans = San Mateo County Transit District; Muni = San Francisco Municipal Railway (part of San Francisco Municipal Transportation Agency)

WB = westbound, EB = eastbound

[66] Class II bikeways are striped within the paved areas of roadways and established for the preferential use of people bicycling in separated bicycle lanes. Separated bicycle lanes provide a striped, marked, and signed lane that is buffered from vehicular traffic. These facilities, which are located on roadways, reserve 4 to 5 feet of space for bicycle traffic exclusively. Class III bike routes provide shared use with vehicle traffic within the same travel lane and may include shared-lane markings such as "sharrows" to delineate that the road is a shared-use facility. A class IV bikeway is a protected bicycle lane that is physically separated from the vehicle travel lane by more than the white stripe. This can entail grade separation, flexible bollards, or permanent barriers.

[67] Geneva Avenue between Brookdale Avenue and Moscow Street is also a Park Edge street. A park edge street is a special street designation in the Better Streets Plan for streets located along the edges of major parks. These streets have open space on one side and development on the other side, with a pattern that continues at least for several blocks.

Table 4 Existing Weekday A.M. and P.M. Peak Hour Traffic Volumes in Project Areas

Roadway Segment	A.M. Peak Hour		P.M. Peak Hour	
	NB/EB	SB/WB	NB/EB	SB/WB
Bayshore Blvd – north of Geneva Ave	620	580	770	770
Bayshore Blvd – south of Geneva Ave	430	830	980	580
Geneva Ave – west of Bayshore Blvd	840	400	540	950
Geneva Ave – west of Schwerin St	750	460	560	990
Geneva Ave – east of Alemany Blvd	590	900	830	800
Alemany Blvd – south of Geneva Ave	600	530	600	640
Sagamore St – Capitol Ave to Orizaba Ave	130	1,180	250	1,280
Brotherhood Way – Alemany Blvd to Arch St	1,130	990	1,240	940

SOURCES: Traffic counts collected in April 2023, October 2023, and June 2024.

NOTE: NB/EB = northbound/eastbound; SB/WB = southbound/westbound.

Table 5 summarizes the weekday a.m. and p.m. peak hour volumes of people walking and bicycling on streets adjacent to the Martin Substation and along the distribution express feeders alignment, where available. As shown on Table 5**,** the number of people walking on the roadway segments is low, with fewer than 20 people crossing the roadway segment during either the a.m. or p.m. peak hours.

Table 5 Existing Weekday A.M. and P.M. Peak Hour Volumes of People Walking and Bicycling in Project Areas

Roadway Segment	A.M. Peak Hour		P.M. Peak Hour	
	People Walking [68]	People Bicycling [69]	People Walking [68]	People Bicycling [69]
Bayshore Blvd – north of Geneva Ave	0	10	0	13
Bayshore Blvd – south of Geneva Ave	2	19	1	18
Geneva Ave – west of Bayshore Blvd	11	13	4	7
Geneva Ave – west of Schwerin St	15	14	13	9
Geneva Ave – east of Alemany Blvd	13	10	8	4
Alemany Blvd – south of Geneva Ave	19	14	14	16

SOURCES: Pedestrian and bicycle counts collected in April 2023, October 2023, and June 2024.

[68] Number of people crossing the road at the crosswalk perpendicular to the roadway segment.

[69] Volume of bicyclists in both directions of travel on the roadway segment.

Bicycling Conditions

Bicycle facilities are typically classified as class I, class II, class III, or class IV facilities.[70,71] As shown on Table 3, class II bicycle lanes are provided on Geneva Avenue between Bayshore Boulevard and Brookdale Avenue, while class II and/or class III facilities are on Geneva Avenue between Brookdale Avenue and Alemany Boulevard. Within the project area, class II facilities are also provided on Alemany Boulevard and Sagamore Street and class IV facilities are provided on Brotherhood Way. There are class II or class III in other areas of San Francisco identified for the local distribution system separation and/or system reinforcements, including Sloat Boulevard, Ocean Avenue, Monterey Boulevard, Silver Avenue, and 20th Avenue. An off-street multi-use path (class I facility) is provided around Lake Merced, including along Skyline Boulevard, John Muir Boulevard, and Lake Merced Boulevard.[72] In areas of Brisbane and Daly City identified for local distribution system separation and/or system reinforcements, there are class III facilities on Carter Street[73], Martin Street and Schwerin Street in Brisbane and on Westlake Avenue, Junipero Serra Boulevard, Mission Street, Brunswick Street, and Crocker Avenue in Daly City.[74]

As shown on Table 5, the number of people bicycling on the roadway segments is low, with fewer than 20 people bicycling in both directions during either the a.m. or p.m. peak hours.

Public Transit Conditions

The San Francisco Municipal Transportation Agency (Muni) and the San Mateo County Transit District (SamTrans) provide public transit service in the areas on either side of the San Francisco-San Mateo County border where construction activities would occur. As shown in Table 3, within the distribution express feeders alignment, Muni and SamTrans bus routes run on Geneva Avenue (Muni 8 Bayshore, 8AX Bayshore A Express, 8BX Bayshore B Express, 9 San Bruno, 9R San Bruno Rapid, 43 Masonic and 54 Felton and SamTrans school-oriented routes 24 and 29) and on Sagamore Street (Muni 54 Felton). In addition, SamTrans routes run on Bayshore Boulevard (SamTrans school-oriented routes 24 and 29, route 292). **Table 6** presents the existing weekday a.m. and p.m. peak period frequencies, general hours of weekday operation and neighborhoods served for the bus routes in the project areas.

The Bay Area Rapid Transit (BART) system provides rail service between the East Bay and Millbrae, and the Balboa Park station is the closest station to the project components. Caltrain provides commuter rail between San Francisco and Gilroy, and the closest station to the project components is the Bayshore station which is located to the east of Bayshore Boulevard and north of Beatty Avenue.

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[70] California Streets and Highway Code section 890.4, https://codes.findlaw.com/ca/streets-and-highways-code/shc-sect-890-4/, accessed July 23, 2024.
[71] *Class I bikeways* are bike paths with exclusive rights-of-way for use by people bicycling or walking. *Class II bikeways* are striped within the paved areas of roadways and established for the preferential use of people bicycling in separated bicycle lanes. Separated bicycle lanes provide a striped, marked, and signed lane that is buffered from vehicular traffic. These facilities, which are on roadways, reserve 4 to 5 feet of space for bicycle traffic exclusively. *Class III bikeways* are signed bicycle routes where people bicycling share travel lanes with vehicles and may include a shared-lane marking. A *class IV bikeway* is an exclusive bicycle facility that is separated from vehicular traffic by a buffer zone, also referred to as a cycle track. The separation from vehicular traffic could be by grade separations, flexible posts, inflexible physical barriers, or on-street vehicular parking.
[72] San Francisco Bike Network Map, https://www.sfmta.com/maps/san-francisco-bike-network-map, accessed July 23, 2024.
[73] There is a proposed bicycle lane along Carter Street between Martin Street and Geneva Avenue. Daly City Pedestrian and Bicycle Master Plan (Walk Bike Daly City), February 2020, https://www.dalycity.org/1106/Daly-City-Pedestrian-and-Bicycle-Master-, accessed July 23, 2024.
[74] San Mateo County Comprehensive Bicycle and Pedestrian Plan, Appendix E, https://ccag.ca.gov/wp-content/uploads/2021/05/6_A1_San-Mateo-County-Comprehensive-Bicycle-and-Pedestrian-Plan-Update-Final-Plan.pdf, accessed July 23, 2024.

Table 6 Existing Muni and SamTrans Routes in Project Areas

Bus Route	Frequencies (in minutes)[75] A.M. Peak Period	P.M. Peak Period	General Hours of Weekday Operation	Neighborhoods Served
8 Bayshore	8	12	Southbound 6:30 a.m. – 9:30 a.m. Northbound 3:30 p.m. – 6:40 p.m.	Chinatown, Crocker Amazon, Downtown/ Civic Center, Excelsior, Financial District, Nob Hill, North Beach, Ocean View, Outer Mission, Russian Hill, SoMa, Visitation Valley, West of Twin Peaks
8AX Bayshore A Express	8	8	Northbound 6:30 a.m. – 9:30 a.m. Southbound 3:30 p.m. – 7 p.m.	Chinatown, Downtown/Civic Center, Excelsior, Financial District, Nob Hill, North Beach, Russian Hill, SoMa, Visitation Valley
8BX Bayshore B Express	8	8	Northbound 6:30 a.m. – 9:00 a.m. Southbound 3:30 p.m. – 6:30 p.m.	Chinatown, Downtown/Civic Center, Excelsior, Financial District, Nob Hill, North Beach, Ocean View, Outer Mission, Russian Hill, SoMa, Visitation Valley, West of Twin Peaks
9 San Bruno	12	12	5 a.m. – 12 a.m.	Bayview/Hunters Point, Bernal Heights, Chinatown, Crocker Amazon, Downtown/ Civic Center, Excelsior, Financial District, Mission, Potrero Hill, SoMa, Visitation Valley, Western Addition
9R San Bruno Rapid	12	12	7 a.m. – 6 p.m.	Bayview/Hunters Point, Bernal Heights, Chinatown, Downtown/Civic Center, Excelsior, Financial District, Mission, Potrero Hill, SoMa, Visitation Valley, Western Addition
43 Masonic	12	15	5 a.m. – 12 a.m.	Crocker Amazon, Excelsior, Golden Gate Park, Inner Richmond, Marina, Ocean View, Outer Mission, Pacific Heights, Presidio, Presidio Heights, Twin Peaks, Visitation Valley, West of Twin Peaks, Western Addition, Inner Sunset, Haight Ashbury
54 Felton	20	20	6 a.m. – 10 p.m.	Bayview/Hunters Point, Crocker Amazon, Excelsior, Lakeshore, Ocean View, Outer Mission, Visitation Valley, West of Twin Peaks
SamTrans 24[76]	--	--	Morning: 7:28 a.m. – 8:15 a.m. Afternoon: 3:40 p.m. – 4:30 p.m.	School-oriented Shasta & Westmoor high schools

[75] Frequencies represent wait times between transit vehicles.

[76] For SamTrans school-oriented routes there is one trip to school each morning, and one trip after school, except that on Wednesdays there are two trips after school.

Table 6 Existing Muni and SamTrans Routes in Project Areas

Bus Route	Frequencies (in minutes) [75] A.M. Peak Period	P.M. Peak Period	General Hours of Weekday Operation	Neighborhoods Served
SamTrans 29[76]	--	--	Morning: 7:47 a.m. – 8:15 a.m. Afternoon: 3:11 p.m. – 3:38 p.m. (M, Tu, Th, Fr); 2:11 p.m. – 2:38 (Wed)	School-oriented Lipman school
SamTrans 292[77]	20 – 30	20 – 30	3:55 a.m. – 1:21 a.m. [78]	San Francisco, City of Brisbane, South San Francisco, San Francisco International, Airport, Millbrae, Burlingame, San Mateo

SOURCE: San Francisco Municipal Transportation Agency Muni Routes & Stops, https://www.sfmta.com/getting-around/muni/routes-stops; https://www.samtrans.com/schedulesmaps.

Emergency Access Conditions

The roadway network enables emergency vehicles to respond to emergencies. Emergency vehicles often use multiple routes, depending on the time of day, traffic conditions, and other factors to travel to different parts of the city. Emergency vehicles are permitted to use transit-only lanes or other vehicle-restricted lanes, if needed, to avoid congestion. Section E.15, Public Services, describes the fire stations and police station in the vicinity of the work areas.

Freight and Passenger loading

The Martin Substation and Daly City Yard currently accommodate deliveries of materials within the sites, and there are no on-street freight or passenger loading zones adjacent to these sites. Other streets along the distribution express feeders alignment and streets on either side of the San Francisco-San Mateo County border where construction activities would occur may contain on-street freight and/or passenger loading zones.

Parking Conditions

As shown in Table 3**,** on-street parking is provided on most streets along the distribution express feeders alignment, with the exception of Brotherhood Way. On-street parking is also provided adjacent to the existing Martin Substation along Geneva Avenue and Bayshore Boulevard, and adjacent to the Daly City substation on Geneva Avenue and Schwerin Street. Most residential and commercial streets in areas on either side of the San Francisco-San Mateo County line where other construction activities would occur also include on-street parking.

In implementing Appendix G of the CEQA Guidelines, which no longer includes parking in and of itself as a checklist question, the San Francisco Planning Department considers the change in parking supply and demand in the context of the criterion of whether the project would "conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities."

[77] SamTrans route 297 provides "night owl" service on Bayshore Boulevard during the overnight hours.
[78] First and last trip.

The planning department's transportation impact analysis guidelines[79] include screening criteria for projects that would not result in a substantial parking deficit. The project qualifies as an infrastructure project pursuant to the Senate Bill 743 (SB 743) checklist and would not result in a net loss of parking spaces of more than 600 spaces and therefore would not result in a substantial parking deficit. Thus, the project would not result in secondary effects related to potentially hazardous conditions or interfere with accessibility for people walking, bicycling, or inadequate access for emergency vehicles, or substantial delay to public transit. Thus, the transportation impact analysis does not consider the adequacy of parking in determining the significance of project impacts under CEQA. Parking is not discussed further in this EIR.

E.6.2 REGULATORY SETTING

State

CEQA Section 21099(b)(1) (Senate Bill 743)

CEQA section 21099(b)(1) required that the State Office of Planning and Research develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA section 21099(b)(2) states that upon certification of the revised guidelines for determining transportation impacts pursuant to section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, the Office of Planning and Research published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA recommending that transportation impacts for projects be measured using a vehicular miles traveled[80] (VMT) metric.[81,82] In January 2019, changes to the CEQA statutes and guidelines went into effect, including a new section 15064.3 that states that VMT is the most appropriate measure of transportation impacts and that includes updated criteria for analyzing transportation impacts.

Caltrans Responsibilities

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, under the California Streets and Highways Code, Caltrans is responsible for permitting and regulating the use of state roadways.

Caltrans construction practices require temporary traffic control planning "during any time the normal function of a roadway is suspended," which is presented in the California Manual on Uniform Traffic Control Devices.[83] Caltrans also requires that permits be obtained for transportation of oversized loads, and

[79] San Francisco Planning Department, Transportation Impact Analysis Guidelines, October 2019. https://sfplanning.org/news/transportation-impact-analysis-guidelines-update*, accessed November 9, 2020*.

[80] Vehicular miles traveled, or VMT, is a measure of the total number of miles traveled by vehicle trips associated with a project and is sometimes expressed as an average per trip or per person. VMT analyses are typically based on outputs from a travel demand model and are presented for light-duty vehicles (i.e., passenger cars, vans, pickups and SUVs).

[81] California Office of Planning and Research*, Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013), January 20, 2016.*

[82] California Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

[83] Caltrans, *California Manual on Uniform Traffic Control Devices*, 2014 Edition, Revision 8 (2024), https://dot.ca.gov/programs/safety-programs/camutcd.

transportation of certain materials, and for construction-related traffic disturbance. Project-related construction and maintenance vehicles would use state roadways as access routes for construction workers, and some project construction activities would occur in a state highway right-of-way (e.g., on Sickles Avenue under I-280); therefore, Caltrans encroachment permits would be required. In addition, the SFPUC or its contractor would acquire permits from Caltrans to allow oversized vehicles (by weight, height, length, or width) needed to transfer certain construction equipment (e.g., cranes) to the project areas via state highways.

Local

General Guidelines for Design and Construction Over or Adjacent to BART's At-Grade and Aerial Structures

To avoid temporary or permanent adverse effects on the BART system, the BART guidelines identify required design and construction actions. Construction activities within an identified zone of influence, such as shoring, pile driving, excavation, or dewatering, among others, must be closely monitored. In addition, the project's design and construction documents are required to be submitted to BART for review and approval.

Public Works Code Construction Work Requirements

The San Francisco Public Works Code section 724 requires that a property owner obtain a street space occupancy permit from public works for occupying any part of the fronting street or sidewalk for any purpose, including building construction operations. Section 724 also establishes requirements for the temporary occupation of the public right-of-way including, but not limited to, clearances for traffic signal equipment, notice to all affected fronting property owners, pedestrian clearances, construction worker parking plans in certain use districts, debris management, and clearances for fire department equipment. Further, section 724 also requires the permit holder to provide lights, barriers, barricades, signs, cones, and other devices to ensure pedestrian and traffic safety.

Public works code section 2.4.20 addresses permits required to excavate within the public right-of-way. For a permit for major work or excavation that will affect the public right-of-way[84] that is 30 consecutive calendar days or longer, contractors are required to submit for San Francisco Public Works review a contractor parking plan, including a proposal to reduce parking demand in the project vicinity.

San Francisco Public Works order no. 167,840 identifies requirements related to the placement of various types of barricades at construction sites, such as A-frames, barrier caution tapes, fencing, and barricades around crosswalks.[85] These requirements are intended to protect pedestrians near construction sites consistent with all local, state, and federal codes, including the Americans with Disabilities Act (ADA) and the California Building Code, title 24.

San Francisco Regulations for Working in San Francisco Streets (Blue Book)

The San Francisco Regulations for Working in San Francisco Streets (also known as the "SFMTA blue book") contains regulations that are prepared and regularly updated by the San Francisco Municipal Transportation Agency (SFMTA), under the authority derived from the San Francisco Transportation Code, to serve as a guide for contractors, all City agencies (e.g., SFPUC, public works, SFMTA, Port of San Francisco), and others working

[84] The public works code section 2.4.4 defines "major work" as any reasonably foreseeable excavation that will affect the public right-of-way for more than 15 consecutive calendar days.

[85] San Francisco Public Works, Guidelines for the Placement of Barricades at Construction Sites (Order No. 167,840), 2008, http://sfpublicworks.org/sites/default/files/Guidelines_for_Placement_of_Barricades_0.pdf, accessed June 24, 2024.

in San Francisco streets. The manual establishes rules and guidance so that work can be done safely and with the least possible interference with pedestrians, bicycle, transit, and vehicular traffic. The manual also contains relevant general information, contact information, and procedures related to working in the public right-of-way when it is controlled by agencies other than the SFMTA.

Prior to construction of development and infrastructure projects, construction contractor(s) are required to meet with public works and SFMTA staff members to develop and review the project's construction plans in preparation for obtaining relevant construction permits. This may include reviewing truck routing plans for the disposal of excavated materials, material delivery and storage, and staging for construction vehicles. During this process, the SFMTA evaluates the potential for construction activities to impact transit operations or the flow of vehicle, bicycle, or pedestrian traffic.

In addition to the regulations presented in the manual, all traffic control, warning, and guidance devices must conform to the California Manual on Uniform Traffic Control Devices.[86] Furthermore, contractors are responsible for complying with all applicable city, state, and federal codes, rules, and regulations. The party responsible for setting up traffic controls during construction is responsible if such controls do not meet the guidance and requirements established by this manual and any applicable state requirements.

City of Brisbane Encroachment Permits

The City of Brisbane requires an encroachment permit for construction activities that entail opening, tearing up, breaking out or excavation in any portion of the public right-of-way or of a public easement (encroachment permit)[87], or if construction activities entail obstructing or diverting vehicular or pedestrian traffic, place traffic control devices on the street or sidewalk or generally cause interference with the public right-of-way (traffic encroachment permit)[88]. The City of Brisbane also requires that all traffic control, warning, and guidance devices conform to the California Manual on Uniform Traffic Control Devices.

City of Daly City Encroachment Permit

The City of Daly City requires an encroachment permit for construction activities within public right-of-way.[89] The City of Daly City's General Conditions, Standard Specifications & Drawings include the construction standards that must be followed in any construction work.[90]

Better Streets Plan, Policy, and Requirements

In 2006, the San Francisco Board of Supervisors adopted the Better Streets Policy. Since then, the Board of Supervisors has amended the policy several times, including in 2010 to reference the Better Streets Plan. The Better Streets Plan creates a unified set of standards, guidelines, and implementation strategies to govern how San Francisco designs, builds, and maintains its pedestrian environment. The San Francisco Planning Code (section 138.1) requires certain new development projects to make changes to the public right-of-way, such that it is consistent with the Better Streets Plan.

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[86] Caltrans, California Manual of Uniform Traffic Control Devices, 2024, Revision 8. https://dot.ca.gov/programs/safety-programs/camutcd, accessed June 24, 2024.
[87] City of Brisbane encroachment permit, available at https://www.brisbaneca.org/media/27826, accessed October 1, 2024.
[88] City of Brisbane encroachment permit (traffic), available at https://www.brisbaneca.org/media/27831,
[89] City of Daly City encroachment permit, available at https://www.dalycity.org/DocumentCenter/View/1433/Encroachment-Permit-Application-PDF, accessed October 1, 2024.
[90] City of Daly City Standards & Specifications 2004, available at https://www.dalycity.org/581/Standards-Specifications, accessed October 1, 2024.

E.6.3 SIGNIFICANCE CRITERIA

San Francisco Administrative Code chapter 31 directs the planning department to identify environmental effects of a project using as its base the environmental checklist form set forth in Appendix G of the CEQA Guidelines. As it relates to transportation and circulation, Appendix G asks whether the project would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) [which sets forth requirements for evaluating a project's VMT];
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses; or
- Result in inadequate emergency access.

The planning department uses significance criteria to facilitate the transportation analysis and address the Appendix G checklist. The planning department separates the significance criteria into two categories: construction and operation.

Construction

Project construction would have a significant effect on the environment if it would require a substantially extended duration or intense activity; and the effects would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with accessibility for people walking or bicycling, or substantially delay public transit.

Operation

The operational impact analysis addresses the following five significance criteria. A project would have a significant effect if it would:

- Create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations;
- Interfere with accessibility of people walking or bicycling to and from the project area and adjoining areas, or result in inadequate emergency access;
- Substantially delay public transit;
- Cause substantial additional VMT or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network; or
- Result in a loading deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit.

E.6.4 APPROACH TO ANALYSIS

The following summarizes the methodology for determining the project's travel demand for construction and operational conditions. In addition, the following summarizes the methodology for analyzing transportation

impacts and any quantitative thresholds of significance for determining transportation impacts under project or project variant conditions. The travel demand and impact analysis methodologies use the data and guidance within the SF transportation guidelines. If the methodology below differs from the methodology in the SF transportation guidelines, the differences are summarized.

Analysis Periods

In San Francisco, the weekday p.m. peak period is typically the period when the most overall travel occurs and is the standard period of analysis. The p.m. peak hour is defined as the 60-minute period with the highest traffic volume between 4 p.m. and 6 p.m., and the transportation impact analysis is based on the p.m. peak hour. However, based on a review of the expected travel characteristics of construction activity and operations and maintenance for the proposed project and the project variant components, project travel demand was also calculated for a.m. peak hour conditions (i.e., the 60-minute period with the highest traffic volume between 7 a.m. and 9 a.m.).

Project Travel Demand

Project travel demand refers to new *person trips*[91] by additional workers and visitors using the various ways of travel (e.g., by transit, walking, bicycling, vehicle) that would be generated by the project or project variant's construction activities and by project or project variant operations. The memorandum containing the detailed methodology and information used to estimate travel demand for construction activities and for project operations is included in Appendix G of this draft EIR.[92] The methodology and results for construction and for operations and maintenance travel demand for the project and the project variant, are summarized below.

Construction Travel Demand

The project would be constructed over approximately three years. As shown in Chapter 2, Project Description, Table 2-9, Project Construction Schedule, assuming a three-year construction period, there would be an overlap of construction activities for the various project components of between one month and 28 months. Average daily and peak hour construction vehicle trips were developed for each project component based on the construction truck and construction worker data and construction duration. However, where separate construction phases were available for a given project component, the construction phase with highest daily truck generation was selected to represent construction of the entire component.

Each construction activity would generate various types of vehicle trips: haul trucks for transfer and disposal of demolition materials, haul trucks importing fill, trucks delivering concrete, and trucks delivering materials and equipment, and construction workers traveling to and from the work sites.

Construction activities, including haul trucks and materials delivery trucks, would primarily occur during daytime hours, as specified by each affected jurisdiction's noise ordinance construction time limits. As described in Section 2.5.2.1, Overview, construction activities are expected to generally occur over a single shift primarily during daytime hours between 7 a.m. and 7 p.m., five days a week, on normal (non-holiday) weekdays (Monday through Friday). Construction tasks could periodically extend into the evening hours to

[91] A person *trip* is a trip made by one person by any means of transportation (vehicle, transit, walking, bicycling, etc.).
[92] Technical Memorandum – PG&E Power Asset Acquisition EIR – Case No. 2023-005370ENV Project Travel Demand Summary, July 2024. See Appendix G.

maintain the schedule and may occur at night at the Martin Substation (e.g., tasks such as outage switching, cable splicing, electrical connections, low-voltage wiring, and relay setting adjustment described in Section 2.5.2.2, Night Construction).

Construction truck travel between off-site locations and the project areas was assumed to occur over an eight-hour period, including travel during the a.m. and p.m. peak hours. Based on travel demand data in the SF transportation guidelines, 96 percent of construction workers were assumed to travel to and from the project areas by auto with an average vehicle occupancy of 1.13 persons per vehicle (i.e., about one vehicle of every nine would have two persons traveling together), and 4 percent by public transit. Construction workers were assumed to all arrive during the a.m. peak hour and depart during the p.m. peak hour.

Project Construction Travel Demand

Table 7 presents the estimated daily and a.m. and p.m. peak hour construction trucks and construction worker vehicle trips by project component, while **Table 8** presents the estimated daily and a.m. and p.m. peak hour total construction vehicles (construction trucks and construction worker vehicles) by inbound versus outbound directions by project component. The following presents construction travel characteristics by project component:

- **Martin Substation Separation** – Construction activities associated with the Martin Substation separation component would result in an estimated 28 daily construction vehicle trips (12 truck trips and 16 worker trips) during the peak construction phase (i.e., during concrete deliveries). During the peak hours there would be an estimated ten construction vehicle trips (two truck trips and eight worker trips), with nine inbound and one outbound during the a.m. peak hour and one inbound and 9 outbound during the p.m. peak hour. Construction of the Martin Substation separation component at the existing PG&E substation in Brisbane would occur over a 33-month period.
- **Distribution Express Feeders** – Construction activities associated with the distribution express feeders would result in an estimated average of 60 daily construction vehicle trips (40 truck trips and 20 worker trips). During the peak hours there would be an estimated 16 construction vehicle trips (six truck trips and ten worker trips), with 13 inbound and three outbound during the a.m. peak hour and three inbound and 13 outbound during the p.m. peak hour. Construction of the distribution express feeders over the 3.8-mile alignment between the Martin Substation in Brisbane and the existing distribution system near the intersection of Brotherhood Way and Arch Street in San Francisco would occur over a 12-month period.
- **Local Distribution System Separation** - Construction activities associated with the local distribution system separation component would result in an estimated average of 24 daily construction vehicle trips (four truck trips and 20 worker trips). During the peak hours there would be an estimated 12 construction vehicle trips (two truck trips and ten worker trips), with 11 inbound and one outbound during the a.m. peak hour and one inbound and 11 outbound during the p.m. peak hour. Construction of the local distribution system separation component within the approximately 70 work areas within the project areas would occur over a 24-month period.
- **System Reinforcements** - Construction activities associated with the system reinforcements would result in an estimated average of 28 daily construction vehicle trips (12 truck trips and 16 worker trips). During the peak hours there would be an estimated ten construction vehicle trips (two truck trips and eight worker trips), with nine inbound and one outbound during the a.m. peak hour and one inbound and 9 outbound during the p.m. peak hour. Construction of the system reinforcements would occur within the approximately 25 work areas within the project areas over a 28-month period.

Table 7 Construction Truck and Worker Vehicle Trips by Project Component[93]

Project Component[94]	Daily			A.M. Peak Hour			P.M. Peak Hour		
	Trucks	Workers	Total	Trucks[95]	Workers[96]	Total	Trucks[95]	Workers[96]	Total
Martin Substation Separation – Project (2 crews)	12	16	28	2	8	10	2	8	10
New City Substation – Project Variant (2 crews)	54	16	70	8	8	16	8	8	16
Distribution Express Feeders (2 crews)	40	20	60	6	10	16	6	10	16
Local Distribution System Separation (2 crews)	4	20	24	2	10	12	2	10	12
System Reinforcements (2 crews)	12	16	28	2	8	10	2	8	10
Modifications to Retain PG&E Access (2 crews)	6	10	16	2	5	7	2	5	7
Operations Control Center (4 crews)	16	34	50	2	17	19	2	17	19
Operations and Maintenance Service Yards (2 crews)	4	10	14	2	5	7	2	5	7

SOURCE: Technical Memorandum – PG&E Power Asset Acquisition EIR – Case No. 2023-005370ENV Project Travel Demand Summary, July 2024. See EIR Appendix G.

[93] Vehicle trips to and from the project work area (i.e., in both the in both the inbound and outbound directions).
[94] The location of the project components is presented on Figure 2-1.
[95] Construction truck trips were assumed to occur uniformly over an eight-hour period (i.e., total daily truck trips divided by eight hours). The resulting number of truck trips per hour was rounded up to the nearest even value.
[96] Construction workers were assumed to all arrive during the a.m. peak hour and depart during the p.m. peak hour.

Table 8 Construction Vehicle Trips by Inbound and Outbound Direction and Project Component

Project Component[97]	Daily			A.M. Peak Hour			P.M. Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
Martin Substation Separation – Project (2 crews)	14	14	28	9	1	10	1	9	10
New City Substation – Project Variant (2 crews)	35	35	70	12	4	16	4	12	16
Distribution Express Feeders (2 crews)	30	30	60	13	3	16	3	13	16
Local Distribution System Separation (2 crews)	12	12	24	11	1	12	1	11	12
System Reinforcements (2 crews)	14	14	28	9	1	10	1	9	10
Modifications to Retain PG&E Access (2 crews)	8	8	16	6	1	7	1	6	7
Operations Control Center (4 crews)	25	25	50	18	1	19	1	18	19
Operations and Maintenance Service Yards (2 crews)	7	7	14	6	1	7	1	6	7

SOURCE: Technical Memorandum – PG&E Power Asset Acquisition EIR – Case No. 2023-005370ENV Project Travel Demand Summary, July 2024. See EIR Appendix G.

[97] The location of the project components is presented on Figure 2-1.

- **Modifications to Retain PG&E Access** - Construction activities associated with the modifications to retain PG&E access component would result in an estimated average of 16 daily construction vehicle trips (six truck trips and ten worker trips). During the peak hours there would be an estimated seven construction vehicle trips (two truck trips and five worker trips), with six inbound and one outbound during the a.m. peak hour and one inbound and six outbound during the p.m. peak hour. Construction of the modifications to retain PG&E access component would occur within the Martin Substation in Brisbane, the Potrero Substation in San Francisco, and other substations in San Francisco over a one-month period.
- **Operations Control Center** - Construction activities associated with the operations control center component would result in an estimated 50 daily construction vehicle trips (16 truck trips and 34 worker trips) during the peak construction phase (i.e., off-haul of excavated material/import of fill during construction of exterior improvements on the site). During the peak hours there would be an estimated 19 construction vehicle trips (two truck trips and 17 worker trips), with 18 inbound and one outbound during the a.m. peak hour and one inbound and 18 outbound during the p.m. peak hour. At this project component site, one construction worker would also travel to and from the site by public transit. Construction of the operations control center would occur within an existing commercial or office building in the southeastern part of San Francisco over a 14-month period.
- **Operations and Maintenance Yards** - Construction activities associated with the operations and maintenance service yards component would result in an estimated average of 14 daily construction vehicle trips (4 truck trips and ten worker trips). During the peak hours there would be an estimated seven construction vehicle trips (two truck trips and five worker trips), with six inbound and one outbound trips during the a.m. peak hour and one inbound and six outbound trips during the p.m. peak hour. Construction of the operations and maintenance yards would occur within one or more existing or acquired sites in southeastern San Francisco over a two-month period.

Project Variant Construction Travel Demand

The components of the project variant, and associated construction activities and construction vehicle trips, would be the same as those described above for the proposed project, with the exception of the Martin Substation separation component. Instead of separation work at the existing Martin Substation, the project variant would construct a new City Substation within PG&E's Daly City Yard (located adjacent to the existing Martin Substation). As shown on Table 7 and Table 8**,** construction of the new City Substation (project variant) instead of the Martin Substation separation would result in more daily and peak hour construction truck trips (e.g., eight peak hour construction truck trips for the project variant instead of the two peak hour construction truck trips for the project), but the same number of construction worker vehicle trips (i.e., eight peak hour worker vehicle trips for the project or project variant). The increase in construction truck trips would be due to the increase in the number of concrete deliveries required for the new substation construction. For all other proposed project components, construction truck and worker vehicle trips would be the same as described above and identified for the proposed project on Table 7 and Table 8**.**

Operations Travel Demand

Following project implementation, the SFPUC would be responsible for the continued operations and maintenance of the acquired electrical transmission and distribution system. The transmission and distribution system would require periodic operations review and maintenance, similar to existing operations of the system, and would not generate a substantial number of new vehicle trips to any one

location within the system because the facilities would be maintained consistent with the same federal or state requirements applicable to the existing electrical system.

To support the administration and operations and maintenance requirements of the electrical system by the City, the City would hire approximately 400 employees. The number of employees and activities performed by employees would be the same for the project and the project variant. Therefore, the project or project variant would result in the same operations travel demand as described below.

Operations travel demand generated by the additional employees was calculated based on trip generation and ways of travel information in the SF transportation guidelines for office workers (i.e., for the administration activities at 525 Golden Gate Avenue), and on information on typical activities at the proposed operations and maintenance yards and operations control center, and travel characteristics in southeastern San Francisco obtained from the SF transportation guidelines and information developed for the operational analysis of the SFPUC Biosolids Digester Facilities Project.[98]

Table 9 summarizes the weekday daily and a.m. and p.m. peak hour person trips by way of travel and vehicle trips for the project or project variant for project operations. This includes the proposed administrative facilities at 525 Golden Gate Avenue in the Civic Center Area, as well as the operations and maintenance service yards and the operations control center in southeastern San Francisco.

Table 9 Project or Project Variant Daily and A.M. and P.M. Peak Hour Operations Travel Demand by Ways of Travel

Analysis Period/Project Component	Person Trips By Ways of Travel[99]				
	Auto[100]	Transit[101]	Other[102]	Total	Vehicle Trips[99]
DAILY					
Administration at 525 Golden Gate Avenue	180	215	337	732	150
Operations and Maintenance Service Yards	706	26	0	732	624
Operations Control Center	67	3	0	70	60
A.M. AND P.M. PEAK HOURS					
Administration at 525 Golden Gate Avenue	18	21	34	73	15
Operations and Maintenance Service Yards	176	7	0	183	156
Operations Control Center	23	1	0	24	20

SOURCE: Technical Memorandum – PG&E Power Asset Acquisition EIR – Case No. 2023-005370ENV Project Travel Demand Summary, July 2024. See EIR Appendix G.

[98] Refer to Appendix G Technical Memorandum – PG&E Power Asset Acquisition EIR – Travel Demand Summary memorandum for additional information regarding travel demand associated with operations of the project.
[99] Includes inbound and outbound trips. Vehicle trips assume an average vehicle occupancy of 1.13 occupants per vehicle.
[100] Auto includes trips by private auto, taxi and Transportation Network Companies (TNC) ride-hail services such as Uber and Lyft.
[101] Transit includes public transit such as Muni, SamTrans, Caltrain, and BART.
[102] Other includes travel by bicycle and other ways of travel.

The following presents travel demand for the three project components that would generate operations travel demand:

- **Administration at 525 Golden Gate Avenue** – The additional 183 employees at SFPUC's existing 525 Golden Gate Avenue offices would generate 732 daily person-trips[103] and 73 person trips during the a.m. and p.m. peak hours.[104] During the peak hours, 25 percent of the person trips would be by auto, 29 percent by transit (21 trips by Muni, SamTrans, Caltrain, BART), and 46 percent by walking, bicycling, or other modes. During the a.m. and p.m. peak hours, the additional administrative staff would generate 15 vehicle trips (eight inbound and seven outbound during the a.m. peak hour and seven inbound and eight outbound during the p.m. peak hour).
- **Operations and Maintenance Service Yards -** The additional 183 employees at one or more operations and maintenance service yards would generate 732 new daily person trips and 183 person trips during the a.m. and p.m. peak hours. The peak hour travel demand reflects workers traveling to and from the site (i.e., commute trips) as well as trips between the service yards and the electrical system for inspection and/or maintenance activities. During the peak hours, 96 percent of the person trips generated by the 183 employees would be by auto and 4 percent by transit (i.e., seven trips by Muni, Caltrain, or BART). During the a.m. and p.m. peak hours, the new operations and maintenance activities would generate 156 vehicle trips (156 inbound during the a.m. peak hour and 156 outbound during the p.m. peak hour).
- **Operations Control Center** - The additional 35 employees divided among three shifts at the operations control center would generate 70 daily person trips and 24 person trips during the a.m. and p.m. peak hours. During the peak hours, 96 percent of the person trips would be by auto and 4 percent by transit (1 trip by Muni, SamTrans, Caltrain, or BART). During the a.m. and p.m. peak hours, the new operations control center activities would generate 20 vehicle trips (10 inbound and 10 outbound during both the a.m. and p.m. peak hours).

Freight and Passenger Loading Demand

Loading demand consists of the estimated number of freight delivery, service, and passenger vehicle trips that would be generated by a new project. The following presents freight and passenger loading demand for each location during operations:

- **Administration at 525 Golden Gate Avenue** - The additional administration employees at the existing SFPUC office building at 525 Golden Gate Avenue would likely generate additional demand for supplies which could result in an increase in deliveries to the building. However, the loading needs of the 183 additional employees would be accommodated within the loading demand generated by the existing building (i.e., greater quantities of supplies within the same number of truck deliveries as under existing conditions) and would not result in a noticeable increase in existing onsite loading activities. Furthermore, the additional employees would be within the capacity of the building, which can accommodate more than 1,000 employees.[105] Therefore, freight loading activity associated with the additional employees at 525 Golden Gate Avenue is not discussed further.

[103] A person trip is a trip made by one person by any means of transportation (e.g., vehicle, transit, walking, bicycling).

[104] The number of person trips during the peak hour for office use is based on data published by the San Francisco Planning Department. The SF transportation guidelines estimate that approximately 9 percent of the total daily person trips at an office occur during the p.m. peak hour. The number was rounded up to 10 percent, and also applied to the a.m. peak hour based on data published by the Institute of Transportation Engineers (ITE) that indicates that both periods have approximately the same percentage of total daily trips.

[105] Dietterle, Colleen, SFPUC Manager of Executive Affairs and Initiatives, personal communication with Karen Frye, January 15, 2025.

A portion of the 15 peak hour vehicle trips generated by the additional administrative employees at 525 Golden Gate Avenue is anticipated to occur by taxi/ride-share vehicles (i.e., about 1 pick-up/drop-off person trip by taxi/TNC or private vehicles during the peak hour). This level of peak hour vehicle trips corresponds to a passenger loading space demand of less than one space during the peak 15 minutes of the peak hour.

- **Operations and Maintenance Service Yards -** The new operations and maintenance service yards would generate delivery vehicle trips, although the number of such trips is not currently known. It is anticipated that the number of deliveries would be similar to other existing SFPUC operations and maintenance service yards and would be one or more deliveries per day. Due to the nature and anticipated location of the operations and maintenance service yards where employees would travel primarily by private auto, it is not anticipated that a substantial number of the peak hour vehicle trips would occur by taxi/ride-share (i.e., an estimated 15 pick-up/drop-off person trips by taxi/TNC or private vehicles during the peak hour for this project component). Passenger loading demand would therefore be minimal (i.e., the estimated passenger loading demand would result in a demand for less than one passenger loading space during the peak 15 minutes of the peak hour).
- **Operations Control Center** - The new operations control center would generate a limited number of delivery vehicle trips, although due to the nature of the facility (i.e., monitoring of the flow of electricity and manage outages in the electrical system, coordinating operations with other utilities, forecasting demand, and monitoring of the overall security of the system), it is not anticipated to occur daily.

  Due to the nature and anticipated location of the operations control center and shift hours (i.e., three shifts per day) where employees would travel primarily by private auto, it is not anticipated that a substantial number of the peak hour vehicle trips would occur by taxi/ride-share (i.e., an estimate of about 1 pick-up/drop-off person trips by taxi/TNC or private vehicles during the peak hour for this project component). Passenger loading demand would therefore be minimal (i.e., the estimated passenger loading demand would result in a demand for less than one passenger loading space during the peak 15 minutes of the peak hour).

Construction Impact Analysis Methodology

Project-level construction impacts are analyzed in Impact TR-1. The impact analysis assesses if the project or project variant would require a substantially extended construction duration or intense construction activity and, if so, the analysis assesses the effects of construction activities on people walking, bicycling, or driving, and riding public transit and on emergency vehicle operators.

The construction-related information used for the analysis is based on the current project understanding, including construction durations. Project construction would generate vehicle traffic (i.e., construction workers' vehicles, equipment, and trucks) traveling to and from the worksites and staging areas on area roads. All project components would generate daily commute trips by construction workers. Truck traffic would include vehicle trips to deliver materials and equipment to the site and to haul excavated materials and demolition debris away from the work areas. The evaluation addresses the duration of construction activities, staging locations for materials and equipment, estimated daily worker and truck trips, truck routes, and parking lane, bicycle lane, travel lane and/or sidewalk closures.

Operations Impact Analysis Methodology

The impacts of the project's transportation network changes following completion of construction (operations impacts) are analyzed in Impacts TR-2 through TR-5. The following describes the methodology for analysis of operational impacts, by significance criterion.

Potentially Hazardous Conditions

As used in this section, the term *hazard* refers to a project-generated vehicle potentially colliding with a person walking, bicycling, or driving or with a public transit vehicle such that serious or fatal physical injury could result, accounting for the aspects described below. Human error or non-compliance with laws, weather conditions, time of day, and other factors can affect whether a collision could occur. However, for purposes of CEQA, hazards refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This analysis focuses on hazards that could reasonably stem from the project itself, beyond collisions that may result from the aforementioned non-engineering aspects or the transportation system as a whole.

Therefore, the analysis qualitatively addresses the potential for the project to exacerbate an existing or create a new potentially hazardous condition to people walking, bicycling, or driving, or public transit operations. The analysis accounts for the number, movement type, sightlines, and speed of project vehicle trips and project changes to the public right-of-way in relation to the presence of people walking, bicycling, or driving.

Accessibility

The analysis qualitatively addresses the potential for the project to interfere with accessibility for people walking or bicycling or to result in inadequate emergency access. The analysis accounts for the number, movement type, sightlines, and speed of project vehicle trips and project changes to the public right-of-way in relation to the presence of people walking and bicycling or to emergency service operator facilities.

Public Transit Delay

The planning department uses a quantitative threshold of significance and qualitative criteria to determine whether a project would substantially delay public transit. For individual routes, if the project would result in transit delay greater than or equal to four minutes, then it could result in a significant impact.[106] For individual Muni routes with *service headways*[107] less than eight minutes, the planning department may use a threshold of significance less than four minutes. For individual surface routes operated by regional agencies, if the project would result in transit delay greater than one-half headway, then it might result in a significant impact. The planning department considers the following qualitative criteria for determining whether that delay would result in significant impacts due to a substantial number of people riding transit switching to riding in private or for-hire vehicles: transit service headways and ridership, origins and destinations of trips, availability of other transit and modes, and competitiveness with private vehicles. The SF transportation guidelines set forth a screening criterion for types of projects that would typically not result in significant

[106] The threshold uses the adopted Transit-First Policy, City Charter section 8A.103 percent on-time performance service standard for Muni. The charter considers transit vehicles arriving more than four minutes beyond a published schedule time as late.
[107] A service headway is the scheduled number of minutes between buses or trains on a particular bus route or light rail line.

transit delay impacts.[108] For infrastructure projects, the analysis also considers potential project changes that remove travel lanes on streets with transit or changes that divert vehicles to streets with transit.

VMT Analysis

The methodology used to assess the project's potential VMT impacts is consistent with CEQA section 21099(b)(1), CEQA Guidelines section 15064.3, technical advisories prepared by the California Office of Planning and Research,[109,110] and the SF transportation guidelines, as described below.

CEQA Guidelines section 15064.3 requires implementation of Senate Bill 743, which identifies VMT as the primary metric for evaluating a project's environmental impact on a transportation system. CEQA Guidelines section 15064.3(b)(1) identifies criteria for analyzing land use projects, while section 15064.3(b)(2) identifies criteria for analyzing transportation projects. Because the project is an infrastructure project and not a land use or transportation project, the criteria for analyzing land use or transportation projects are not applicable. However, CEQA Guidelines section 15064.3(b)(3) allows lead agencies to analyze the project's VMT qualitatively if existing models or methods are not available to quantitatively estimate the project's VMT, such as for infrastructure projects.

The SF transportation guidelines identify the criteria, methodology, and thresholds of significance for assessing VMT impacts of infrastructure projects under review by the planning department.[111] These guidelines are consistent with the CEQA statute and guidelines and expand upon the Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA. The SF transportation guidelines state that a project will result in a significant VMT impact if it causes substantial additional VMT or substantially induces additional automobile travel by increasing physical roadway capacity in congested areas or by adding new roadways to the network.

The SF transportation guidelines include a list of transportation projects that would not substantially induce automobile travel. If a project's transportation features fit within the general types of transportation projects (including combinations of types) identified by the department as projects that do not generate trips and would not increase vehicle travel, then the department presumes that VMT impacts would be less than significant. These types of transportation components/projects include active transportation, rightsizing, transit projects, and other minor transportation projects identified in the SF transportation guidelines.[112]

Freight and Passenger Loading

The analysis assesses the potential for convenient off- and on-street commercial vehicle/freight and passenger loading facilities to meet the project's operations loading demand. Most of the project or project variant components would generate no new freight or passenger loading trips; some deliveries of materials

[108] San Francisco Planning Department, Transportation Impact Analysis Guidelines, https://sfplanning.org/project/transportation-impact-analysis-guidelines-environmental-review-update#impact-analysis-guidelines, Appendix I of the SF transportation guidelines describe the transit delay screening criteria.
[109] California Office of Planning and Research, Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013), January 20, 2016, https://opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf, accessed July 23, 2024.
[110] California Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed July 23, 2024.
[111] San Francisco Planning Department, San Francisco Transportation Impact Analysis Guidelines, Appendix L Vehicle Miles Traveled (VMT)/Induced Automobile Travel, pp. L-11 and L-12, October 2019.
[112] San Francisco Planning Department, San Francisco Transportation Impact Analysis Guidelines, Appendix L Vehicle Miles Traveled (VMT)/Induced Automobile Travel, Attachment A Screening Criteria (SB743 Checklist), October 2019.

are anticipated to occur at the proposed operations control center and the operations and maintenance yards components.

If convenient (i.e., on-site or on-street commercial vehicle/freight yellow zones or white passenger zones) freight and passenger loading facilities meet the estimated demand, the analysis is complete. If convenient loading facilities do not meet the demand (i.e., the demand for loading spaces cannot be accommodated within the supply and would therefore result in a loading deficit), then the analysis qualitatively addresses the potential for the project to exacerbate an existing or create a new potentially hazardous condition for people walking, bicycling, or driving, or to substantially delay public transit.

Cumulative Conditions

Section 3.1.5, Approach to Cumulative Impact Analysis and Cumulative Projects, describes the overall approach used in this EIR to conduct the cumulative analysis; refer to Table 3.1-3 and Figures 3.1-1 and 3.1-2 for descriptions and locations of potential cumulative projects in the vicinity of the project. The cumulative conditions analysis for transportation topics uses a list-based approach. The assessment of cumulative construction impacts assesses whether the project or project variant, combined with other cumulative projects, would significantly affect the transportation network in the geographic context, and if so, whether the project or project variant's contribution to the cumulative impact would be considerable.

E.6.5 IMPACTS AND MITIGATION MEASURES

Impact TR-1: Construction of the project or project variant would require a substantially extended duration; however, the effects of which would not create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with emergency access or accessibility for people walking or bicycling; or substantially delay public transit. ***(Less than Significant)***

Construction Requirements Considered in the Analysis

Construction activities in San Francisco that have the potential to affect the transportation network are subject to the SFMTA blue book and public works code sections 724 and 2.4.20, and public works order 167,840. In addition, as specified in the SFMTA blue book, all traffic control, warning and guidance devices must conform to the California Manual on Uniform Traffic Control Devices.[113] The SFMTA blue book, public works orders and the California Manual on Uniform Traffic Control Devices regulations establish traffic operations and management rules during construction for working safely and causing the least possible interference with people walking, bicycling, taking transit and/or transit operations, as well as people driving near the construction area. In addition to the above requirements, the contractor would be responsible for complying with city, state and federal codes, rules and regulations that are applicable to construction activities.

The SFMTA blue book identifies the different types of permits issued by public works, the SFMTA and other agencies. For example, permits issued by public works include excavation permits for any excavation work within the public right-of-way, temporary occupancy permits for work that involves the use of the sidewalk, street space permits for work that involves the use of the sideway for project construction. If project construction activities are not able to comply with the requirements of the SFMTA blue book, SFPUC or its construction contractor must apply for a special traffic permit from the SFMTA. In this situation, SFMTA staff

[113] California Department of Transportation, *California Manual on Uniform Traffic Control Devices*, 2014 Edition, Revision 8 (January 2024), https://dot.ca.gov/programs/safety-programs/camutcd accessed July 23, 2024.

would specify project-specific conditions in the special traffic permit for safe travel in and around the project areas. Examples of the types of work addressed through special traffic permits include sidewalk, alley, and street closures, inability to provide the required number of travel lanes and/or alternate one-way traffic operations, working within one block of an existing construction area, temporary relocation of transit stops and/or routes, and closing or detouring a bicycle lane or route.

In addition to the SFMTA blue book requirements, construction activities would need to comply with the City of Brisbane and City of Daly City encroachment permit requirements for work conducted within its borders, Caltrans encroachment permit requirements and other permits, and BART requirements for review of design and construction documents for construction activities within BART systems zone of influence (see descriptions in Regulatory Setting above). In addition, as described in Chapter 2, Project Description, Section 2.5.5, Construction Coordination, the SFPUC would oversee coordination, implementation and adjustment of project-specific construction management plans developed for the different project components, including coordination with the City of Brisbane, the City of Daly City, Caltrans, and/or BART, as appropriate, and also require its contractors to develop a plan for notifications and a process for communicating with affected residents and businesses prior to the start of construction.

Prior to construction, as part of the permit process, the SFPUC or its contractor would be required to meet with appropriate SFMTA Transportation Engineering and local agency personnel to develop a construction management plan that conforms to the SFMTA blue book, City of Daly City and/or City of Brisbane requirements, as appropriate, for the overall project proposed to be under construction at the same time**.** Furthermore, all traffic control, warning and guidance devices must conform to Part 6-Temporary Traffic Control of the California Manual on Uniform Traffic Control Devices. The elements of the construction management plan would include (specific section of the SFMTA blue book and/or San Francisco Transportation Code, San Francisco Public Works Code, City of Brisbane Municipal Code, or City of Daly City Municipal Code are noted in parentheses):

- restrictions on travel lane closures (SFMTA blue book Section 2 and Section 3),
- circulation and detour routes (SFMTA blue book Section 3),
- advance warning signage (SFMTA blue book Section 3),
- construction truck routes that comply with the San Francisco Transportation Code Article 500 – Size, Weight, Load Restrictions,[114] City of Daly City Municipal Code Chapter 10.60 – Load Limits,[115] and City of Brisbane Municipal Code Chapter 10.28 – Truck Routes,[116]
- temporary bus stop relocations (SFMTA blue book Section 7),
- maintenance of pedestrian and bicycle access and circulation (including detour routes, as appropriate) (SFMTA blue book Section 5 and Section 9),
- designation of staging areas, as necessary. A street occupancy or encroachment permit is required for occupying any part of the street or sidewalk for construction operations (San Francisco Public Works

[114] San Francisco Transportation Code, Article 500, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_transportation/0-0-0-52499, accessed October 7, 2024.
[115] City of Daly City Municipal Code, https://library.municode.com/ca/daly_city/codes/code_of_ordinances?nodeId=DALY_CALIFORNIAMUCO, accessed October 7, 2024.
[116] City of Brisbane Municipal Code, https://library.municode.com/ca/brisbane/codes/municipal_code, accessed October 7, 2024.

Code, Section 724, City of Brisbane Municipal Code Section 12.04, and Chapter 12 of the City of Daly City Municipal Code),

- scheduling and monitoring of construction vehicle movement, including the possibility of assigning SFMTA Parking Control Officers or SFPD Officers assigned to provide traffic control services (SFMTA blue book Section 10), and
- coordination with public service providers such as fire, police, schools, hospitals, and transit (SFMTA blue book Section 3 and Section 8).

The construction management plan(s) would also include protocols to always accommodate emergency vehicle access, such as placing steel plates over excavations, short detours and alternative routes in conjunction with local agencies. The construction management plan(s) would serve to inform city (i.e., City of Brisbane, City of Daly City and San Francisco), county, and state agencies (e.g., Caltrans and BART) of project construction and to minimize temporary transportation effects in the vicinity of the construction areas. Prior to implementation, the SFMTA and SFMTA's multi-agency Transportation Advisory Staff Committee (TASC) would review the construction management plan, including its procedures to minimize localized construction impacts on the transportation network.

Proposed Project Construction Impacts

The construction-related transportation impacts analysis first presents an overview of the types of potential construction impacts and summarizes construction activities associated with the proposed project. This is followed by an assessment of the project construction activities for each element of the construction impact criteria, including duration and intensity, potentially hazardous conditions and accessibility (including emergency access), and public transit delays. The assessment is first presented for the proposed project by project component, followed by an assessment of the new City Substation (project variant).

Overview of Construction Activities Affecting the Transportation Network

General construction activities result in temporary conditions, and usually do not result in permanent changes to the transportation circulation network. Construction-related vehicles traveling to and from the project construction work area would share the surrounding roadways with other vehicles, as well as with bicyclists and people walking. In general, increased construction traffic from any project could result in potential conflicts between construction trucks (which have slower speeds and wider turning radii than automobiles) and automobiles, bicyclists, and people walking. Construction truck movements during periods of peak traffic flow would have a greater potential to create conflicts than truck movements during non-peak hours because of the greater number of vehicles on the streets. In addition, construction activities from any project could result in physical obstructions to the public right-of-way that could interfere with emergency access or accessibility for people walking, bicycling, driving; create hazardous conditions; or result in delays to transit.

As described above, construction activities that affect the transportation network would be conducted in accordance with the SFMTA blue book, and City of Daly City and City of Brisbane encroachment permit requirements, as appropriate. Temporary sidewalk, parking lane, bicycle lane, and/or travel lane closures would be required for construction of some project components for construction or staging of equipment and materials. If temporary closures or partial or complete street closures are required, the construction management plan for the project would specify how access for people walking, bicycling, driving and

emergency access would be maintained with the requirements of the SFMTA blue book and related project-specific directives issued by the SFMTA, City of Brisbane, City of Daly City, and/or San Mateo County.

Construction activities would proceed at multiple work areas concurrently, with two crews working concurrently on each of the major components (i.e., Martin Substation separation, distribution express feeders, local distribution system separation, and system reinforcements). Construction activities would be distributed across the regional and local roadway network instead of being concentrated in one location. See Figure 2-1 for locations of where construction would occur. It is possible that at some locations work on two components could overlap spatially in the same general area (e.g., system reinforcements and local distribution system separation in the Central Area).

Construction activities, including haul trucks and materials delivery trucks, would primarily occur during daytime hours, as specified by each affected jurisdiction's noise ordinance construction time limits. As described in Section 2.5.2.1, Overview, construction activities are expected to generally occur over a single shift primarily during daytime hours between 7 a.m. and 7 p.m., five days a week, on normal (non-holiday) weekdays (Monday through Friday). Construction could periodically extend into the evening hours to maintain the schedule and may occur at night at the Martin Substation (e.g., tasks such as outage switching, cable splicing, electrical connections, low-voltage wiring, and relay setting adjustment described in Section 2.5.2.2, Night Construction). The construction duration of each project component would range between one month (i.e., modifications to retain PG&E access) and 33 months (i.e., Martin Substation separation). According to the SF transportation guidelines, the total duration of the project is considered "extended" (i.e., more than 30 months).

Figure 2-10 presents the primary vehicle access for construction haul trucks and delivery trips. The primary vehicle access routes to the Martin Substation would be Geneva Avenue to Bayshore Boulevard to U.S.101. The vehicle access to the alignment for other system separation work areas would include Geneva Avenue and Bayshore Boulevard to U.S. 101, as well as other regional roadways such as I-280, Alemany Boulevard and Junipero Serra Boulevard.

Martin Substation Separation

Construction Duration and Intensity

Construction of the Martin Substation separation component would occur over a 33-month period, which is considered an extended duration. Construction of the Martin Substation separation component would not be considered intense as it relates to the transportation network because construction activities would occur within the existing Martin Substation, and no work or construction staging would occur within the adjacent sidewalk, parking lane or travel lanes on Geneva Avenue or Bayshore Boulevard. The existing Daly City Yard located directly adjacent to the Martin Substation would serve as the primary staging and laydown area for separation work at the Martin Substation. Furthermore, as shown in Table 7, during the peak period of construction, there would be approximately 12 truck trips and 16 construction worker vehicle trips to and from the site per day (i.e., 28 daily construction vehicle trips), and about 10 construction vehicle trips during the a.m. and p.m. peak hours. This would not be considered a substantial increase in daily or peak hour vehicles on area roadways such as Bayshore Boulevard or Geneva Avenue given the existing daily volumes of vehicles on these roadways (i.e., between 400 and 990 peak hour vehicles each way).

Potentially Hazardous Conditions and Accessibility During Construction

During construction at the Martin Substation, the adjacent sidewalks, bicycle lanes and travel lanes on Geneva Avenue and Bayshore Boulevard would not be used for construction activities or construction staging. Existing driveways to the Martin Substation and Daly City Yard, including at the intersection of Allan Street/Geneva Avenue would be used for vehicular access (i.e., for the 28 daily construction vehicle trips). Therefore, construction activities associated with the Martin Substation separation would not create potentially hazardous conditions or otherwise interfere with accessibility for people walking or bicycling near the Martin Substation, nor interfere with emergency access.

Potential Public Transit Delays During Construction

As noted above, construction activities would occur within the existing Martin Substation and therefore would not affect public transit operations on Geneva Avenue or Bayshore Boulevard. Transit operations and bus stops adjacent to the Martin Substation would be maintained throughout construction. The minimal additional construction-related vehicles (i.e., 10 construction vehicle trips during the peak hours) could result in temporary and localized congestion on these streets; however, construction would not substantially increase vehicle congestion to the extent that significant delays to transit operations would occur.

Overall, construction activities associated with the Martin Substation separation would be temporary and would not involve a substantial intense activity that would affect the transportation network and would be conducted in accordance with city requirements. Therefore, construction of the Martin Substation separation component would not result in potentially hazardous conditions for people walking, bicycling, or driving, or interfere with emergency access or accessibility for people walking and bicycling during construction, or substantially delay transit.

Distribution Express Feeders

Construction Duration and Intensity

Construction of the distribution express feeders would occur over a 12-month period, which is not considered an extended duration. Construction activities would be phased along a 3.8-mile alignment, and therefore construction activities at any one segment under construction would be of shorter duration (construction would proceed at approximately 40 feet per day).

Construction of the distribution express feeders would not be considered intense as it relates to the transportation network, as construction activities at any one location would be limited in duration and would occur primarily within temporarily closed travel lanes and bicycle lanes. These temporary closures would be phased as construction proceeds along the approximately 3.8-mile alignment. Where Sickles Avenue connects with Sagamore Street, a trenchless method may be used to cross San Jose Avenue. Construction of the distribution express feeders would generally proceed at approximately 40 feet per day. As shown in Table 7, on average, there would be approximately 40 truck trips and 20 construction worker trips to and from the work area per day (i.e., 60 daily construction vehicle trips), and about 16 construction vehicle trips during the a.m. and p.m. peak hours. This would not be considered a substantial increase in daily or peak hour vehicles on roadways along the alignment such as Bayshore Boulevard or Geneva Avenue given the existing daily volumes of vehicles on these roadways.

Potentially Hazardous Conditions and Accessibility During Construction

As noted above, construction of the distribution express feeders would require sidewalk and travel and parking lane closures, as well as bicycle lane closures on streets where bicycle lanes exist between the parking and travel lanes (i.e., on Geneva Avenue, Alemany Boulevard, Sagamore Street and Brotherhood Way). These temporary lane closures for construction of the distribution express feeders would be phased as construction proceeds along the approximately 3.8-mile alignment. Construction activities along the alignment would occur one or two blocks at a time, and temporary sidewalk and lane closures would proceed along the alignment in that fashion. Local vehicular access would be preserved on streets by maintaining at least one open lane in each direction, supplemented with the presence of flaggers to direct traffic consistent with SFMTA blue book, and City of Brisbane and City of Daly City encroachment permit requirements.

Pursuant to the SFMTA blue book, on weekdays no work resulting in shifting or closing travel lanes is allowed from 4 p.m. to 7 p.m. on Alemany Boulevard and on Geneva Avenue between Schwerin and Paris streets, from 7 a.m. to 9 a.m. and from 4 p.m. to 7 pm on Geneva Avenue between Paris Street and Ocean Avenue, and from 7 a.m. to 9 a.m. and from 3 p.m. to 7 p.m. on Brotherhood Way, and from 7 a.m. to 9 a.m. and 4 p.m. to 7 p.m. on the northbound direction and from 4 p.m. to 7 p.m. in the southbound direction on Bayshore Boulevard north of Geneva Avenue. [117] The SFPUC would comply with these SFMTA blue book restrictions on travel lane closures and the project-specific traffic control requirements of the SFMTA traffic engineer.

Geneva Avenue, Alemany Boulevard, Sagamore Street and Brotherhood Way have two travel lanes each way, and two-way traffic operations could be maintained by reducing the number of travel lanes from two to one or by using a center turn lane or opposing travel lane to accommodate vehicle flow in lieu of the closed travel lane as specified in the SFMTA blue book and the City of Daly City and City of Brisbane encroachment permit requirements. Because it is not currently known on which side of the roadway the distribution express feeders would be installed, the transportation assessment reviewed peak hour traffic conditions with travel lane closures on either side of the street. The assessment compared the peak hour traffic volumes to the travel lane capacities[118] for the following streets:

- Along Geneva Avenue if one eastbound travel lane is closed for construction, in most locations between Bayshore and Alemany boulevards the remaining eastbound travel lane could accommodate the total eastbound traffic. If one westbound travel lane is closed, the remaining westbound lane could accommodate the total westbound traffic on Geneva Avenue west of Schwerin Street. On Geneva Avenue, the segment between Schwerin Street and Bayshore Boulevard is within Brisbane and the SFMTA blue book restrictions for shifting or closing travel lanes during the a.m. and p.m. peak periods do not apply and the City of Brisbane does not have any peak period lane closure during construction restrictions on Geneva Avenue. In this segment, both westbound travel lanes are needed to accommodate peak hour traffic due to the proximity to Bayshore Boulevard and U.S.101. It may be possible to temporarily close the eastbound bicycle and/or parking lanes in this segment and shift all travel lanes to the south in order to maintain two westbound travel lanes during construction.

[117] SFMTA Blue Book, Table 1, Streets of Major Importance, Available online at https://www.sfmta.com/media/34435/download?inline Accessed June 12, 2024. On streets of major importance, no work resulting in shifting or closing travel lanes is allowed during the specified hours. The contractor is not allowed to leave any hole, debris, or material/equipment in the travel lanes, including tow-away lanes, during the specified hours.
[118] See traffic volume to travel lane capacity calculations for selected distribution express feeders segment in Appendix G.

- Along Alemany Boulevard, northbound and southbound traffic volumes could be accommodated within a single lane after closure of either one northbound or one southbound travel lane.
- Along Sagamore Street, because SFMTA blue book requires maintaining at least one travel lane in each direction, it is anticipated that the eastbound lane would be maintained during construction for access to residences on the south side of the street and as to not detour the 54 Felton bus route from Sagamore Street. Because two travel lanes are needed to accommodate peak period westbound traffic, it may be possible to temporarily close the bicycle and parking lanes on both sides of the street and shift the travel lanes to the south in order to maintain two westbound through travel lanes during construction.
- Along Brotherhood Way, the eastbound and westbound portions of the road are separated by a physical landscaped median. Due to high vehicle volumes traveling both ways, the closure of a travel lane in either direction would likely require detours to local, nearby streets to avoid high levels of congestion (e.g., detour to Alemany Boulevard). Alternatively, it may be possible to maintain two lanes either way during construction by temporarily closing the existing bicycle lane and its adjacent 5-foot buffer zone and narrowing the travel lanes. Huron and Sickles avenues only have one travel lane each way, and construction of the distribution express feeders would require implementation of alternate one-way traffic operations to provide local access. The determination whether travel lane closures would be required would be made after construction alignment plans are developed and during the development of the construction management plan.

Temporary travel lane closures during construction would not create hazardous conditions because they would comply with requirements of the SFMTA blue book and temporary traffic control devices (e.g., signs, flaggers) in accordance with the provisions set forth in the California Manual on Uniform Traffic Control Devices.

Because construction of the distribution express feeders within Sickles Avenue between Alemany Boulevard and San Jose Avenue would occur in the I-280 right-of-way and within the BART zone of influence (i.e., under the I-280 freeway and BART tracks), the project would be subject to Caltrans and BART construction requirements. The SFPUC would coordinate with Caltrans and BART as needed to acquire permits and would be required to follow procedures and conform to standards set forth by Caltrans and BART with regard to construction within the easement/zone of influence areas.[119,120]

The construction management plan would include details related to construction activities including construction hours, locations and times when the various lane closures would occur, and a detour program, where required. As part of the construction management plan, protocols would be identified to always maintain access to residences, businesses and emergency service providers. Travel lane closures would only occur during daytime hours, as the construction contractor would be required per the SFMTA blue book and City of Brisbane and City of Daly City encroachment permit requirements to use steel plates to restore vehicle access at the end of each workday. On roadway segments with striped bicycle lanes, it is likely that bicycle lanes would be closed for the duration of construction, and bicyclists would need to share the travel lane with vehicles. Temporary bicycle lane closures during construction would not create hazardous conditions because they would comply with requirements of the SFMTA blue book, City of Brisbane and City of Daly City encroachment permit requirements, and the California Manual on Uniform Traffic Control Devices.

[119] Caltrans Encroachment Permits, https://dot.ca.gov/programs/traffic-operations/ep, accessed July 23, 2024.
[120] BART Applications for Construction Permits, https://bartca.portal.opengov.com/categories/1085/record-types/1006478, accessed July 23, 2024.

People Walking. There are sidewalks on all streets along the distribution express feeders alignment except on Brotherhood Way where there is an off-street path within Brotherhood Way Open Space parallel to the roadway. Construction activities may require temporary sidewalk closures in the segment under construction, and people walking would be detoured to the nearest intersection. The construction management plan would include measures required to maintain pedestrian circulation through the work area for people walking. Where complete sidewalk closures are required, alternative pedestrian access walkways and detours would be implemented with adequate signage. For all pedestrian facilities, the alternate path of travel would be required to meet the minimum width to maintain ADA compliance.

Sidewalk closures may require temporary changes to transit stops on Geneva Avenue and Sagamore Street, such as relocation or temporarily discontinued stops, if authorized by SFMTA. This would increase the travel distance for people walking and may be an inconvenience to some people walking; however, access to existing or relocated public transit stops along the alignment would be maintained. As part of the construction management plan, the SFPUC or its contractor(s) would be required to post appropriate signage, indicating temporarily discontinued stops and temporary new stops.

People Bicycling. There are class II and/or class III bicycle facilities on Geneva Avenue, Alemany Boulevard, Sagamore Street and Brotherhood Way (Huron and Sickles avenues do not have any bicycle facilities). On streets with two travel lanes each way (e.g., Geneva Avenue, Alemany Boulevard, Sagamore Street, Brotherhood Way), the temporary parking, bicycle, and/or travel lane closures required to install the distribution express feeders would reduce the roadway capacity and require all vehicles and bicyclists to use the remaining travel lane. On Sickles and Huron avenues with one travel lane each way, alternate one-way traffic operations would likely be required, and bicyclists would also share the travel lane with vehicles.

The construction management plan would indicate the use of flaggers, and installation of warning and detour signs advising motorists of changed conditions and/or to follow appropriate detour routes well in advance of the temporary closure. Thus, construction activities would not interfere with accessibility for people bicycling. Advance warning signs stating “Share the Road” would be posted for the safety of bicyclists.

Emergency Access. As described above, temporary travel lane closures would be reviewed by SFMTA and TASC, as well as the City of Brisbane and the City of Daly City, so that emergency access is not impaired in the project areas. In addition, in some instances, emergency vehicles would be able to use other east-west or north-south arterials to reach their destination (e.g., travel on Alemany Boulevard rather than on Brotherhood Way). Pursuant to the SFMTA blue book and City of Brisbane and City of Daly City encroachment permit requirements, SFPUC or its contractor(s) would be required to work identify any detour routes and locations where detour signs would be implemented and would incorporate the detour plans into the construction management plan. These detours would be reviewed by emergency service providers in San Francisco, the City of Brisbane and the City of Daly City, as applicable.

Thus, while construction could potentially result in increased congestion, it would not result in potentially hazardous conditions or substantially interfere with accessibility for people walking or bicycling, nor would it interfere with emergency access.

Potential Public Transit Delays During Construction

Public transit routes along the alignment for the distribution express feeders include the Muni 8AX Bayshore A Express, 8BX Bayshore B Express, 9 San Bruno, 9R San Bruno Rapid, 43 Masonic and 54 Felton bus routes

and SamTrans 24 and 29 routes on Geneva Avenue and Muni 54 Felton on Sagamore Street. Construction within these streets would result in a temporary reduction in the number of available travel lanes, and vehicles, including transit, would likely encounter increased congestion and delay in the remaining travel lanes. It is not currently known on which side of the roadway the distribution express feeders would be installed or which travel lanes would be closed during construction. The additional congestion and potential transit delay would occur only within the one or two blocks that would be under construction at one time. It is not anticipated that transit routes operating on these roadways would require rerouting, and therefore delays to bus routes due to route detours are not anticipated.

On Geneva Avenue the distribution express feeders alignment would extend between Alemany and Bayshore boulevards (the actual eastern terminus of the distribution express feeders alignment would be between Allan Street and Bayshore Boulevard adjacent to the Martin Substation). Overlap between Muni and SamTrans transit routes and the distribution express feeders alignment would vary and would range between 0.4 and 2.1 miles. The transit routes with the greatest amount of overlap with the distribution express feeders alignment include the Muni 8 Bayshore and 8BX Bayshore B Express routes between Alemany Boulevard and Santos Street, SamTrans 24 route between Alemany and Bayshore boulevards, and SamTrans route 29 between Prague Street and Bayshore Boulevard. Transit routes with the least amount of overlap with the distribution express feeders alignment include the Muni 8AX Bayshore A Express between Schwerin Street and Bayshore Boulevard (only if construction occurs along the eastbound side of the road), the Muni 9 San Bruno and 9R San Bruno Rapid routes between Santos and Schwerin streets, the Muni 43 Masonic between Alemany Boulevard and Naples Street, and the Muni 54 Felton between Alemany Boulevard and Moscow Street (refer to Appendix G).

As shown in Table 4, the a.m. and p.m. peak hour traffic volumes on Geneva Avenue along the distribution express feeders alignment are higher east of Schwerin Street and lower west of Schwerin Street. As described above, along Geneva Avenue west of Schwerin Street if either an eastbound or westbound travel lane is closed for construction, the remaining eastbound or westbound travel lane would be able to accommodate the total peak hour traffic volumes. Therefore, bus routes that run partially or completely within this segment of Geneva Avenue would not experience substantial congestion or delays. On Geneva Avenue east of Schwerin Street (i.e., between Schwerin Street and Bayshore Boulevard) peak hour traffic volumes are higher in the westbound direction than in the eastbound direction. Closure of a travel lane during construction in the westbound direction would result in greater congestion than if the eastbound travel lane were closed. As discussed above, it may be possible to temporarily close the existing eastbound bicycle and/or parking lanes in this one block of Geneva Avenue and shift all travel lanes to the south in order to maintain two westbound travel lanes during construction and minimize congestion and delays to transit.

As noted above, no weekday work resulting in shifting or closing travel lanes on Geneva Avenue in San Francisco is allowed on weekdays between 7 a.m. and 9 a.m. and between 4 p.m. and 7 p.m. on Geneva Avenue between Paris Street and Ocean Avenue, and between 4 p.m. and 7 p.m. on Geneva Avenue between Schwerin and Paris streets. The SFPUC would comply with these restrictions by not shifting or closing travel lanes during the specified periods, and therefore, there would be no construction-related delays to transit during construction within these segments of Geneva Avenue during the specified periods.

The Muni 54 Felton travels on Sagamore Street between Plymouth and Orizaba avenues (about 0.4 miles) where there are one eastbound and two westbound travel lanes. As described above, because the SFMTA blue book requires maintaining at least one travel lane each way during construction, it is anticipated that

the eastbound lane would not be closed during construction and therefore substantial congestion or delays to the Muni 54 Felton bus route in the eastbound direction would not occur. In the westbound direction of Sagamore Street, because two travel lanes are needed to accommodate peak period westbound traffic, it may be possible to temporarily eliminate the bicycle and parking lanes on both sides of the street and shift the travel lanes to the south in order to maintain two westbound through travel lanes at all times during construction. If it is not possible to provide two westbound travel lanes, it is likely that some traffic volumes would detour to Alemany Boulevard to avoid congestion, which would reduce traffic volumes on westbound Sagamore Street. However, even with some reduction in traffic volumes on Sagamore Street the Muni 54 Felton route in the westbound direction would experience some additional congestion and delays. During preparation of the project's construction management plan(s), the SFMTA may require limiting peak period travel lane closures on Sagamore Street, which would further reduce the potential for transit delays during peak periods of transit service.

Overall, construction activities associated with the distribution express feeders would be temporary and would not involve a substantial intense activity that would affect the transportation network and would be conducted in accordance with City of San Francisco, City of Brisbane, and City of Daly City construction requirements. Therefore, construction of the distribution express feeders would not result in potentially hazardous conditions for people walking, bicycling, or driving, or interfere with emergency access or accessibility for people walking and bicycling during construction, or substantially delay transit.

Local Distribution System Separation and System Reinforcements

Construction of the local distribution system separation and the system reinforcements are assessed together because, in general, while the two components serve different purposes, construction work activities such as trenching and installation of underground components or installation of overhead equipment and related work would be similar for both components. Construction work on both components would primarily occur within public roadways or sidewalks, or on existing poles and lines, and would involve similar construction equipment. Work on the local distribution system separation and the system reinforcements would be conducted along the San Francisco-San Mateo County border and in and around San Francisco, Brisbane, Daly City and in unincorporated San Mateo County as shown on Figures 2-7 and 2-8.

Construction Duration and Intensity

The local distribution system separation would occur over a 24-month period, while construction of the system reinforcements would be constructed over a 28-month period. These construction durations are not considered an extended duration.

Construction activities for both components would be similar to routine utility operations and maintenance activities and would not be considered intense as it relates to the transportation network for the following reasons:

- **Local Distribution System Separation.** Local distribution system separation would involve construction within approximately 70 work areas including underground and overhead work within three major areas along the San Francisco-San Mateo County border (section 2.4.3), although the precise work areas and types of construction activities are not currently known (see Figure 2-7). Work would occur within roadways, sidewalks and existing poles. Local distribution system separation would proceed at approximately 40 feet per day, and as shown in Table 7, on average there would be approximately 4 truck trips and 20 construction worker trips to and from the work area per day (i.e., 24 daily construction

vehicle trips), and about 12 construction vehicle trips during the a.m. and p.m. peak hours. This would not be considered a substantial increase in daily or peak hour vehicles on area roadways.

- **System Reinforcements.** Construction of system reinforcements would occur within approximately 25 work areas, involving underground and overhead work dispersed throughout the border regions, although the precise work areas and types of construction activities are not currently known. See Figure 2-8. As shown in Table 7, on average there would be approximately 12 truck trips and 16 construction worker trips to and from the work area per day (i.e., 28 daily construction vehicle trips), and about ten construction vehicle trips during the a.m. and p.m. peak hours. This would not be considered a substantial increase in daily or peak hour vehicles on area roadways.

Potentially Hazardous Conditions and Accessibility During Construction

A portion of the work areas for the local distribution system separation and system reinforcements would be within roadways that generally have one travel lane each way and construction equipment and materials would be staged within the parking lane and on sidewalks. On streets with one travel lane each way, one-way alternate traffic operations would be required. Local vehicular access would be preserved near the work area by maintaining at least one open travel lane at all times, supplemented with the presence of flaggers to direct traffic. Access for people walking and bicycling, driving and emergency access would be maintained, depending on the construction locations, consistent with the requirements of the SFMTA blue book, any project-specific measures identified by the SFMTA during the special traffic permit process, and City of Brisbane and City of Daly City encroachment permit requirements.

Due to the limited duration of construction activity at any one work area and low volumes of people walking and bicycling on local, primarily residential, streets, construction activities would not substantially interfere with accessibility or create potentially hazardous conditions for people walking or bicycling in the area. Replacing lines between backyards or residential parcels for both components would require access from the roadways or through residential parcels after receiving necessary access permission from property owners. As part of the construction management plan, protocols would be identified to always maintain access to residences, businesses and emergency service providers.

Consistent with the requirements of the SFMTA blue book and City of Brisbane and City of Daly City encroachment permit requirements, emergency access on all streets affected by project construction activities would be maintained throughout construction, similar to existing conditions. Therefore, construction of the local distribution system separation and system reinforcements would not substantially affect emergency access.

Potential Public Transit Delays During Construction

The precise location of work areas for the local distribution system separation and system reinforcements are not currently known. A portion of the work areas may be on streets with local transit service; however, based on the existing transit network on either side of the San Francisco-San Mateo County border, most residential streets do not contain transit routes. Construction within travel lanes on streets with transit routes may require temporary travel lane closures that would result in additional vehicles in the remaining lanes or alternate one-way traffic operations along the construction work area, both of which could result in transit delays. However, the decrease in transit travel speeds would be temporary and for a limited distance at any one time (about 100 to 400 feet at a time on one street) and would not represent a substantial increase in overall transit travel times.

Overall, construction activities would be temporary and would not involve a substantial intense activity that would affect the transportation network and would be conducted in accordance with city requirements. Therefore, construction of the local system separation and system reinforcements would not result in potentially hazardous conditions for people walking, bicycling, or driving, or interfere with emergency access or accessibility for people walking and bicycling during construction, or substantially delay transit.

Other Separation Components

Construction of the modifications to retain PG&E access to non-electrical facilities, operations and maintenance service yards, and operations control center are assessed together because, in general, construction work activities would be minor and would require very limited excavation within public roadways and/or sidewalks.

Construction Duration and Intensity

Construction duration of other separation components would range between one month and 14 months: construction of modifications to retain PG&E access would occur over a one-month period, construction of operations and maintenance yards would occur over a two-month period, while construction of the operations control center would occur over a 14-month period (although exterior work would be completed in 2 months). These construction durations are not considered an extended duration.

Construction of the modifications to retain PG&E access to non-electrical facilities, operations and maintenance service yards, and operations control center would not be considered intense as it relates to the transportation network and construction would not result in a substantial increase in daily or peak hour vehicles on area roadways. Construction activities for these components would not be considered intense as it relates to the transportation network for the following reasons:

- **Modifications to Retain PG&E Access to Non-Electrical Facilities.** Construction of modification to retain PG&E access would occur within existing substations and would include installation of fencing and add or relocate driveways to allow PG&E access to its non-electrical facilities. During construction there would be an average of 6 truck trips and 10 construction worker trips to and from the substations per day (i.e., 16 daily construction vehicle trips), and about 7 construction vehicle trips during the a.m. and p.m. peak hours (see Table 7).
- **Operations and Maintenance Service Yards.** During construction of fencing and gates at the operations and maintenance service yards there would be on average 4 truck trips and 10 construction worker trips to and from the work area per day (i.e., 14 daily construction vehicle trips), and about seven construction vehicle trips during the a.m. and p.m. peak hours (see Table 7).
- **Operations Control Center.** Modification of an existing building to house a centralized operations control center would primarily involve interior construction (i.e., tenant improvements) and would result in an average of 16 truck trips and 34 construction worker trips to and from the site per day (i.e., 50 daily construction vehicle trips), and about 19 construction vehicle trips during the a.m. and p.m. peak hours (see Table 7).

Potentially Hazardous Conditions and Accessibility During Construction

Installation of fencing and gates and relocation or installation of new driveways at existing substations and existing or new maintenance and storage yards, and interior/exterior improvements (e.g., utility upgrades, emergency generators) and new curb cuts at the new operations control center would require very limited excavation within public roadways and/or sidewalks and construction activities would be of limited

duration. The construction management plan would include measures to maintain safety and accessibility to nearby land uses and all modes of travel, and therefore construction activities would not create potentially hazardous conditions or otherwise interfere with accessibility for people walking or bicycling nearby the work areas, nor interfere with emergency access.

Potential Public Transit Delays During Construction

Installation of fencing and gates and relocation or installation of new driveways at Potrero and Martin Substations and operations and maintenance service yards would minimally impede circulation on the adjacent roadways and would typically not require travel lane closures or rerouting of bus routes. Therefore, substantial delays to public transit are not anticipated as part of these project components.

Therefore, construction of the other separation components would not result in potentially hazardous conditions for people walking, bicycling, or driving, or interfere with emergency access or accessibility for people walking and bicycling during construction, or substantially delay transit.

New City Substation (Project Variant) Construction Impacts

Instead of the proposed project's Martin Substation separation component, the project variant includes construction of a new City Substation at the existing Daly City Yard (i.e., adjacent to the existing Martin Substation). All other components of the project variant would be the same as those for the proposed project. Impacts of these other components of the project variant would be the same as described above for the proposed project and would not result in significant construction-related transportation impacts. The following presents the construction impact analysis for the new City Substation component of the project variant.

Construction Duration and Intensity

Construction of the new City Substation would occur over a 26-month period, which is not considered an extended duration. Construction of the new City Substation would not be considered intense as it relates to the transportation network because the majority of construction activities and staging would occur within the existing Daly City Yard and within the existing Martin Substation. However, unlike the Martin Substation separation, construction of distribution and transmission lines to connect the new City Substation to infrastructure in Bayshore Boulevard would occur within the roadway on Geneva Avenue and on Bayshore Boulevard adjacent to the Martin Substation (see Figure 2-11). During the peak period of construction (i.e., during concrete pours for new substation structures), there would be approximately 54 truck trips and 16 construction worker trips to and from the site per day (i.e., 70 daily construction vehicle trips), and about 16 construction vehicle trips during the a.m. and p.m. peak hours. This would not be considered a substantial increase in daily or peak hour vehicles on area roadways such as Bayshore Boulevard or Geneva Avenue given the existing daily and peak hour volumes of vehicles on these roadways (i.e., between 400 and 990 peak hour vehicles each way on Geneva Avenue west of Bayshore Boulevard and 430 and 980 peak hour vehicles on Bayshore Boulevard south of Geneva Avenue).

Potentially Hazardous Conditions and Accessibility During Construction

The existing driveways to the Daly City Yard on Geneva Avenue (at Allan Street) and on Schwerin Street would be used for construction vehicular access, and construction staging would also occur within the Daly City Yard. Construction of the new City Substation would not require construction activities or staging on sidewalks, bicycle lanes and travel lanes on Geneva Avenue. However, the project variant also includes construction of new underground transmission lines within the roadway network to connect the new substation to the existing

transmission and distribution lines on Geneva Avenue and on Bayshore Boulevard. To construct these lines, temporary closures of the sidewalk, parking lane and one travel lane along Geneva Avenue between Allan Street and Bayshore Boulevard (about 1,300 feet) and the sidewalk, parking lane, bicycle lane and one travel lane along Bayshore Boulevard for about 900 feet south of Geneva Avenue (i.e., adjacent to the existing Martin Substation) would occur. Construction along Geneva Avenue and Bayshore Boulevard would occur between 100 and 400 feet at a time and would occur over an approximately 12-month period.

Construction activities within Geneva Avenue and Bayshore Boulevard would be conducted in accordance with the SFMTA blue book and City of Brisbane encroachment permit requirements. The City of Brisbane encroachment permit requirements restrict construction work, traffic control, travel lane closures, and traffic detours on Bayshore Boulevard before 9 a.m. or after 4 p.m. (i.e., work is permitted only between 9 a.m. and 4 p.m.). The construction management plan would include measures to maintain safety and accessibility along Geneva Avenue and Bayshore Boulevard throughout construction for all ways of travel. Therefore, construction activities associated with the new City Substation would not create potentially hazardous conditions or otherwise interfere with accessibility for people walking or bicycling near the New City Substation, nor interfere with emergency access.

Potential Public Transit Delays During Construction

As noted above, construction activities for the new City Substation would require construction within Geneva Avenue and Bayshore Boulevard travel lanes, which would affect Muni and SamTrans bus routes traveling on these streets: the Muni 8AX Bayshore A Express route runs eastbound on Geneva Avenue between Schwerin Street and Bayshore Boulevard during the peak periods with eight-minute headways; the SamTrans route 292 runs in both directions on Bayshore Boulevard with 20 to 30-minute headways during the peak periods; the SamTrans routes 24 and 29 are school-oriented routes with one trip each on eastbound Geneva Avenue and southbound Bayshore Boulevard during the a.m. peak period.

The temporary closure of the one Geneva Avenue or Bayshore Boulevard travel lane during construction and the resulting detour of vehicles to the remaining lanes would result in somewhat slower travel speeds for all vehicles, including transit. The decrease in transit travel speeds would be for a limited distance at any one time (about 100 to 400 feet at a time on one street) and would not represent a substantial increase in overall transit travel times. The increase in transit travel times for the Muni 8AX Bayshore A Express and SamTrans 24 and 29 routes would be less if two eastbound travel lanes are maintained during construction. On Bayshore Boulevard, the City of Brisbane encroachment permit requirements allow travel lane closures only between 9 a.m. and 4 p.m., and therefore the SamTrans school-oriented routes 24 and 29 would not be affected (i.e., both southbound travel lanes on Bayshore Boulevard would be open for trips to the schools during the a.m. peak period, and project construction would not affect the northbound travel lanes used for the trips from schools). The SamTrans route 397 on Bayshore Boulevard provides express overnight regional service and would not experience delays due to the project variant's daytime construction activities; the construction contractor would be required to use steel plates to restore vehicle access on Bayshore Boulevard at the end of each workday.

During construction of the underground transmission lines within Geneva Avenue and Bayshore Boulevard, the bus stop for SamTrans routes on Bayshore Boulevard adjacent to the Martin Substation could need to be temporarily relocated or temporarily terminated (e.g., if pedestrian access to a relocated stop cannot be safely maintained). These temporary conditions would not substantially change the distance the bus route would need to travel or substantially increase vehicle congestion. Furthermore, as part of the construction

management plan, the SFPUC or its contractor(s) would be required to coordinate with SamTrans on any bus stop relocations and post appropriate signage, indicating temporarily discontinued stops and/or temporary new stops and issue rider alerts.

Conclusion

As described above, construction activities for many of the project or project variant components would not result in significant transportation impacts. For other construction activities that affect the transportation network, the SFMTA blue book and City and Brisbane and City of Daly City requirements and other city and state regulations require maintaining pedestrian circulation and implementing construction safety measures for people walking, bicycling, and driving to reduce such impacts. With implementation of these regulations, including the project's construction management plan, project or project variant construction would not result in potentially hazardous conditions for people walking, bicycling, or driving, or interfere with emergency access or accessibility for people walking and bicycling during construction, or substantially delay transit. The project or project variant's construction-related transportation impacts would, therefore, be ***less than significant***.

Mitigation: None required.

Impact TR-2: Operation of the project or project variant would not create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations or interfere with accessibility of people walking or bicycling to or from the project areas and adjoining areas, or result in inadequate emergency access. ***(Less than Significant)***

All Project Components

The project or project variant would not involve any permanent changes to the transportation network that would create potentially hazardous condition or interfere with accessibility. Where project construction is proposed within the roadway and sidewalk right-of-way (e.g., distribution express feeders), SFPUC would restore all removed curbs, curb ramps, gutters, and sidewalks; construct new accessible curb ramps; repave all removed or damaged paved surfaces; and restore to existing grade all areas disturbed for underground work. After construction is completed, the transportation network would be restored to existing conditions.

The operations and maintenance service yards, the operations control center, and modifications to retain PG&E access may include features such as new and reconstructed sidewalks adjacent to the sites to comply with SF Better Streets Plan requirements (e.g., if none exist today or if in poor condition). Any changes would be required to conform with City design standards and undergo review by City agencies and would therefore not create potentially hazardous conditions for people walking, bicycling, driving or for transit operations, or interfere with accessibility.

Furthermore, operation of the project or project variant would not generate activities or substantially increase person and vehicle trips on any one street that would interfere with access or circulation for people walking or bicycling or change street design that would impede emergency vehicles. After construction is completed, the streets on which distribution express feeders, local distribution system separation, and system reinforcements would be located (e.g., Geneva Avenue, Alemany Boulevard, Sagamore Street, Brotherhood Way) would continue to operate similar to existing conditions. New peak hour vehicle trips due

to operations at the operations control center (20 vehicle trips), and operations and maintenance service yards (156 vehicle trips) would not be substantial. Thus, compared to existing conditions, the project or project variant would not substantially change conditions for people walking, bicycling or for public transit, and emergency access routes would remain like existing conditions.

Overall, for the reasons described above, the project or project variant would not create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations, and would not interfere with accessibility of people walking, bicycling, or result in inadequate emergency access. Thus, the impacts of the project or project variant related to potentially hazardous conditions and accessibility would be ***less than significant***.

Mitigation: None required.

Impact TR-3: Operation of the project or project variant would not substantially delay public transit. ***(Less than Significant)***

All Project Components

None of the project components would result in permanent relocation or removal of any existing transit routes or removal of transit stops, and therefore would not change existing bus operations. In addition, the Martin Substation separation, distribution express feeders, local distribution system separation, system reinforcements, modifications to retain PG&E access, or new City Substation (project variant) would not generate substantial permanent vehicle trips in the vicinity of the overhead transmission lines and underground distribution lines and other equipment as to affect transit operations.

As shown in Table 9, during the a.m. and p.m. peak hours, the project or project variant would generate between 15 and 156 vehicle trips that would travel to and from 525 Golden Gate Avenue (15 vehicle trips), the operations and maintenance yards (156 vehicle trips), and the operations control center (20 vehicle trips). The increase in peak hour vehicle trips during both peak hours by individual component and combined would be less than 300-peak hour project vehicle trips screening criterion and therefore would not exceed the four-minute threshold of significance. Therefore, the project or project variant's impacts related to public transit delay would be ***less than significant***.

Mitigation: None required.

Impact TR-4: Operation of the project or project variant would not cause substantial additional VMT or substantially induce automobile travel. ***(Less than Significant)***

All Project Components

The project is an infrastructure project to implement various project components required for the City to take ownership of and to operate and maintain the electricity grid in San Francisco. Consistent with SF transportation guidelines for this type of utility project a qualitative assessment of VMT impacts is provided.

Once project construction is completed, most of the project or project variant components would be remotely operated and unattended on a typical daily basis and would not generate new substantial permanent travel

demand. The SFPUC would assume control of operations and maintenance activities for the electricity grid in San Francisco from PG&E (i.e., SFPUC employees would conduct the same activities currently being made by PG&E employees). The project or project variant would not substantially increase the number or type of operations and maintenance activities required to maintain the electricity grid, and therefore would not result in a substantial increase in vehicle trips in San Francisco. The operations control center in southeastern San Francisco would generate new vehicle trips due to the 35 new employees divided among three shifts, however, this increase would not be substantial compared to the total VMT generated within the planning department's Southern Bayshore planning district (i.e., less than one percent of total daily VMT; see Appendix G). Administration of the project or project variant would occur at the existing SFPUC office building at 525 Golden Gate Avenue, which is in an area of San Francisco that exhibits low VMT, and therefore would not cause substantial additional VMT.[121] Thus, any additional vehicle trips or VMT generated by the project or project variant would be negligible and would not result in substantial additional VMT.

The project or project variant does not include any transportation features or changes to the transportation network that would increase physical roadway capacity in congested areas or add roadways to the transportation-related public right-of-way.[122] Therefore, the project or project variant would not result in lower automobile travel times that would change trip making, ways of travel, routes and would not generate trips that could substantially increase vehicle travel or cause substantial additional VMT.

While some project or project variant components could include transportation features such as curb cuts, changes to on-street curb regulation (e.g., new red zones), and reconstructed sidewalks, these types of features fit within the general types of projects identified in the SF transportation guidelines that would not substantially induce automobile travel.[123]

Thus, for the reasons described above, impacts of the project or project variant related to VMT and induced automobile travel would be ***less than significant.***

Mitigation: None required.

Impact TR-5: Operation of the project or project variant would not result in a loading deficit. ***(Less than Significant)***

All Project Components

Implementation of the project or project variant would not remove any existing on-street commercial vehicle/freight or passenger loading zones. The Martin Substation, distribution express feeders, local distribution system separation, system reinforcements, modifications to retain PG&E access, and new City Substation (project variant) would not generate new commercial vehicle/freight or passenger loading demand during project operations. As described above, the proposed operations and maintenance yards

[121] SFPUC's existing 525 Golden Gate Avenue building is located within an area of the City (i.e., transportation zone 648) that meets the City's map-based screening for office land uses and meets the proximity to transit screening criteria. See San Francisco Transportation Impact Analysis Guidelines, Appendix L, Vehicle Miles Traveled (VMT)/ Induced Automobile Travel, Attachment A. https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=d7846dda8f994e3e1e72b28eb245c5834c80aab64f63a21eab9a41f82b4af63e&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed October 16, 2024.

[122] San Francisco Planning Department, *Executive Summary: Resolution Modifying Transportation Impact Analysis*, Appendix F, Attachment A, March 3, 2016.

[123] San Francisco Transportation Impact Analysis Guidelines, Appendix L, Vehicle Miles Traveled (VMT)/ Induced Automobile Travel, pp. L-15 and L-16

and operations control center would generate new loading demand, as would the additional administration employees at the existing SFPUC office building at 525 Golden Gate Avenue:

- The operations and maintenance yards would generate minimal passenger loading demand (i.e., a passenger loading space demand of less than one space during the peak hour) and would generate freight loading demand. Deliveries would be accommodated completely within the yards and therefore would not result in a freight loading deficit during these activities. The passenger loading demand would be accommodated within the yards, curbside, or within the travel lanes adjacent to the sites. Stopping within the travel lanes would not substantially affect people bicycling or transit operations, because there would be very few passenger loading events, which would also be of limited duration.
- The operations control center would generate minimal passenger loading demand (i.e., a passenger loading space demand of less than one space during the peak hour) and limited freight loading demand. Deliveries of materials would be accommodated within onsite loading facilities or on-street adjacent to the site and therefore would not result in a substantial loading deficit during these activities. The passenger loading demand would be accommodated curbside or within the travel lanes adjacent to the site. Stopping within the travel lanes would not substantially affect people bicycling or transit operations, because there would be very few passenger loading events, which would also be of limited duration.

The additional administration employees at the existing SFPUC office building at 525 Golden Gate Avenue would generate a passenger loading space demand of less than one space during the peak 15 minutes of the peak hour. The existing on-street passenger zones on Golden Gate Avenue and the on-street passenger zone in front of the building's Polk Street frontage would accommodate the additional passenger loading demand and therefore would not result in a passenger loading deficit. Therefore, operation of the project or project variant would not result in a loading deficit, and the project or project variant loading impacts would be ***less than significant.***

Mitigation: None required.

CUMULATIVE IMPACTS

Existing and probable future projects listed in Section 3.1.5, Approach to Cumulative Impact Analysis and Cumulative Projects, could contribute to cumulative impacts related to transportation and circulation. The geographic scope for the analysis of cumulative transportation impacts generally includes the sidewalks, roadways and transit network adjacent to the work areas and the project components.

Impact C-TR-1. Construction of the project or project variant, in combination with cumulative projects, would not result in significant construction-related transportation impacts. ***(Less than Significant)***

All Project Components

In the vicinity of the project components, construction of cumulative projects listed in Table 3.1-3 and indicated on Figure 3.1-1 may overlap with each other and the project or project variant construction period of 33 months and 26 months, respectively.[124] Like the project or project variant, sponsors and construction managers of cumulative projects would be required to: coordinate with various City departments, such as

[124] The assessment of potential overlap between construction of the project or project variant and the cumulative projects listed in Table 3.1-3 assumes a project or project variant construction start date of 2026.

the SFMTA, public works, and cities of Daly City or Brisbane; comply with the SFMTA blue book and City of Daly City and City of Brisbane regulations, as applicable; and coordinate any temporary sidewalk and travel lane closures to develop plans that would address construction-related vehicle routing, traffic control, access to adjacent land uses, transit operations, and movement of people walking and bicycling adjacent to the construction area. Consistent with SFMTA procedures, development of the construction management plan for the project or project variant would take into consideration other projects under construction in the area at the same time. For example, if construction periods do overlap for the project or project variant and the following cumulative projects, SFPUC would be required to obtain a special traffic permit from SFMTA prior to the commencement of any construction work and comply with all applicable requirements in the SFMTA blue book and public works code.

Some cumulative projects, including the Harney-U.S. 101 Transit Crossing Project, PG&E Egbert Switching Station Project, Midway Village Redevelopment, and the Pacific Place Retail Conversion project would be completed prior to initiation of construction of the project or project variant, and therefore would not overlap with construction of the project or project variant. The Brisbane Baylands Specific Plan is currently in the planning stages and because environmental review and project approvals would take multiple years to complete, construction is not expected to overlap with the near-term construction (i.e., 2026 to 2028) of the project or project variant. Furthermore, construction of the Brisbane Baylands development within the 570 acre site would occur over a period of many years. The Transbay Downtown Rail Extension project, Guadalupe Quarry Redevelopment project, 141 Third Avenue Residential project, Stonestown Development project, Future State 2035 San Francisco State University Campus Vision Plan, Parkmerced project, Westlake South Mixed-Use Project, and the Ocean Beach Climate Change Adaptation project would not overlap spatially with the project or project variant work areas. As a result, construction of these cumulative projects would not combine with the less-than-significant construction-related transportation impacts of the project or project variant.

Construction of the following project or project variant components could occur in the same time frame and vicinity as other planned and proposed cumulative projects. The potential for schedule overlap and potential construction-related transportation impacts by project component include:

- Construction of the **Martin Substation separation** under the proposed project (33 months construction duration) or the **new City Substation (project variant)** (26 months construction duration) could partially overlap with construction of the Cormorant Battery Storage Facility project. The Cormorant Battery Storage Facility project would be located to the west of the Martin Substation and Daly City Yard and would therefore not overlap in location; however, the battery storage facility project includes an overhead connection to the existing Martin Substation through the Daly City Yard. The Cormorant Battery Storage Facility is expected to be substantially completed by 2026 and operational in mid 2026, and therefore only limited construction overlap is anticipated to occur. Any construction overlap of the connections to the existing Martin Substation as part of the Cormorant Battery Storage Facility Project would be coordinated with project or project variant construction as part of the construction management plan, and therefore conflicts between construction activities that could affect the transportation network would not occur. No other cumulative projects would overlap with project or project variant construction within the Martin Substation or the Daly City yard, and no other cumulative projects would overlap with construction within Geneva Avenue and Bayshore Boulevard as part of the New City Substation construction activities.

- Construction of the **distribution express feeders** (12 months construction duration) could overlap with construction of the Sunnydale Hope SF Master Plan project that would be constructed between 2017 and 2033, a period of 16 years. The alignment of the distribution express feeders in the vicinity of the Sunnydale Hope SF Master Plan site would be on Geneva Avenue and would not go through the Sunnydale Hope site, and no Sunnydale Hope project construction activities would occur within Geneva Avenue. Construction of street network changes within the Sunnydale Hope SF project site would generally not affect traffic operations on Geneva Avenue. However, the realignment of Sunnydale Avenue west of Santos Street and Brookdale Avenue would require the closure of a segment of Sunnydale Avenue for approximately 18 months. This would result in about 42 vehicles during the p.m. peak period (and likely similar or lower traffic volumes during other times of the day) to reroute to Moscow Street, Geneva Avenue, and Brookdale Avenue, or to Mansell Street, Visitacion Avenue and Sunnydale Avenue to access the site.[125] Because eastbound and westbound traffic flow along Geneva Avenue would be maintained through construction of the distribution express feeders, project construction activities would not affect Sunnydale Hope SF construction activities or vehicles destined to or from the Sunnydale Hope SF project, including the rerouted vehicles if closure of the segment of Sunnydale Avenue occurs at the same time as construction of the distribution express feeders between Brookdale Avenue and Santos Street. Therefore, construction overlap of the distribution express feeders and the Sunnydale Hope SF project would not substantially affect the transportation network. No other cumulative projects would overlap with the construction of the distribution express feeders within Geneva Avenue, Alemany Boulevard, Huron Avenue, Sickles Avenue, Sagamore Street and Brotherhood Way.
- Construction of the **local distribution system separation** at approximately 70 work areas (24 months construction duration) could overlap in construction of the Lake Merced West Project and the Vista Grande Drainage Basin improvements in the Southeast Area; with the 6225 Mission Street Mixed-Use Building project in the Central Area; and the Sunnyvale Hope SF Master Plan, Cormorant Battery Storage Facility, and Executive Park Subarea Plan in the Southeast Area. The local distribution system separation would involve limited duration of construction at any one work area with limited construction vehicle trips and would be required to comply with regulations regarding construction within roadways and sidewalks. Therefore, overlap of construction of the local distribution system separation with cumulative projects listed above, would not substantially affect the transportation network.
- Construction of **system reinforcements** at approximately 25 work areas (28 months) could overlap with the Vista Grande Drainage Basin improvements, 6225 Mission Street Mixed-Use Building, Cormorant Battery Storage Facility, and Baylands North projects. As described above for the local distribution system separation, system reinforcements would involve limited duration of construction at any one work area and limited construction vehicle trips and would be required to comply with regulations regarding construction within roadways and sidewalks. Therefore, overlap of construction of system reinforcements with the cumulative projects listed above would not substantially affect the transportation network.
- Depending on the ultimate location of the **operations and maintenance service yards** and **operations control center** in southeastern San Francisco, construction of these project could overlap with construction of one or more cumulative projects for a two-month period for the operations and maintenance yards and for a 14-month period for the operations control center. Potential construction overlap could occur with cumulative transportation projects (i.e., Quint-Jerrold Connector, Blue

[125] San Francisco Planning Department, Sunnydale-Velasco HOPE SF Draft EIR/EIS, December 2014. Case No. 2010.0305E. Available at https://sfplanning.org/sunnydale-hope-sf#info, accessed October 7, 2024.

Greenway, Islais Creek Bridge replacement, Bayview Caltrain Station), infrastructure projects (i.e., multiple SFPUC projects at the Southeast Plant, City Distribution Headquarters, 1399 Marin Transit Operations and Maintenance, Additional Newcomb Yard Improvements projects) and development projects (i.e., Executive Park, Candlestick Point-Hunters Point Shipyard, India Basin, Pier 70, Potrero Power Station, SF Market, SF Gateway, and 3433 Third Street projects). Most of these cumulative infrastructure and development projects listed above would primarily involve off-street construction within the cumulative project sites and not within the roadway right-of-way. In addition, the operations and maintenance yards and operations control center components would not likely be near the cumulative transportation projects due to site constraints (e.g., would not be located within a Blue Greenway park, elevated railroad tracks and SF Market facilities adjacent to the Quint-Jerrold Connector alignment). In addition, due to the limited duration of construction activities, limited effect on the transportation network, and limited construction-related vehicles (i.e., two construction trucks during the peak hours), construction overlap with cumulative projects would not substantially affect the transportation network.

- Construction of **modifications to retain PG&E access to non-electrical facilities** would occur within Martin and Potrero substations over a one-month period and are not anticipated to substantially overlap with any cumulative projects.

Therefore, given the limited construction duration and work areas for most project or project variant components, and implementation of a construction management plan for the project or project variant, including SFMTA blue book, City of Brisbane and City of Daly City requirements, as applicable, for all cumulative projects, the potential overlap of construction of the project or project variant and the cumulative projects would not combine to result in significant cumulative construction-related transportation impacts in the immediate area of the project or project variant work areas.

Therefore, the project or project variant in combination with other cumulative projects would not result in significant cumulative construction-related transportation impacts (***less than significant).***

Impact C-TR-2. Operation of the project or project variant, in combination with cumulative projects, would not create potentially hazardous conditions; would not interfere with accessibility; would not substantially delay public transit; would not cause substantial additional VMT or substantially induce automobile travel; and would not result in significant loading impacts. ***(Less than Significant)***

All Project Components

Potentially Hazardous Conditions and Accessibility

The project or project variant would not result in permanent changes to the transportation network; at completion of construction all removed curbs, curb ramps, gutters, and sidewalks would be restored; new accessible curb ramps would be constructed; all removed or damaged paved surfaces would be repaved; and all areas disturbed for underground work would be restored to existing grade. Cumulative development, infrastructure and transportation projects listed in Table 3.1-3 would conform to the requirements of the Better Streets Plan, the Transit First Policy, Vision Zero, SFMTA blue book, and the City of Brisbane and the City of Daly City requirements, as applicable. Therefore, the project or project variant, in combination with cumulative projects, would not create potentially hazardous conditions for people bicycling, walking or driving, or for transit operations, or impede access for people walking or bicycling or for emergency vehicles.

Thus, the project or project variant with other cumulative projects would not result in a significant cumulative impact related to potentially hazardous conditions and accessibility (***less than significant***).

Public Transit Delay

After completion of project construction activities, operation of the project or project variant would generate minimal vehicular traffic related to periodic operations and maintenance, similar to existing conditions. The increase in vehicular traffic due to the operations and maintenance activities of the power system, as well as the vehicle trips associated with the workers at 525 Golden Gate Avenue, would not be discernible from cumulative background traffic volumes. Thus, with the exception of the southeastern portion of San Francisco discussed below, project or project variant operation would not combine with cumulative projects to result in substantial transit delay.

Within the southeastern portion of San Francisco, cumulative infrastructure and transportation projects would generate few, if any, new peak hour vehicle trips and none would reduce travel lanes on streets with transit routes or redirect vehicles to streets with transit routes such that substantial transit delay would occur. However, the larger cumulative development projects such as India Basin, Candlestick Point-Hunters Point Shipyard, and Potrero Power Station identified significant cumulative transit delay impacts due to new development. Therefore, within the southeastern portion of San Francisco there would be a significant cumulative transit delay impact. To determine whether the project activities at the operations control center and operation and maintenance service yards would make a considerable contribution to the significant cumulative transit delay impact, the number of peak hour vehicle trips generated by these project components was reviewed. The operations control center would add 20 new peak hour vehicle trips to the roadway network while the operations and maintenance service yards would add 56 new peak hour vehicle trips to the roadway network. Given the limited number of vehicle trips generated by these project components, and because vehicles traveling to and from these facilities would be dispersed along multiple streets, operation of the operations control center and operation and maintenance yards would not have a cumulatively considerable contribution to the significant cumulative transit impacts (***less than significant***).

Vehicle Miles Traveled

VMT is, by its nature, a cumulative impact. As an infrastructure project consisting of overhead transmission lines and underground distribution lines and related equipment and operations and maintenance facilities, most project or project variant components would not generate vehicle trips. As described in Impact TR-4, the project or project variant would not cause substantial additional VMT or substantially induce automobile travel. Therefore, the project or project variant in combination with other cumulative projects would not result in significant cumulative VMT impacts (***less than significant***).

Freight and Passenger Loading

Most project or project variant components would not generate new freight or passenger loading trips during project operations, while the operations and maintenance yards and the operations control center would generate some loading demand. As described in Impact TR-5, the project or project variant would not result in a loading deficit that could result in secondary impacts such as potentially hazardous conditions for people walking, bicycling, or driving or substantially delayed public transit.

Cumulative transportation projects in the southeastern part of San Francisco including the Quint-Jerrold Connector, Blue Greenway, and Islais Creek Bridge replacement projects would not generate loading

demand, and neither would the Channel Force Main and Bay Corridor Transmission and Distribution System infrastructure projects. Any loading demand associated with cumulative infrastructure projects within the SFPUC Southeast Plant (e.g., Headworks, Biosolids Digester Facilities, Power Feed and Primary Switchgear Upgrades, Repair and Replacement Treatment Plant Improvements, etc.) would be accommodated within the Southeast Plant. Similarly, loading demand associated with city facilities such as the City Distribution Division Headquarters, 1399 Marin Transit Operations and Maintenance, and Additional Newcomb Yard Improvements projects would be accommodated on-site. Smaller cumulative development projects such as the SF Market, SF Gateway, and 3433 Third Street projects would accommodate loading demand within the site, while larger development projects with internal roadway networks such as Executive Park, Candlestick Point-Hunters Point Shipyard, Pier 70, India Basin, and Potrero Power Station projects would provide onsite off-street and on-street loading facilities and would not result in loading deficits. Streetscape changes in the vicinity of the Bayview Caltrain Station project would be designed consistent with City of San Francisco standards to include curbside passenger loading for passengers. Thus, any freight and/or passenger loading activities associated with the cumulative projects would be localized in the vicinity of the cumulative projects and not in the geographic scope for the project or project variant as to result in a substantial loading deficit that could result in secondary impacts such as potentially hazardous conditions for people walking, bicycling, or driving or substantially delayed public transit. Therefore, the project or project variant with other cumulative projects would not result in a significant cumulative impact related to cumulative loading (***less than significant***).

Summary

For the reasons above, significant cumulative impacts related to potentially hazardous conditions and accessibility, VMT, and loading would not occur in the geographic scope, and the operations control center and operations and maintenance yards would not contribute considerably to significant cumulative transit delay impacts in the southeastern portion of San Francisco. Therefore, cumulative impacts related to potentially hazardous conditions and accessibility, transit delay, VMT and loading would be ***less than significant***.

E.7 Noise

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
7. NOISE. Would the project result in:					
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐	☐

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
c) For a project located within the vicinity of a private airstrip or an airport land use plan area or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☒	☐	☐	☐	☐

Implementation of the project could have the potential to result in significant impacts related to noise; therefore, this topic is further analyzed in Draft EIR Section 3.2, Noise.

E.8 Air Quality

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
8. AIR QUALITY. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard?	☒	☐	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☒	☐	☐	☐	☐

Implementation of the project could have the potential to result in significant impacts related to air quality; therefore, this topic is further analyzed in Draft EIR Section 3.3, Air Quality.

E.9 Greenhouse Gas Emissions

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
9. GREENHOUSE GAS EMISSIONS. Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	☐
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	☐

Greenhouse gas (GHG) emissions and global climate change are inherently cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects have contributed and will continue to contribute to global climate change and its associated environmental impacts.

The Bay Area Air Quality Management District (air district) has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with the CEQA Guidelines sections 15064.4 and 15183.5, which address the analysis and determination of significant impacts from a project's GHG emissions. CEQA Guidelines section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of GHGs and describes the required contents of such a plan. Accordingly, the City has prepared strategies to address GHG emissions,[126] which present a comprehensive assessment of policies, programs, and ordinances that collectively represent San Francisco's qualified GHG Reduction Strategy in compliance with the CEQA Guidelines. These GHG reduction actions have resulted in a 48 percent reduction in 2020 GHG emissions compared to 1990 levels,[127] exceeding the year 2020 reduction goals outlined in the air district's Bay Area 2017 Clean Air Plan, Executive Orders (EO) S-3-05 and B-30-15, and Assembly Bill (AB) 32 (also known as the Global Warming Solutions Act), and the city's 2017 GHG emissions reduction goal.[128]

In 2008, the San Francisco Board of Supervisors established citywide GHG reduction limits through Ordinance 81-08 that added Chapter 9 to the San Francisco Environment Code and required each city department to begin annually reporting on its own GHG emissions and climate protection initiatives. In compliance with Chapter 9 of the San Francisco Environment Code, section 903, the SFPUC has developed annual

[126] San Francisco Planning Department, 2023 Greenhouse Gas Reduction Strategy Update Revised October 2023, https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=02df0ca3679c50c014fea50e2c99f69567b11125c0d60cb1eb53ecaaabe39dab&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed May 20, 2024.
[127] San Francisco Environment Department, *2020 San Francisco Sector-Based Greenhouse Gas Emissions Inventory At-A-Glance,* https://www.sfenvironment.org/files/at-a-glance_2020.pdf, accessed May 20, 2024.
[128] EO S-3-05, AB 32, and the air district's 2017 Clean Air Plan (continuing the trajectory set in the 2010 Clean Air Plan) set a target of reducing GHG emissions to below 1990 levels by year 2020.

departmental climate action reports. The reports, like all departmental climate action plans developed pursuant to environment code section 903, are part of San Francisco's qualified GHG reduction strategy.

In July 2021, the City adopted an updated GHG ordinance[129] to demonstrate the City's commitment to the Paris Climate Agreement by establishing GHG reduction targets for 2030, 2040, and 2050 and setting other critical sustainability goals. The updated ordinance set goals for both sector-based emissions and consumption-based emissions. The GHG targets established under Ordinance 81-08 apply solely to sector-based emissions, which are those emissions that are generated within the geographic boundaries of the city. The updated ordinance reflects a more comprehensive effort to reduce GHG emissions by setting consumption-based targets as well. Consumption-based emissions are those that are associated with producing, transporting, using, and disposing of products and services consumed by people within the city, even those emissions that are generated outside of the city boundaries. The City's updated GHG reduction targets are as follows:

- By 2030, reduce sector-based GHG emissions to 61 percent below 1990 levels.
- By 2030, reduce consumption-based GHG emissions to 30 metric tons of CO_2 equivalent (CO_2e) per household or less, equivalent to a 40 percent reduction compared to 1990 levels.
- By 2040, reach net-zero sector-based emissions and sequester any residual emissions using nature-based solutions.[130]
- By 2050, reduce consumption-based GHG emissions to 10 metric tons of CO_2e per household or less, equivalent to an 80 percent reduction compared to 1990 levels.

These sector-based GHG reduction targets are more ambitious than those set forth in Governor Brown's EO B-30-15 (e.g., a 61 percent reduction in sector-based GHG emissions by 2030 rather than a 40 percent reduction by 2030) and in B-55-18 (e.g., achieving carbon neutrality by 2040 rather than by 2045). The consumption-based targets are consistent with the 2030 goal of EO B-30-15 and the 2050 goal of EO S-3-05 (80 percent below 1990 levels, by 2050).

The updated GHG ordinance also serves to codify the city's "0-80-100-Roots" climate action framework,[131] which comprises climate and sustainability goals in these key areas: waste, transportation, energy, and carbon sequestration. The framework also emphasizes the importance of housing in implementing meaningful climate solutions, which require an increased supply of high-quality housing that is both affordable and near transit service. To support the 2021 Housing and Buildings goal of zero onsite fossil fuel emissions from all new buildings, the Board of Supervisors passed an all-electric new construction ordinance in November 2020. The ordinance, which took effect on June 1, 2021, and applies to all new buildings, prohibits the construction of natural gas or propane infrastructure.[132]

The updated GHG ordinance also required the San Francisco Department of the Environment to prepare and submit to the mayor a citywide climate action plan by December 31, 2021, to address the updated GHG

[129] City of San Francisco *Office of the Mayor, News Release San Francisco Adopts New Climate Action Goals,* July 20, 2021, https://sfmayor.org/article/san-francisco-adopts-new-climate-action-goals, accessed May 22, 2024.
[130] Nature-based solutions are those that remove remaining emissions from the atmosphere by storing them in natural systems that support soil fertility or employing other carbon farming practices.
[131] The 0-80-100 Roots Framework was established in the 2013 Climate Action Plan as the city's call to action—committing to zero waste, shifting 80 percent of trips to sustainable trips by 2030, moving 100 percent of energy to renewables by 2030, and supporting and protecting San Francisco's urban green spaces and promoting biodiversity.
[132] San Francisco Department of Building Inspection, *All-Electric New Construction Ordinance,* https://sfdbi.org/AllElectricNewConstructionOrdinance, accessed May 22, 2024.

goals. This requirement resulted in new policies, programs, and implementing actions that apply to SFPUC operations, as identified in the Climate Action Plan 2021. Climate Action Plan 2021 includes a framework to achieve citywide net-zero emissions by 2040 and identifies goals for the Energy Supply sector to achieve 100 percent renewable electricity by 2025, and 100 percent renewable energy with no fossil fuels by 2040.[133] To achieve these goals, Climate Action Plan 2021 focuses on three key areas, including: renewable electricity via Hetch Hetchy and CleanPowerSF;[134] grid readiness and resilience; and local clean energy jobs. The Climate Action Plan 2021 describes San Francisco's progress towards achieving 100 percent renewable electricity by 2040. As of 2019, 83 percent of electricity supplied to San Franciscans came from GHG-free resources, with 69 percent supplied from renewable sources that include wind, solar, and existing large hydropower. The Climate Action Plan 2021 describes the challenges of transitioning all San Franciscans to renewable electricity; however, given that Hetch Hetchy Power already provides 100 percent renewable electricity, CleanPowerSF is projected to provide 100 percent renewable electricity to all its customers by 2025, and PG&E and Direct Access providers are on track to meet the state's goal of 100 percent renewable electricity by 2040, the city is well positioned to make the transition by 2040.

In addition, Climate Action Plan 2021 Supporting Action ES.3-3, prioritizes as a city priority investment in distribution infrastructure (including acquisition of PG&E assets) and smart-grid technologies (such as advanced metering infrastructure, demand response, and distribution automation).[135]

The City has met the state's 2020 GHG reduction targets and met the state and region's 2030 GHG reduction target under executive order B-30-15,[136,137] Senate Bill 32[138,139] and the air district's 2017 Clean Air Plan[140] more than 10 years before the target date. In addition, San Francisco's GHG reduction goals are consistent with, or more aggressive than, the longer-term goals established under order S-3-05.[141] Consequently, the City's GHG reduction goals are consistent with order S-3-05, order B-30-15, Assembly Bill 32, Senate Bill 32, and the 2017 Clean Air Plan. Projects that are consistent with the city's GHG Reduction Strategy would be consistent with the

[133] San Francisco Department of Energy, Climate Action Plan 2021, https://www.sfclimateplan.org/#exact-plan, accessed May 22, 2024.

[134] CleanPowerSF is San Francisco's Community Choice Aggregation program administered by SFPUC. CleanPowerSF was created pursuant to state legislation that authorized local governments to partner with their investor-owned utility (PG&E in San Francisco) to deliver cleaner energy to residents and businesses.

[135] San Francisco Department of Energy, Climate Action Plan 2021, https://www.sfclimateplan.org/#exact-plan, accessed May 22, 2024.

[136] Office of the Governor, *Governor Brown Establishes Most Ambitious Greenhouse Gas Reduction Target in North America,* April 29, 2015, https://archive.gov.ca.gov/archive/gov39/2015/04/29/news18938/, accessed May 22, 2024. Executive Order B-30-15, issued on April 29, 2015, set forth a target of reducing GHG emissions to 40 percent below 1990 levels by 2030 (estimated at 2.9 million $MTCO_2E$).

[137] San Francisco's GHG reduction goals are codified in Section 902 of the Environment Code and include: (i) by 2030, reduce Sector-Based GHG emissions by at least 61 percent compared to 1990 levels; (ii) by 2030, reduce Consumption-Based GHG emissions by 40 percent below 1990 levels; (iii) by 2040, reduce GHG emissions by 90 percent below 1990 levels and sequester any residual emissions; and by 2050, reduce GHG emissions by 80 percent below 1990 levels.

[138] Senate Bill 32 amended California Health and Safety Code Division 25.5 (also known as the California Global Warming Solutions Act of 2006) by adding Section 38566, which directs that statewide GHG emissions to be reduced by 40 percent below 1990 levels by 2030.

[139] Senate Bill 32 was paired with Assembly Bill 197, to modify the structure of the State Air Resources Board; institute requirements for the disclosure of GHG emissions, criteria pollutants, and toxic air contaminants; and establish requirements for the review and adoption of rules, regulations, and measures for the reduction of GHG emissions.

[140] The 2017 Clean Air Plan establishes the following GHG reduction targets: reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

[141] Office of the Governor, Executive Order S-3-05, June 1, 2005, http://static1.squarespace.com/static/549885d4e4b0ba0bff5dc695/t/54d7f1e0e4b0f0798cee3010/1423438304744/California+Executive+Order+S-3-05+(June+2005).pdf. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs needed to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons of carbon dioxide equivalents ($MTCO_2E$)); by 2020, reduce emissions to 1990 levels (approximately 427 million $MTCO_2E$); and by 2050 reduce emissions to 80 percent below 1990 levels (approximately 85 million $MTCO_2E$). Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

aforementioned GHG reduction goals, would not conflict with these plans or result in significant GHG emissions, and would, therefore, not exceed San Francisco's applicable GHG threshold of significance.

The following analysis of the project's impact on climate change focuses on the project's contribution to cumulatively significant GHG emissions. Because no individual project could emit GHGs at a level that could result in a significant impact on the global climate, this analysis is in a cumulative context, and this section does not include an individual project-specific impact statement.

Impact C-GG-1: The project or project variant, in combination with the cumulative projects, would not generate GHG emissions at levels that would result in a significant impact on the environment and would not conflict with a policy, plan, or regulation adopted for the purpose of reducing GHG emissions. ***(Less than Significant)***

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during both construction and operational phases. GHG emissions generated by the project or project variant are discussed below.

All Project Components

Construction Emissions

Project construction activities associated with all project components would result in the temporary generation of emissions over the approximately three year construction period. The waste-related construction emissions would be reduced through compliance with the city's Recycling and Composting Ordinance, Construction and Demolition Debris Recovery Ordinance, and Green Building Code requirements. All material removed from the project areas, including concrete, metal, and green waste, would be recycled to the maximum extent feasible, with a goal of 75 percent diversion or disposed of at an appropriate landfill in compliance with applicable federal, state, and local regulations. In addition, consistent with the Construction and Demolition Debris Recovery Ordinance, a Material Reduction and Recovery Plan would be prepared and implemented.[142] These regulations reduce the amount of materials sent to a landfill, which reduces GHGs emitted by landfill operations. These regulations also promote reuse of materials, conserving their *embodied energy*[143] and reducing the energy required to produce new materials.

Some of the proposed construction activities are subject to the San Francisco Clean Construction Ordinance provisions for projects located outside of the Air Pollutant Exposure Zone including the use of renewable diesel fuel grade B20 for all off-road equipment and off-road engines.[144] In addition, pursuant to Executive Directive 06-02 (Biodiesel for Municipal Fleets), all SFPUC diesel vehicles used during construction and operation of the project would use renewable fuel.[145] Use of renewable diesel, which is made of nonpetroleum renewable resources such as natural fats, vegetable oils, and greases, results in a net reduction in life cycle CO_2 emissions compared to the use of conventional diesel fuel.

[142] San Francisco Planning Department. Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects, for the PG&E Power Asset Acquisition Project, Case Number 2023-005370ENV. November 25, 2024.
[143] Embodied energy is the total energy required for the extraction, processing, manufacture, and delivery of building materials to the building site.
[144] San Francisco Department of the Environment. San Francisco Clean Construction Ordinance Implementation Guide for San Francisco Public Projects, August 2015, https://www.sf.gov/sites/default/files/2024-03/San_Francisco_Clean_Construction_Ordinance_2015.pdf, assessed October 8, 2024.
[145] San Francisco Planning Department, 2023 Greenhouse Gas Reduction Strategy Update Revised October 2023, page 111, https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=02df0ca3679c50c014fea50e2c99f69567b11125c0d60cb1eb53ecaaabe39dab&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed May 20, 2024.

Transportation Emissions

Regarding long-term additional employee trips generated by the project that would result in operational transportation emissions (employees at the operations control center, 525 Golden Gate Avenue, and the operations and maintenance service yards), existing city fleet passenger vehicles and light-duty trucks would be used that when purchased or leased were the cleanest and most efficient vehicles available on the market in compliance with the city's Healthy Air and Clean Transportation Ordinance – Optimizing Fleet Management.[146] Also, bicycle parking would be provided at the operations control center and operations and maintenance service yards pursuant to San Francisco Planning Code sections 155.2 and 155.3.[147] Furthermore, the project would comply with the city's Commuter Benefits Ordinance, Healthy Air and Clean Transportation Ordinance – Implementing Transit First, and San Francisco Planning Code sections 155.1-155.4 because SFPUC would provide commuter checks to project employees as an incentive to encourage use of public transportation, and bicycle parking, and other facilities would be provided for SFPUC project employees.[148]

In addition, the city has many programs in place for reducing transportation sector-related GHG emissions. Measures within this sector include a transportation demand management program, the city's bicycle plan, the transportation sustainability program, and other measures that are designed to reduce reliance on cars and reduce vehicle miles travelled at the citywide level. Based on the city's latest GHG emissions inventory, these programs have successfully reduced the city's transportation-related emissions by 32 percent from 1990 to 2020.[149]

Building Emissions

The project would include 20,000 square feet of major renovations to an existing commercial or industrial building for the operations control center. The operations control center major renovations or tenant improvements would be certified LEED Gold® consistent with the San Francisco Environment Code, chapter 7, section 704(a)(1)(A), *Green Building Rating Systems*, and section 704(b)(2), *Energy Optimization*. The new City Substation (project variant), if constructed, would be 20,700 square feet and would be ENVISION certified, a design rating system similar to LEED but applicable to infrastructure development. LEED Gold® certifications require energy-efficient appliances and systems, use of sustainable materials, and implementation of water conservation measures. New and renovated buildings under the project would receive electric service from the SFPUC pursuant to city administrative code section 99.3, and would reduce electricity and energy use by at least 15 percent and reduce water use by at least 30 percent compared to conventional buildings.[150] In addition, the upgraded HVAC system for the operations control center would be all-electric and any natural gas equipment that would be replaced in the operations control center would be replaced with electric equipment.[151] Project electricity use, as opposed to the use of fossil fuel energy, would reduce overall GHG emissions given that CleanPowerSF is projected to provide 100 percent renewable electricity to all its customers by 2025.

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[146] San Francisco Planning Department. Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects, for the PG&E Power Asset Acquisition Project, Case Number 2023-005370ENV. November 25, 2024.
[147] Ibid.
[148] Ibid.
[149] San Francisco Environment Department, *2020 San Francisco Sector-Based Greenhouse Gas Emissions Inventory At-A-Glance,* https://www.sfenvironment.org/files/at-a-glance_2020.pdf, accessed May 20, 2024.
[150] San Francisco Environment Department, 2011. Mayor Introduces LEED Gold for Municipal Buildings, July 19, 2011, https://www.sfenvironment.org/press/mayor-introduces-leed-gold-municipal-buildings. Accessed May 23, 2024.
[151] San Francisco Planning Department. Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects, for the PG&E Power Asset Acquisition Project, Case Number 2023-005370ENV. November 25, 2024.

The project or project variant would include a substation reconfiguration or development of a new substation, respectively, and new vehicle parking spaces and containment for hazardous materials at the operations and maintenance service yards would include construction of impervious surfaces. In accordance with Article 4.2 of the San Francisco Public Works Code, sections 146 and 147, stormwater drainage for these components would be required to comply with the city's Stormwater Management Ordinance and the stormwater design guidelines to reduce the volume of stormwater entering the city's wastewater systems. The SFPUC would also develop and implement an erosion control plan and construction activities would include pollution prevention and stormwater controls (see Section E.17, Hydrology and Water Quality) to reduce GHG emissions associated with the city's stormwater management system.[152] The landscaping and associated irrigation for the project variant would be subject to the city's Water Conservation and Water Efficient Irrigation ordinances because the landscaped area would be over 500 square feet.[153] Compliance with these ordinances and guidelines would promote energy and water efficiency, thereby reducing the project's energy-related GHG emissions.[154] Also, the toilets, urinals, and faucets that would be installed in the proposed restrooms at the operations control center would comply with the Commercial Water Conservation Ordinance of Chapter 13A of the San Francisco Building Code.[155,156]

New City Substation (Project Variant) SF_6 Emissions

The new City Substation (project variant) would include gas-insulated equipment. Sulfur hexafluoride (SF_6) gas is a human-generated fluorinated GHG that has a much higher heat-absorption potential than CO_2 and is used in the electrical sector to insulate electrical switchgear equipment and for fault protection by filling the equipment with the gas. SF_6 gas has 23,900 times the global warming potential of CO_2.[157] Operation of the new City Substation would include the use of approximately 10,500 pounds of SF_6 within a total of 60 175-pound capacity compartments that would surround the electrical equipment. In addition, approximately 880 pounds of SF6 gas would be stored in gas canisters onsite. Typical gas-insulated electrical equipment is designed to avoid the release of gas into the atmosphere, but small leaks could occur over time. Storage containers are designed to prevent the release of SF6 gas. The leakage rate of currently available designs for circuit breakers that use SF_6 gas for insulation and interruption is approximately 0.5 percent per year. Therefore, the new City Substation would result in the release of up to 569 metric tons of CO_2e per year of $SF_6$to the atmosphere.

Storage, use, and disposal of SF_6 would comply with local, state, and federal laws and regulations, including the California Air Resources Board (CARB) *Regulation for Reducing SF_6 Emissions from Gas Insulated Switchgear* (17 CCR Section 95350 et seq.), which is designed to achieve GHG emissions reductions by reducing SF_6 emissions from gas-insulated switchgear.[158] Owners of such switchgear must not exceed maximum allowable annual emissions of 1.0 percent of the total SF_6 capacity of all of the owner's active gas-

[152] Ibid.
[153] San Francisco Department of Building Inspection, 2023. Updated Administrative Bulletin 093, Implementation of Green Building Regulations, page 6. Available at https://www.sf.gov/sites/default/files/2023-03/BIC%20Meeting%2003-15-23%20-%20Item%2010_0.pdf. Accessed May 23, 2024.
[154] Compliance with water conservation measures reduce the energy (and GHG emissions) required to convey, pump, and treat water required for the project.
[155] San Francisco Building Code, Chapter 13A, *Commercial Water Conservation Ordinance*, Section 1306A.2, *Building alterations and improvements*. Available at: https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_building/0-0-0-93163, accessed May 23, 2024.
[156] San Francisco Planning Department. Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects, for the PG&E Power Asset Acquisition Project, Case Number 2023-005370ENV. November 25, 2024.
[157] California Air Resources Board, 2024. GHG Global Warming Potentials. Available online: https://ww2.arb.ca.gov/ghg-gwps. Accessed October 9, 2024.
[158] California Air Resources Board, 2011. Final Regulation Order to Adopt New Subarticle 3.1, Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear Sections 95350 to 95359, Title 17, California Code of Regulations. Approved June 28, 2011. Available: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2010/sf6elec/completesf6.pdf. Accessed July 2024.

insulated switchgear equipment. As defined by the regulation, the annual emissions rate equals the gas-insulated switchgear owner's total annual SF_6 emissions from all active gas-insulated switchgear equipment divided by the average annual SF_6 nameplate capacity of all active gas-insulated switchgear equipment. Owners must regularly inventory gas-insulated switchgear equipment, measure quantities of SF_6, and maintain records of these for at least 3 years. Additionally, by June 1 of each year, owners are required to submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year. Use of the proposed modern switchgear equipment and adherence to CARB's SF_6 regulation would minimize SF_6 emissions from gas-insulated switchgear associated with the new City Substation.

CEQA Guidelines section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of GHGs and describes the required contents of such a plan. Accordingly, the City has prepared strategies to address GHG emissions, as discussed at the beginning of Section E.9, which presents a comprehensive assessment of policies, programs, and ordinances that collectively represent the City's qualified GHG Reduction Strategy in compliance with the CEQA Guidelines.

The City has programs in place for reducing GHG emissions from municipal operations, including energy optimization requirements, green building requirements, and municipal fleet requirements, that are designed to reduce GHG emissions related to municipal operations. Based on the city's latest GHG emissions inventory, these programs have successfully reduced the city's municipal operations emissions by 24 percent from 1990 to 2020.[159]

In addition, by 2020 the city's GHG emissions reduction programs had resulted in a 48 percent reduction in total citywide GHG emissions below 1990 levels. Through these reductions, the city exceeded the year 2020 and 2030 reduction goals outlined in the Bay Area Air Quality Management District's Bay Area 2017 Clean Air Plan, Executive Orders (EO) S-3-05 and B-30-15, and Assembly Bill (AB) 32 (also known as the Global Warming Solutions Act), and the city's 2017 GHG emissions reduction goal. There is no evidence to suggest that the new City Substation (project variant) would inhibit the city's ability to continue to meet its GHG reduction targets.

The approximately 569 metric tons of CO_2e per year that would result from SF6 leakage would be a minor (0.3 percent) increase in citywide municipal operations section GHG emissions, which were reported to be 174,855 metric tons or CO_2e per year in 2020. Municipal operations emissions were four percent of citywide GHG emissions in 2020.[160]

Tree Plantings and Replacements

Site preparation for the project could require access improvements at the operations control center and/or service yards. Pursuant to the San Francisco Public Works Code, Article 16, section 806(d) and San Francisco Planning Code, section 138.1), these project improvements may require 24-inch box tree plantings for every 20 feet of improvements along street frontage and any street trees that would need to be removed would be replaced by street trees that are equal or greater than the total diameter of the street trees removed.[161] Additional street trees would serve to increase carbon sequestration in the project area, which removes GHG emissions from the atmosphere.

[159] San Francisco Planning Department, 2023 Greenhouse Gas Reduction Strategy Update, October 2023.
[160] San Francisco Planning Department, 2023 Greenhouse Gas Reduction Strategy Update, October 2023.
[161] San Francisco Planning Department. Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects, for the PG&E Power Asset Acquisition Project, Case Number 2023-005370ENV. November 25, 2024.

Use of Recycled Products and Non-PVC Plastics

Underground project components (distribution express feeders, local distribution system separation, and system reinforcements) would install lines within plastic conduits. As required by San Francisco Environment Code, chapter 5, section 9 and; the SFPUC's construction contract specifications would require use of non-PVC plastics. Once operational, the project or project variant would be required to comply with the San Francisco Environment Code, chapter 5, section 3 and Executive Directive 08-02 of the *Resource Conservation Ordinance*, which require purchases of recycled products to be maximized, solid waste be diverted as much possible, the appointment of at least one person to responsible for compliance with these requirements, preparation of a waste assessment annually, janitorial contracts to consolidate recyclable materials for pick up, and purchase of 30 percent post-consumer recycled content for all paper products except copier and bond paper. In addition, the *Preference for Local Manufacturers and Industry/Recycled Content Materials Ordinance* requires the use of recycled content material in public works projects to the maximum extent feasible and gives preference to local manufacturers and industry.

Impact Conclusion

The project or project variant would be subject to applicable regulations described above and that are referenced in the city's GHG Reduction Strategy. Based on the various implementation actions described above, the project was determined to be consistent with the city's GHG Reduction Strategy.[162]

Furthermore, the project or project variant would be consistent with the city's Climate Action Plan 2021, which includes a focus on electrical grid readiness and resilience. The project or project variant would implement one component of Climate Action Plan 2021 Supporting Action ES.3-3, investment in distribution infrastructure, including acquisition of PG&E assets.

The SFPUC and other city agencies are required to comply with the regulations identified above. These regulations have proven effective, as San Francisco's GHG emissions have measurably decreased when compared to 1990 emissions levels. Between 1990 and 2020, the city's carbon footprint was reduced by 48 percent, while its population increased 21 percent.[163] Therefore, the city exceeded the GHG reduction goals established in EO S-3-05, AB 32, and the Bay Area 2017 Clean Air Plan for the year 2020 and is well on its way to meeting its goal of reducing GHG emissions by 61 percent below 1990 levels by 2030. Other existing regulations, such as those implemented through AB 32, will continue to reduce a project's contribution to climate change. In addition, San Francisco's local GHG reduction targets are consistent with the long-term GHG reduction goals of EO S-3-05, EO B-30-15, EO B-55-18, SB 32, and the Bay Area 2017 Clean Air Plan. Therefore, because the identified project components are consistent with the city's GHG Reduction Strategy, they are also consistent with the GHG reduction goals of EO S-3-05, EO B-30-15, EO B-55-18, SB 32, and the Bay Area 2017 Clean Air Plan; would not conflict with these plans; and therefore would not exceed San Francisco's applicable GHG threshold of significance.

Therefore, the project or project variant would not generate GHG emissions at levels that would result in a significant impact on the environment and would not conflict with a policy, plan, or regulation adopted for the purpose of reducing GHG emissions; the impact would be ***less than significant***.

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[162] San Francisco Planning Department. Compliance Checklist Table for Greenhouse Gas Analysis: Table 2. Municipal Projects, for the PG&E Power Asset Acquisition Project, Case Number 2023-005370ENV. November 25, 2024.

[163] San Francisco Environment Department, *2020 San Francisco Sector-Based Greenhouse Gas Emissions Inventory At-A-Glance,* https://www.sfenvironment.org/files/at-a-glance_2020.pdf.

E.10 Wind

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
10. WIND. Would the project:					
a) Create wind hazards in publicly accessible areas of substantial pedestrian use?	☐	☐	☒	☐	☐

Impact WI-1: The project or project variant would not create wind hazards in publicly accessible areas of substantial pedestrian use. ***(Less than Significant)***

All Project Components

This analysis considers whether the project or project variant would create new wind hazards in publicly accessible areas of substantial pedestrian use through the development of built structures in the project areas. Based upon the experience of the San Francisco Planning Department in reviewing wind analyses and expert opinion on other projects, it is generally the case that built structures under 80 feet in height do not have the potential to generate significant wind hazard impacts. Project-related wind hazard impacts are generally caused by large building masses extending substantially above their surroundings, and by buildings oriented such that a large wall catches a prevailing wind, particularly if such a wall includes little or no articulation.

The project includes underground and aboveground components. Underground components (distribution express feeders, underground local distribution system separation, underground system reinforcements) would have no effect on wind conditions. The operations control center would be housed within an existing building with minor exterior modifications (such as new heating, ventilation, and air conditioning (HVAC)) and therefore would have no effect on wind conditions. Aboveground components at the Martin Substation and for the local distribution system separation, system reinforcements, modifications to retain PG&E access to non-electrical facilities, and operations and maintenance service yards could occur adjacent to publicly accessible areas (sidewalks) but would not have sufficient massing or height to create wind hazards.

The new City Substation (project variant) includes construction of two gas-insulated switchgear buildings to house the high-voltage substation components. The new buildings would be located in the center of the Daly City Yard (as shown in Figure 2-11 in Chapter 2, Project Description, of this EIR) and would have a maximum height of 30 feet each. The two buildings would be located at least 130 feet from the nearest publicly accessible areas (sidewalk in Midway Village, to the south), and separated from those areas by a private service yard, which would not include buildings. Furthermore, the buildings would be less than 80 feet in height, limiting their interaction with prevailing winds.

As such, the project or project variant would not include newly built structures of sufficient height or mass to amplify or direct winds resulting in wind hazards in publicly accessible areas for pedestrians or bicyclists. Therefore, the project or project variant would have a ***less-than-significant*** impact related to the creation of new wind hazards.

Mitigation: None required.

Impact C-WI-1: The project or project variant, combined with cumulative projects, would not result in significant cumulative impacts related to wind. ***(Less than Significant)***

All Project Components

As discussed above, while the project variant proposes two gas-insulated switchgear buildings at the Daly City Yard, the project or project variant would not create wind hazards in publicly accessible areas of substantial pedestrian use. Given that wind effects are highly localized, the geographic context for cumulative wind effects encompasses the immediate project vicinity, which is generally a few blocks in each direction. The single cumulative project in the immediate vicinity of Martin Substation and the Daly City Yard (the two locations where new aboveground buildings are proposed) is the Midway Village Redevelopment project, a 555-unit development located approximately 130 feet south of the project variant site and currently under construction. The Midway Village Redevelopment project would construct buildings that vary between one and four stories, with a maximum height of 60 feet. As discussed above, the buildings proposed for the new City Substation would have a maximum height of 30 feet each and would be buffered from interactions with prevailing winds by an existing operations building located 85 feet to the west. The project variant and this cumulative project would be separated by a private service yard that would not include buildings and consequently would limit the potential for cumulative wind hazard effects in public areas. Therefore, the project or project variant in combination with cumulative projects would not create wind hazards in publicly accessible areas of substantial pedestrian use. The cumulative impact related to wind hazards would be ***less than significant***.

E.11 Shadow

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
11. SHADOW. Would the project:					
a) Create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces?	☐	☐	☒	☐	☐

Impact SH-1: The project or project variant would not create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces. ***(Less than Significant)***

All Project Components

As discussed in Initial Study Section E.12, Recreation, there are several parks and recreational facilities in the project areas. The project includes underground and aboveground components. Underground components (distribution express feeders, underground local distribution system separation, underground system reinforcements) would have no effect related to shadow. The operations control center would be housed within an existing building with minor exterior modifications (such as new HVAC) and therefore would have

no effect on shadow. Aboveground components associated with the local distribution system separation, system reinforcements, modifications to retain PG&E access to non-electrical facilities, and operations and maintenance service yards could occur adjacent to publicly accessible areas or near recreational facilities but would consist of poles, lines, revenue-grade meters, and related accessories along roadways and public right-of-way and would not create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces. The control building and switchgear buildings proposed for the Martin Substation separation would be 20 feet tall. The buildings proposed for the new City Substation (project variant) at the Daly City Yard would be 30 feet tall and more than 130 feet from the nearest public areas. Shadows from the project or project variant would not affect any nearby recreational facilities or open spaces. Shadows on streets and sidewalks would be transitory, would not substantially affect the function of sidewalks, and would not exceed levels commonly expected in urban areas. Therefore, the project or project variant would not create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces a ***less-than-significant*** impact.

Mitigation: None required.

Impact C-SH-1: The project or project variant, combined with cumulative projects, would not result in significant cumulative impacts related to shadow. ***(Less than Significant)***

All Project Components

The geographic scope of impacts related to changes in shadow includes projects that would cast shadows affecting different portions of the same public areas affected by the project or project variant, which in this case is Geneva Avenue north of Martin Substation. The nearest cumulative project that could cast shadows along different portions of Geneva Avenue is the Pacific Place Retail Conversion, approximately 0.3 mile from the northwest corner of the Martin Substation separation area. Therefore, the project or project variant in combination with other cumulative projects would not result in a significant cumulative impact associated with shadow (***less than significant***).

E.12 Recreation

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
12. RECREATION. Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒	☐

Recreational resources in the vicinity of the project areas include San Bruno Mountain State Park, The Olympic Club and San Francisco Golf Club, Fort Funston, Lake Merced, and various city and county parks, as shown in **Figure 3**. Many of the recreational facilities and neighborhood parks are owned and operated by the surrounding cities' recreational departments. These departments include San Francisco Recreation and Parks, Brisbane Parks and Recreation, Daly City Maintenance Division, and San Mateo County Parks. These departments maintain recreational facilities in their respective jurisdictions and offer a variety of recreational programs.

Table 10 provides a list and descriptions of neighborhood parks and facilities in the vicinity of the project areas.

Small neighborhood facilities are primarily used by residents in the immediate surrounding area. Larger open space and recreational facilities such as McLaren Park and San Bruno Mountain attract a broader range of visitors.

In addition to open spaces and parks, the project areas also include a network of bicycle routes and facilities. The San Francisco Municipal Transportation Agency (SFMTA) oversees the City's bicycle facilities and resources.[164] The SFMTA bicycle network has approximately 450 miles of routes in San Francisco and features different classifications such as buffered and shared bicycle lanes.[165,166] According to the Daly City Pedestrian and Bicycle Master Plan, Daly City has approximately 26.7 miles of bikeways, featuring three bicycle classifications.[167,168] Brisbane features approximately 7.4 miles of class II bike lanes (standard bike lane) and approximately 4.5 miles of class I facilities (shared use path for bicycles and pedestrians).

Impact RE-1: The project or project variant would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. ***(Less than Significant)***

Construction Impacts – All Project Components

As discussed in Initial Study Section E.4, Population and Housing, construction of the project or project variant would not induce substantial unplanned population growth. Construction workers could use parks and recreational facilities in the vicinity; however, the increase in demand from a maximum of 76 construction workers spread across the project areas would be minor relative to the population of San Francisco, and would not be expected to persist once construction is complete. As shown in Figure 3 and Table 10, the distribution express feeders, local distribution system separation, and system reinforcements include construction activities in or near recreational facilities. While the project or project variant could include ground disturbance within these recreational facilities, areas temporarily disturbed during construction would be restored to preconstruction conditions once work is complete. For these reasons, construction of the project or project variant would not cause substantial physical deterioration of recreational facilities to occur or be accelerated. This impact would be ***less than significant***.

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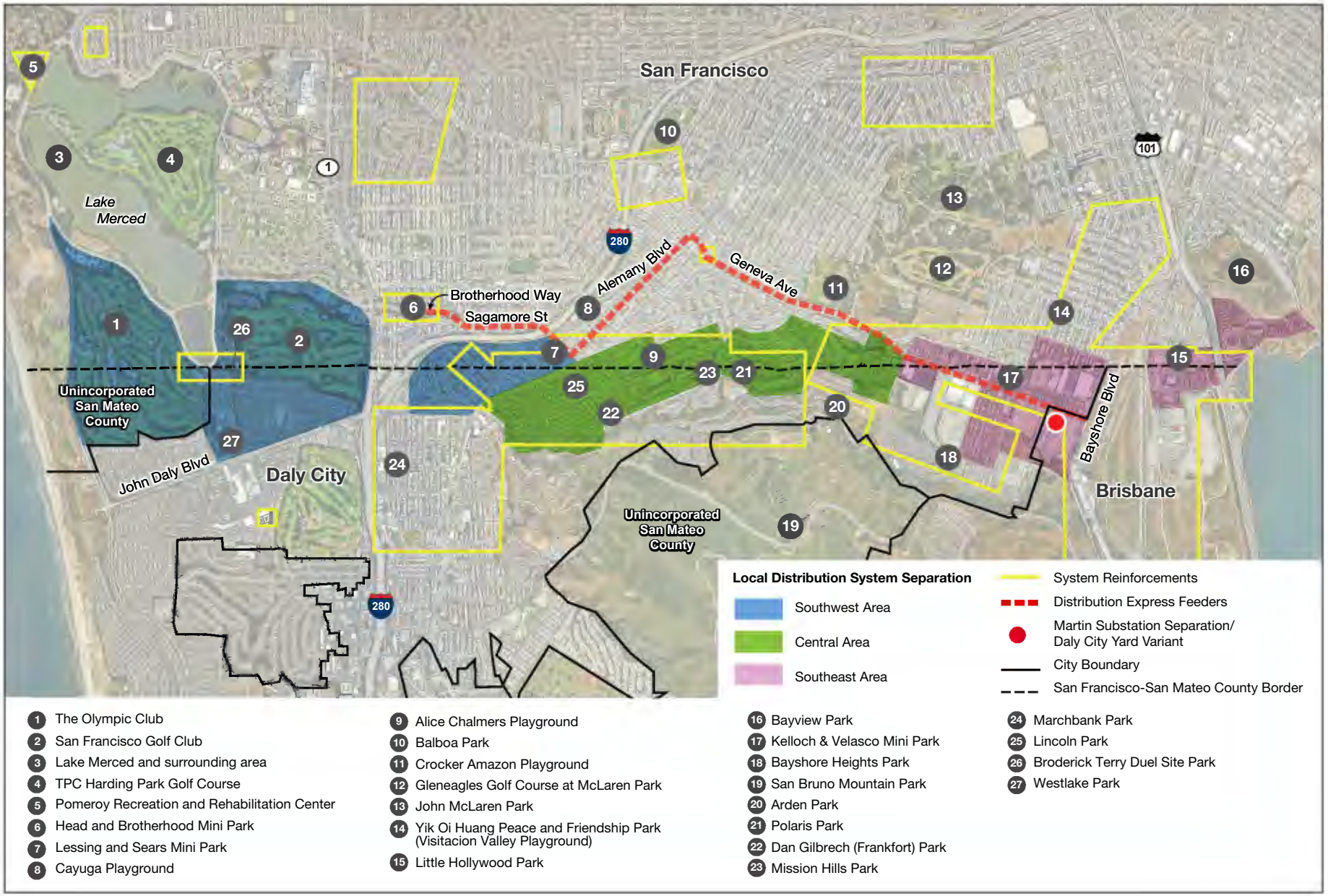
[164] San Francisco Municipal Transportation Agency, Bicycling San Francisco, https://www.sfmta.com/bicycling-san-francisco, accessed March 8, 2024.
[165] There are four main bicycle classifications in the SFMTA bicycle network. Class I are off-street paved bikeways, class II are standard bike lanes (where a portion of the road is reserved for preferential or exclusive use of people biking), class III are travel lanes shared by bicyclists and vehicles, and class IV are separated/protected bikeways.
[166] San Francisco Municipal Transportation Agency, San Francisco Bike Network Map, https://www.sfmta.com/maps/san-francisco-bike-network-map, accessed March 8, 2024.
[167] There are three main bicycle classifications under City of Daly City jurisdiction. Class I are paved and separated paths, class II are conventional/standard bike lanes, and class III are shared lanes with vehicular traffic.
[168] City of Daly City, Walk Bike Daly City, February 2020.



SOURCE: ESA, 2024; Google Earth, 2023

PG&E Asset Acquisition Project

Figure 3
Recreational Facilities in the Project Vicinity

Table 10 Recreational Facilities in the Project Vicinity

Name (Number on Figure 3)	Activities/Facilities	Nearby Project Components
The Olympic Club (1)	Golf	Local distribution system separation; system reinforcements
San Francisco Golf Club (2)	Golf	Local distribution system separation; system reinforcements
Lake Merced and surrounding area (3)	Boating, fishing, bird and nature watching, picnicking, paved walking, running, bicycle trail; access to network of informal trails around Lake Merced	Local distribution system separation; system reinforcements
TPC Harding Park Golf Course (4)	Golf	Local distribution system separation; system reinforcements
Pomeroy Recreation and Rehabilitation Center (5)	Adult day programs, children and teen programs, vocational services, respite services, swim lessons	System reinforcements
Head and Brotherhood Mini Park (6)	Basketball court, dog play area	Distribution express feeders; system reinforcements
Lessing and Sears Mini Park (7)	Community garden, playground	Local distribution system separation; system reinforcements
Cayuga Playground (8)	Play area, picnic area, athletic fields, basketball court, community rooms, tennis	Local distribution system separation; system reinforcements
Alice Chalmers Playground (9)	Playground, picnic tables	Local distribution system separation; system reinforcements
Balboa Park (10)	Play area, picnic area, athletic fields, basketball court, community rooms, tennis, dog play area, swimming pool, skate park, stadium	System reinforcements
Crocker Amazon Playground (11)	Tennis courts, basketball courts, playground, baseball diamond, soccer field	Distribution express feeders
Gleneagles Golf Course at McLaren Park (12)	Golf	Distribution express feeders; system reinforcements
John McLaren Park (13)	Hiking trails, playgrounds, bike park, community garden, dog play area, amphitheater, pickleball courts, tennis courts, open space, and grass fields	System reinforcements
Yik Oi Huang Peace and Friendship Park (Visitacion Valley Playground) (14)	Athletic field, baseball diamond, community rooms, playground	System reinforcements

Table 10 Recreational Facilities in the Project Vicinity

Name (Number on Figure 3)	Activities/Facilities	Nearby Project Components
Little Hollywood Park (15)	Basketball court, picnic area, playground	Local distribution system separation; system reinforcements
Bayview Park (16)	Hiking trails	Local distribution system separation
Kelloch & Velasco Mini Park (17)	Basketball court, picnic area, playground	Local distribution system separation; system reinforcements
Bayshore Heights Park (18)	Playground, picnic tables, amphitheater and stage, benches	Local distribution system separation; system reinforcements
San Bruno Mountain Park (19)	Hiking trails, bicycling, picnic tables, day camps, ropes course,	System reinforcements
Arden Park (20)	Playground, picnic tables, basketball court	System reinforcements
Polaris Park (21)	Playground, benches	Local distribution system separation; system reinforcements
Dan Gilbrech (Frankfort) Park (22)	Picnic area, playground, grass field, basketball court	Local distribution system separation; system reinforcements
Mission Hills Park (23)	Basketball court, playground, grass field	Local distribution system separation; system reinforcements
Marchbank Park (24)	Playground, picnic tables, sports fields, trails	System reinforcements
Lincoln Park (25)	Basketball court, playground, grass field	Local distribution system separation; system reinforcements
Broderick Terry Duel Site Park (26)	Grass field, historic landmark, picnic tables	Local distribution system separation; system reinforcements
Westlake Park (27)	Playground, picnic tables, tennis courts, baseball fields	Local distribution system separation; system reinforcements

SOURCES: San Francisco Recreation and Parks Department (*n.d.*), Daly City Parks and Open Space Master Plan (2020), San Mateo County San Bruno Mountain Park Master Plan (2001)

NOTES: While the exact locations within southeastern San Francisco are not known, the operations control center and operations and maintenance service yards could occur in locations adjacent to recreational uses. The operations control center and operations and maintenance service yards would be located on sites zoned for the proposed use (for example, the operations and maintenance service yards would be located in industrial or production, distribution, and repair districts).

Operation Impacts – All Project Components

As discussed in Initial Study Section E.4, Population and Housing, while the SFPUC anticipates hiring approximately 400 employees to operate the City's electrical system, the workforce would not represent unplanned population growth. In addition, neither the proposed project nor the project variant propose housing. To address ongoing and projected demand for recreation facilities from population growth, the San Francisco Recreation and Parks Department continually acquires new park land as needed and regularly renovates existing recreational facilities and parks. In accordance with General Plan Policy 1.4 of the Recreation and Open Space Element, the San Francisco Recreation and Parks Department performs regular maintenance on its parks, open spaces, and facilities to reduce the physical degradation that can occur with increased use. This general plan policy is implemented through the San Francisco Recreation and Parks Department Strategic Plan, which is updated annually and has a five-year planning horizon. This approach is consistent with urban planning strategies, in which cities such as Brisbane and Daly City typically plan for recreational facilities as part of their planned growth. As such, implementation of the project or project variant would not increase use of existing recreational resources such that substantial physical deterioration of the facilities would occur or be accelerated. For these reasons, operation of the project or project variant would not cause substantial physical deterioration of park facilities to occur or to be accelerated. The impact would be ***less than significant***.

Mitigation: None required.

Impact RE-2: The project or project variant would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. ***(No Impact)***

All Project Components

Neither the proposed project nor the project variant include recreational facilities and are not anticipated to require the construction or expansion of recreational facilities. As discussed in Impact RE-1, neither the proposed project nor the project variant are anticipated to induce substantial unplanned population growth that would in turn generate new recreational demand or require the construction or expansion of recreational facilities. Therefore, the project or project variant would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment and there would be ***no impact***.

Mitigation: None required.

Impact C-RE-1: The project or project variant, combined with cumulative projects, would not result in significant cumulative impacts related to recreation. ***(Less than Significant)***

Construction Impacts – All Project Components

The following analysis considers recreational facilities that could be affected by both the project or project variant and the cumulative projects listed in Table 3.1-3, Projects Considered in Cumulative Impact Analysis, in EIR Section 3.1, Overview. Cumulative projects that would be in the vicinity of the same recreational

resources as the project or project variant include Lake Merced West, Vista Grande Drainage Basin Improvement, Parkmerced, Sunnydale Hope SF, Pacific Place Retail Conversion, Cormorant Battery Storage, Midway Village Redevelopment, PG&E Egbert Switching Station, Baylands North, Brisbane Baylands Specific Plan, Executive Park Subarea Plan, the Harney-101 Transit Crossing Project, and Candlestick Point-Hunters Point Shipyard Development project.

As discussed in Impact RE-1, project construction would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Cumulative projects under construction concurrently and in the same vicinity could similarly temporarily increase the use of existing parks and temporarily impede recreational access, although as discussed in Initial Study, Section E.4, Population and Housing, cumulative construction would not result in substantial unplanned population growth. Increased recreational use during construction would be minor and would not be expected to persist upon completion of the cumulative projects. Furthermore, the increase in demand from construction workers spread across the cumulative project sites would be minor relative to the population of San Francisco. Therefore, the project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to increased use of existing neighborhood and regional parks or other recreational facilities (***less than significant***).

Operation Impacts – All Project Components

The analysis of cumulative impacts during operation considers all projects listed in Table 3.1-3. Project operation would require hiring approximately 400 employees. The project or project variant in combination with the cumulative projects listed in Table 3.1-3 would result in population growth, although as discussed in Initial Study Section E.4, Population and Housing, the cumulative projects would not result in substantial unplanned population growth.

The recreational resources in the vicinity of the project areas and cumulative projects are generally managed by the respective jurisdictions. In San Francisco, to address ongoing and projected demand from population growth, the San Francisco Recreation and Parks Department continually acquires new park land as needed and regularly renovates existing recreational facilities and parks. The San Francisco Recreation and Parks Department practice of acquiring new open spaces and recreational facilities, or expanding where needed, is anticipated to be able to accommodate future demand from increased population. San Mateo County has prepared a master plan for San Bruno Mountain Park which identifies anticipated park needs and potential future improvements to address future demand from increased population surrounding the park, among other concerns.[169] The San Mateo County Parks and Recreation Division also intends that each county park have a regularly revised master plan to evaluate parks and their futures and identify projects for future funding.[170] Similarly, Daly City's Parks and Open Space Master Plan provides a road map to guide decision making to help Daly City maintain, manage and develop the envisioned park and open space system, and identify a planning blueprint to expand parks for the future.[171] Through implementation of ongoing master planning processes, San Bruno Mountain and Daly City parks are anticipated to also accommodate future demand from increased population.

[169] County of San Mateo Parks and Recreation Division, Draft San Bruno Mountain State and County Park Master Plan, April 20, 2001.
[170] County of San Mateo, Park Projects – Master Plans. Available: https://www.smcgov.org/parks/park-projects, accessed April 15, 2024.
[171] City of Daly City, Daly City Parks and Open Space Master Plan, March 2020.

As discussed above, areas of ground disturbance would be restored to preconstruction conditions, and therefore the project or project variant in combination with cumulative projects would not result in permanent changes to access to a designated recreational facility or area or damage recreational trails or facilities.

Therefore, operation of the project or project variant, in combination with other cumulative projects, would not result in a significant cumulative impact related to recreational resources (***less than significant)***.

E.13 Utilities and Service Systems

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
13. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a) Require or result in the relocation or construction of new or expanded, water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐	☐

Impact UT-1: The project or project variant would not require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. ***(Less than Significant)***

Construction Impacts – All Project Components

Project construction would involve electrical system separation work. As discussed in Chapter 2, Project Description, of the EIR, interim electrical facilities or components would not be needed to facilitate the Martin Substation separation because it is anticipated that existing electrical redundancy at the Martin Substation would be sufficient to accommodate uninterrupted operations during construction. Overall, the project or project variant would not affect electric power supply and therefore would not require or result in

the relocation or construction of new or expanded electric power facilities other than the facilities proposed as part of the project.

Underground construction associated with the distribution express feeders, local distribution system separation, system reinforcements, and operations control center would avoid existing utilities by implementing standard minimum spacing requirements. Prior to construction, the contractor would be required by law to contact USA North, which would notify utility providers in the vicinity of the planned excavations. Each provider would be responsible for marking the location of its underground utilities to avoid damage. At some locations, it is possible that existing utilities may need to be permanently relocated; however, relocated utilities would likely be located within or adjacent to the excavated trench. The maximum areas and depths of ground disturbance described in Chapter 2, Project Description, assume some over-excavation to account for potential utility conflicts. Therefore, utility relocation would not result in significant environmental effects not discussed in this document.

Therefore, construction of the project or project variant would not require or result in the relocation or construction of new utility facilities. This impact would be ***less than significant***.

Operation Impacts – All Project Components

The proposed project and project variant include new electric power equipment and telecommunications equipment as described in Chapter 2, Project Description, and are analyzed on a resource-by-resource basis in this document. Neither the project nor the project variant proposes new sources of energy generation and, as discussed in Section E.20, Energy, neither the project nor the project variant would have a measurable effect on regional energy supplies or peak energy demand resulting in a need for additional capacity.

Water and wastewater-related demands of the project or project variant would be restricted to nominal amounts for employee use, and natural gas demand and supply would be unaffected. Therefore, the project or project variant would not require or result in the relocation or construction of new or expanded water, wastewater treatment, or natural gas facilities. As discussed in Initial Study, Section E.3, Population and Housing, neither the project nor the project variant would result in substantial unplanned growth. Further, the project or project variant would not create new impervious area and therefore would not require or result in the construction of new stormwater drainage facilities.

Alternating current corrosion is metal loss (corrosion) that occurs along metal pipelines due to interactions with alternating electrical currents. Electrical transmission lines carrying alternating current can induce currents in nearby metal pipelines. This type of corrosion can be a concern along high-voltage overhead transmission lines. The project or project variant does not include high-voltage overhead transmission lines. Additionally, installing an underground electrical cable (transmission or distribution) inside a conduit typically does not cause electrical interference that would create corrosion.[172] Therefore, the project or project variant would not require or result in the reconstruction or relocation of utilities due to corrosion.

The project or project variant would not require the relocation or construction of additional utility infrastructure (other than as analyzed in this document) such that it would have significant environmental impacts. This impact would be ***less than significant***.

[172] Elmer Cheung, Corrosion Protection Engineer, personal communication with Jimmy Fu, 2024.

Mitigation: None required.

Impact UT-2: Construction and operation of the project or project variant would have sufficient water supplies available to serve the project or project variant and reasonably foreseeable future development during normal, dry, and multiple dry years. (*Less than Significant*)

All Project Components

The San Francisco Public Utilities Commission (SFPUC) adopted the 2020 Urban Water Management Plan (2020 plan) in June 2021.[173] The 2020 plan estimates that current and projected water supplies will be sufficient to meet future demand for retail water[174] customers through 2045 under wet- and normal-year conditions; however, in dry years, the SFPUC would implement water use and supply reductions through its Water Shortage Contingency Plan and a corresponding Retail Water Shortage Allocation Plan.[175]

The 2020 plan relied on the San Francisco Planning Department's housing projections based on the Housing Element 2022 Update, which was still under development when the 2020 plan was adopted. The City adopted the Housing Element 2022 Update in January 2023 with slightly different housing projections. The next update for the Urban Water Management Plan will be in 2025 and anticipated to be released in spring 2026. Accordingly, the SFPUC prepared the 2023 Interim Water Demand Projections (2023 Interim Projections)[176] to document the SFPUC's projected retail water supplies when compared to projected retail water demands associated with the adopted Housing Element 2022 Update. Under normal hydrologic and single dry year conditions, there would be no retail supply shortfall. This is unchanged from the 2020 UWMP. During multiple dry years, the SFPUC would experience an approximately 4.1 mgd or 5.3 percent shortfall during years four and five of an extended drought at 2045 levels of demand.

In December 2018, the State Water Resources Control Board (state water board) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, which establishes water quality objectives for the Bay-Delta watershed, and in particular the Stanislaus, Tuolumne, and Merced tributaries (the Bay-Delta Plan Amendment).[177] The state water board previously indicated its intent to implement the Bay-Delta Plan Amendment by 2022, assuming all required approvals are obtained by that time. However, at this time, implementation of the Bay-Delta Plan Amendment remains uncertain due to pending legal challenges and outstanding regulatory actions. Implementation of the Bay-Delta Plan Amendment would result in a substantial reduction in the SFPUC's water supplies from the Tuolumne River watershed during dry years, requiring rationing to a greater degree in San Francisco than previously anticipated to address supply shortages.

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[173] SFPUC, 2020 Urban Water Management Plan for the City and County of San Francisco, adopted June 11, 2021.

[174] "Retail" demand represents water the SFPUC provides to individual customers within San Francisco. "Wholesale" demand represents water the SFPUC provides to other water agencies supplying other jurisdictions.

[175] San Francisco Public Utilities Commission, 2020 Urban Water Management Plan for the City and County of San Francisco, Appendix K – Water Shortage Contingency Plan, adopted June 11, 2021. This document is available at *https://www.sfpuc.org/about-us/policies-plans/urban-water-management-plan*.

[176] SFPUC, *2023 Interim Water Demand Projections for the City and County of San Francisco*, September 2023. This document is available online at https://www.sfpuc.gov/sites/default/files/documents/2023_Interim_Water_Demand_Projections_Sep2023_0.pdf. Accessed July 29, 2024.

[177] State Water Resources Control Board Resolution No. 2018-0059, Adoption of Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Final Substitute Environmental Document, December 12, 2018, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.

The SFPUC continues to negotiate with the State and other stakeholders to amend the Bay-Delta Plan Amendment to incorporate a Healthy Rivers and Landscapes agreement as its implementation pathway.[178] To this end, in November 2022, the SFPUC and partner agencies on the Tuolumne River signed onto a memorandum of understanding between the State and other parties to structure their participation in the Healthy Rivers and Landscapes agreement negotiation process. This framework document is designed to facilitate the parties' development of enforceable agreements and amendments to the Bay-Delta Plan, with actions and funding to integrate additional water flows with the physical landscape to help improve habitat for native fish in the Sacramento-San Joaquin River Delta watershed, including on the Tuolumne River. On March 29, 2024, in furtherance of the memorandum of understanding, the SFPUC submitted the key components of its proposed Healthy Rivers and Landscapes agreement to the state water board. The SFPUC continues to actively participate in this process.

Whether, when, and the form in which the Bay-Delta Plan Amendment will be implemented, and how those amendments will affect the SFPUC's water supply, is currently unknown. Due to these uncertainties, the 2020 plan in conjunction with the 2023 Interim Projections present future supply scenarios both with and without the Bay-Delta Plan Amendment, as follows:

1. Without implementation of the Bay-Delta Plan Amendment wherein the water supply and demand assumptions contained in Section 8.4 of the 2020 plan and updated in Table 5 of the 2023 Interim Projections would be applicable.
2. With implementation of a Healthy Rivers and Landscapes agreement between the SFPUC and the State Water Resources Control Board that would include a combination of flow and non-flow measures that are designed to benefit fisheries at a lower water cost, particularly during multiple dry years, than would occur under the Bay-Delta Plan Amendment.
3. With implementation of the Bay-Delta Plan Amendment as adopted wherein the water supply and demand assumptions contained in Section 8.3 of the 2020 plan and updated in Table 4 of the 2023 Interim Projections would be applicable.

Water supply shortfalls during dry years would be lowest without implementation of either the Bay-Delta Plan Amendment or the Healthy Rivers and Landscapes agreement and highest with implementation of the Bay-Delta Plan Amendment. Shortfalls under the proposed Healthy Rivers and Landscapes agreement would be between those with and without implementation of the Bay-Delta Plan Amendment.[179]

Under these three scenarios, the SFPUC would have adequate water to meet demand in San Francisco through 2045 in wet and normal years.[180] Without implementation of the Bay-Delta Plan Amendment, water supplies would be available to meet demand in all years except for a 4.1 million gallons per day (5.3 percent) shortfall in years four and five of a multiple year drought based on 2045 demand.

[178] On March 26, 2019, the SFPUC adopted Resolution No. 19-0057 to support its participation in the Healthy Rivers and Landscapes agreement negotiation process.

[179] Because the state water board has yet to consider the proposed Healthy Rivers and Landscapes agreement, the shortages that would occur with its implementation are not known with certainty. However, if accepted, the Healthy Rivers and Landscapes agreement would result in dry year shortfalls of a lesser magnitude than under the Bay-Delta Plan Amendment.

[180] Based on historic records of hydrology and reservoir inflow from 1920 to 2017, current delivery and flow obligations, and fully implemented infrastructure under the 2018 Phased Water System Improvement Program Variant, normal or wet years occurred 85 out of 97 years. This translates into roughly nine normal or wet years out of every 10 years. Conversely, system-wide rationing is required roughly one out of every 10 years. This frequency is expected to increase as climate change intensifies.

With implementation of the Bay-Delta Plan Amendment, shortfalls would range from 11.8 million gallons per day (16.5 percent) in a single dry year to 19.8 million gallons per day (27.8 percent) in years two through five of a multiple year drought based on 2025 demand levels and from 21 million gallons per day (25.9 percent) in a single dry year to 29 million gallons per day (35.8 percent) in years four and five of a multiple year drought based on 2045 demand.

The project or project variant do not require a water supply assessment under the California Water Code. Under sections 10910 through 10915 of the California Water Code, urban water suppliers like the SFPUC must prepare water supply assessments for certain large "water demand" projects, as defined in CEQA Guidelines section 15155.[181] The project or project variant does not qualify as a "water demand" project as defined by CEQA Guidelines section 15155(a)(1); therefore, a water supply assessment is not required and has not been prepared for the project. The following discussion considers the potential water supply impacts for projects – such as the project or project variant – that do not qualify as "water demand" projects.

No single development project alone in San Francisco would require the development of new or expanded water supply facilities or require the SFPUC to take other actions, such as imposing a higher level of rationing across the city in the event of a supply shortage in dry years. Therefore, a separate project-only analysis is not provided for this topic. The following analysis instead considers whether the proposed project in combination with both existing development and projected growth through 2045 would require new or expanded water supply facilities, the construction or relocation of which could have significant construction impacts on the environment. It also considers whether a high level of rationing would be required that could have significant cumulative impacts. It is only under this cumulative context that development in San Francisco could have the potential to require new or expanded water supply facilities or require the SFPUC to take other actions, which in turn could result in significant physical environmental impacts related to water supply. If significant cumulative impacts could result, then the analysis considers whether the project or project variant would make a considerable contribution to the cumulative impact.

Based on guidance from the California Department of Water Resources and a citywide demand analysis, the SFPUC has established 50,000 gallons per day as the maximum water demand for projects that do not meet the definitions provided in CEQA Guidelines section 15155(a)(1).[182] The project includes water use for approximately 400 new workers, and would demand substantially less water than required by a 500 dwelling unit project (CEQA guidelines section 15155(a)(1)(G) uses this threshold to identify a water-demand project that does not fit into other common land use categories). In addition, the project or project variant would incorporate water-efficient fixtures as required by Title 24 of the California Code of Regulations and the city's

[181] Pursuant to CEQA Guidelines section 15155(1), "a water-demand project" means:
(A) A residential development of more than 500 dwelling units.
(B) A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
(C) A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor area.
(D) A hotel or motel, or both, having more than 500 rooms.
(E) an industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
(F) a mixed-use project that includes one or more of the projects specified in subdivisions (a)(1)(A), (a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(1)(E), and (a)(1)(G) of this section.
(G) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

[182] Memorandum, from Steven R. Ritchie, Assistant General Manager, Water Enterprise, San Francisco Public Utilities Commission to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department – Environmental Planning, May 31, 2019.

regulations.[183] It is therefore reasonable to assume that the project or project variant would result in an average daily demand of substantially less than 50,000 gallons per day of water.

Assuming the project or project variant would demand no more than 50,000 gallons of water per day, its water demand would represent a small fraction of the total projected demand for the city, ranging at most from 0.07 to 0.06 percent between 2025 and 2045. As such, the project's water demand would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

Sufficient water supplies are available to serve the project or project variant and reasonably foreseeable future development in normal, dry, and multiple dry years unless the Bay-Delta Plan Amendment is implemented. As indicated above, the project or project variant's maximum demand would represent less than 0.06 percent of the total demand in 2045 when the retail supply shortfall projected to occur with implementation of the Bay-Delta Plan Amendment would be up to 35.8 percent in a multi-year drought. The SFPUC has indicated that it is accelerating its efforts to develop additional water supplies and explore other projects that would improve overall water supply resilience through the Alternative Water Supply Program. The SFPUC has taken action to fund the study of additional water supply projects, but it has not determined the feasibility of the possible projects and has determined that the identified potential projects would take anywhere from 10 to 30 years or more to implement. The potential impacts that could result from the construction and/or operation of any such water supply facility projects cannot be identified at this time. In any event, under such a worst-case scenario, the demand for the SFPUC to develop new or expanded dry-year water supplies would exist regardless of whether the project or project variant is constructed.

Given the long lead times associated with developing additional water supplies, in the event the Bay-Delta Plan Amendment were to take effect sometime after project approval and result in a dry-year shortfall, the expected action of the SFPUC for the next 10 to 30 years (or more) would be limited to requiring increased rationing. As discussed in the SFPUC memorandum, the SFPUC has established a process through its Retail Water Shortage Allocation Plan for actions it would take under circumstances requiring rationing. The level of rationing that would be required of the project or project variant is unknown at this time. Both direct and indirect environmental impacts could result from high levels of rationing. However, the small increase in potable water demand attributable to the project or project variant compared to citywide demand would not substantially affect the levels of dry-year rationing that would otherwise be required throughout the city. Therefore, the project or project variant would not make a considerable contribution to a cumulative environmental impact caused by implementation of the Bay-Delta Plan Amendment. Project or project variant impacts related to water supply would be ***less than significant***.

Mitigation: None required.

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[183] Regulations include the following: Green Building Ordinance, Water Efficient Irrigation Ordinance, Residential Water Conservation Ordinance, Commercial Water Conservation Ordinance, Recycled Water Use Ordinance, Non-Potable Water Ordinance.

Impact UT-3: The project or project variant would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project or project variant's projected demand in addition to the provider's existing commitments. ***(Less than Significant)***

Construction Impacts – All Project Components

Construction of the project or project variant is anticipated to require groundwater dewatering along the distribution express feeders. The water would be pumped into containment tanks and tested for turbidity and pH values. Construction-related dewatering would cause a potential significant impact on utilities and service systems if it would result in a determination by the relevant wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

In San Francisco, dewatered groundwater would be discharged to the combined sewer system, adding to the total amount of wastewater requiring treatment at the Southeast Treatment Plant. Discharge of groundwater produced during construction-related dewatering would be subject to a batch wastewater discharge permit issued in accordance with article 4.1 of the San Francisco Public Works Code, as supplemented by Order No. 158170, which regulates the quantity and quality of discharges to the combined sewer system. With discharge to the combined sewer system in accordance with regulatory requirements, dewatering discharge would be within the available capacity of the combined sewer system.

For work located in Brisbane and within the Bayshore Sanitary District's service area, dewatered groundwater could be discharged to the sanitary sewer lines operated by the Bayshore Sanitary District. The Bayshore Sanitary District provides sanitary sewer services to portions of Daly City and Brisbane. The district currently operates and maintains 15 miles of sanitary sewers and one pumping station. Wastewater treatment and disposal services are provided by the SFPUC's Southeast Treatment Plant.[184] Discharge of groundwater produced during construction-related dewatering would be subject to a wastewater discharge permit from the Bayshore Sanitary District issued in accordance with the Bayshore Sanitary District Ordinance Code Section 515, which regulates the quantity and quality of discharges to the district's sanitary system. With discharge to the Bayshore Sanitary District sanitary system in accordance with regulatory requirements, dewatering discharge would be within the available capacity of the sanitary system.

The Southeast Treatment Plant, where groundwater discharge would be treated, can treat up to 85 million gallons per day during average dry weather.[185] In 2023, the average dry weather flow to the treatment plant was 44.2 million gallons per day.[186] The discharges to the Southeast Treatment Plant during project construction would be small relative to overall available capacity of the treatment system. In addition, the discharge permit requirements would ensure that wastewater system discharges would not exceed the volume or treatment requirements of the SFPUC. Therefore, project construction would not cause the SFPUC or the Bayshore Sanitary District to determine it has inadequate capacity to meet project demands in addition to its existing commitments. For these reasons, the impact would be ***less than significant***.

[184] Bayshore Sanitary District, Welcome to Bayshore Sanitary District, http://www.bayshoresanitary.com/, accessed October 9, 2024.

[185] San Francisco Bay Regional Water Quality Control Board, Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for City and County of San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, Bayside Wet Weather Facilities, and Wastewater Collection System, Order No. R2-2013-0029, adopted August 19, 2013.

[186] SFPUC, 2023 Annual Self-Monitoring Report Southeast Water Pollution Control Plant (NPDES No. CA0037664, Regional Water Quality Control Board Order Nos. R2-2013-0029 and R2-2017-0042), February 1, 2024.

Operation Impacts – All Project Components

Operation of the project or project variant would cause a potential significant impact on utilities and service systems if it would result in a determination by the relevant wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

During operation the project's 400 workers would generate wastewater in the form of toilet flushes and drainage from sinks. The wastewater from project operations would be conveyed through the combined sewer system to the Southeast Treatment Plant, which operates under a National Pollutant Discharge Elimination System (NPDES) permit (Order No. R2-2013-0029). As noted above, the Southeast Treatment Plant is permitted to treat an average dry weather influent flow of up to 85 mgd and in 2023 the average dry weather flow to the treatment plant was 44.2 mgd. Because the Southeast Treatment Plant has sufficient available capacity for anticipated wastewater flows from the project areas, the project or variant would not require construction of new or expansion of existing wastewater treatment. Operation of the project or variant would not result in a determination that the combined sewer system or the Southeast Treatment Plant has inadequate capacity to serve the project's anticipated wastewater demand. As a result, this impact would be ***less than significant***.

Mitigation: None required.

Impact UT-4: The project or project variant would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, and would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. ***(Less than Significant)***

The project or project variant's generation of solid waste would result in a potential significant impact on utilities and service systems if the volume would exceed state or local standards or the capacity of local infrastructure, or if it otherwise would impair the attainment of solid waste reduction goals or conflict with federal, state, and local management and reduction statutes and regulations related to solid waste.
San Francisco uses a three-cart collection program: residents and businesses sort solid waste into recyclables, compostable items (such as food scraps and yard trimmings), and garbage that cannot be recycled or composted. San Francisco generated approximately 493,222 and 520,605 tons of solid waste during 2022 and 2023, respectively.[187] Recology collects and processes all residential and commercial waste, recycling, and composting for San Francisco through its subsidiaries: San Francisco Recycling and Disposal, Golden Gate Disposal and Recycling, and Sunset Scavenger. All materials are taken to the San Francisco Solid Waste Transfer and Recycling Center where they are sorted for transport to composting and recycling facilities and landfills.

Waste that is not composted or recycled is currently taken to the Recology Hay Road Landfill in Solano County. In September 2015, the City entered into a landfill disposal agreement with Recology Inc. for disposal of all solid waste collected in San Francisco at the Recology Hay Road Landfill in Solano County for nine years or until 3.4 million tons have been disposed, whichever occurs first. The City would have an option to renew the agreement for a period of six years or until an additional 1.6 million tons have been disposed,

[187] CalRecycle, Disposal Rate Calculator for San Francisco, Years 2022 and 2023, https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DisposalRateCalculator, accessed October 9, 2024.

whichever occurs first.[188] The Recology Hay Road Landfill has a maximum permitted capacity of 42 million cubic yards and is permitted to accept up to 3,200 tons per day of solid waste; as of June 2020, 30.1 million cubic yards of disposal capacity was available for solid waste disposal.[189,190] At that maximum permitted rate, the landfill has the capacity to accommodate solid waste until approximately 2065. The City's contract with the Recology Hay Road Landfill will extend until 2031 or when the City has disposed 5 million tons of solid waste, whichever occurs first. At that point, the City would either further extend the landfill contract or find and entitle an alternative landfill site.

Construction Impacts – All Project Components

Construction of the project or project variant would take place over approximately three years. Construction debris would primarily consist of excavated soil and a small portion of demolition debris. Assuming that all construction activities proceed concurrently, the project or project variant would generate a daily average of up to 136 truck trips,[191] equating to a maximum average volume of approximately 2,448 cubic yards or 3,427 tons of offhaul per day over the three year construction period.[192] Equipment, soil, and debris removed from the work area would either be recycled or disposed of according to provisions of the San Francisco Construction and Demolition Debris Ordinance (chapter 14 of the San Francisco Environment Code and chapter 13B of the San Francisco Building Code).

San Francisco Environment Code chapter 14 mandates the recycling of construction and demolition debris generated from both private and City-sponsored projects in San Francisco. This chapter affects all construction projects that would generate 1 cubic yard or more of construction and demolition debris and requires that all construction and demolition wastes be taken to a registered facility that is certified by the San Francisco Department of the Environment to receive these wastes. Demolition of an existing structure requires submission of a material reduction and recovery plan that would divert a minimum of 75 percent of construction and demolition waste away from landfills. The San Francisco Department of the Environment maintains a list of registered construction and demolition debris transporters and facilities. Solid waste would be transported by a registered transporter to a registered facility that can process mixed construction and demolition debris pursuant to the construction and demolition ordinance.

Table 11 lists the remaining capacity of class II (designated waste) and class III (nonhazardous) landfills located within the greater San Francisco Bay Area. Some of the landfills are also permitted to accept certain types of designated waste that could be generated during demolition and renovation activities, including asbestos-containing materials. Treatment and removal of hazardous materials is addressed in Initial Study, Section E.18, Hazards and Hazardous Materials. The up to 34,980 cubic yards of soil excavated at Martin Substation or the Daly City Yard are assumed to be contaminated and would be hauled by truck to the nearest class I landfill (Kettleman Hills) or by rail to East Carbon Development Corporation landfill in Utah in compliance with applicable regulations. Construction debris with lead-based paint or asbestos-containing materials can be disposed of as demolition/construction debris at any of the landfills identified below. The

[188] San Francisco Planning Department, *Agreement for Disposal of San Francisco Municipal Solid Waste at Recology Hay Road Landfill in Solano County, Final Negative Declaration*, Planning Department Case No. 2014.0653, https://sfplanning.s3.amazonaws.com/sfmea/2014.0653E_Revised_FND.pdf, accessed September 23, 2022.
[189] Solano County, *Recology Hay Road Landfill Conditional Use Permit Amendment No. 2 Draft Subsequent EIR*, State Clearinghouse Number 2018032031, December 2019.
[190] Solid Waste Facility Permit, Recology Hay Road, issued December 10, 2021.
[191] For the project variant, which has higher daily average truck trips associated with the new City Substation.
[192] Assumes 18 cubic yards of material per truck and one cubic yard of excavated material weighs 1.4 tons.

local landfills listed in Table 11 are all operating in compliance with the requirements of federal, state, and local solid waste regulations.

Table 11 Local Class II and III Landfills

Landfill	County	Asbestos-Containing Materials	Treated Wood Waste	Estimated Closure Date	Daily Maximum Throughput (Tons per Day)	Remaining Capacity (Cubic Yards)
Recology Hay Road	Solano	Yes	—	2065	3,200	30,124,000 as of 2020
Corinda Los Trancos Landfill (Ox Mountain)	San Mateo	Yes	Yes	2034	3,598	18,989,520 as of 2020
Guadalupe	Santa Clara	Yes	Yes	2048	1,300	7,518,220 as of 2023
Newby Island	Santa Clara	Yes	Yes	2041	4,000	16,400,000 as of 2020
Kettleman Hills B-18	Kings	--	--	2029	21,600	3,580,000 as of 2020
East Carbon (ECDC)	Carbon (Utah)	Yes	Yes	—	30,000	Unknown

SOURCE: Recology Hay Road, Revised Organic Disposal Reduction Status Impact Report, Recology Hay Road Vacaville California, February 2023; Browning-Ferris Industries of California, Inc, Organic Disposal Reduction Status Impact Report, Ox Mountain Sanitary Landfill, December 30, 2022; California Department of Resources Recycling and Recovery, Solid Waste Information System Facility/Site Activity Details, Guadalupe Sanitary Landfill and Newby Island Sanitary Landfill, accessed December 2024; Waste Management, Nonhazardous, Nonputrescible, Industrial Solid Waste Codisposal Plan, Kettleman Hills Facility, Revised February 2020.

NOTE: A rough conversion factor for demolition or construction debris is about 1.2 to 2.4 tons per cubic yard, depending on the level of compaction.

With the City's existing recycling programs and the available daily capacity of a combined 12,098-ton maximum throughput per day at regional landfills, non-recyclable construction waste from the project or project variant would not exceed permitted landfill capacity or impair attainment of solid waste reduction goals. Thus, the impact from construction of the project or project variant with respect to landfill capacity and compliance with solid waste statutes and regulations would be ***less than significant***.

Operation Impacts – All Project Components

At buildout, less than 1 ton of waste per day could be generated by project employees.[193] This volume is within the allowable total tons per day of many nearby landfills, including the Recology Hay Road Landfill, and represents far less than 1 percent of the Recology Hay Road Landfill daily throughput capacity. The total operational solid waste generated under the project or project variant that would require disposal in a landfill would also represent far less than 1 percent of the landfills' combined 12,098-ton maximum throughput per day. Furthermore, the nearby landfills have a remaining capacity for municipal solid waste of more than 60 million cubic yards, and therefore can accommodate the solid waste disposal needs of the project or project variant. Given the estimated volume of annual solid waste, the landfills in the greater San Francisco Bay Area would have sufficient capacity to accept the solid waste generated by the project or project variant during operations.

[193] The project or project variant would create 400 new jobs. Assuming the 2022 solid waste production rate of 3.8 pounds per person per day for employees, employees are estimated to generate approximately 1,520 pounds per day or approximately 1 ton per day of solid waste. (CalRecycle, Disposal Rate Calculator for San Francisco, Year 2022, https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DisposalRateCalculator, accessed March 18, 2024.)

In addition, employees at the SFPUC offices, operations and maintenance service yard, and the operations control center would be required to separate waste materials consistent with the San Francisco Mandatory Recycling and Composting Ordinance, California's Mandatory Commercial Recycling Law, and California Public Resources Code section 42649.8; the project or project variant would not include features that would impede compliance with these requirements.[194] Solid waste would be landfilled at facilities that operate in compliance with requirements of federal, state, and local solid waste regulations. Therefore, the impact of operation of the project or project variant on the capacity of local infrastructure, attainment of solid waste reduction goals, and solid waste regulations would be ***less than significant***.

Mitigation: None required.

Impact C-UT-1: The project or project variant, in combination with cumulative projects, would not result in significant cumulative impacts related to relocation or construction of new facilities or wastewater treatment capacity. ***(Less than Significant)***

All Project Components

Construction of the project or project variant is expected to begin in 2026 and end in 2028. This would overlap with construction of many projects in Table 3.1-3, Projects Considered in Cumulative Impact Analysis, in EIR Section 3.1, Overview, including the following: Candlestick Point-Hunters Point Shipyard Phase II, Baylands North, Midway Village Redevelopment, Transbay Downtown Rail Extension, Sunnydale Hope SF Master Plan, Cormorant Battery Storage Facility, Stonestown Development Project, Future State 2035 San Francisco State University Campus Vision Plan, Parkmerced Project, Lake Merced West Project, Vista Grande Drainage Basin Improvement, and Ocean Beach Climate Change Adaptation Project. The geographic scope for potential cumulative utilities and service systems impacts consists of the project areas and the service areas of regional service and utility providers.

Proposed underground construction includes some over-excavation to account for potential utility conflicts and would relocate utilities within the same trench. Of the cumulative projects listed above, some could require excavation within the same roadways as the project or project variant. Same as the project, the cumulative projects would be required to by law to contact USA North, which would notify utility providers in the vicinity of the planned excavations. Each provider would be responsible for marking the location of its underground utilities to avoid damage. Therefore, with compliance with existing laws regarding utility location, the project in combination with other cumulative projects would not result in a significant cumulative impact related to relocation or construction of new facilities (***less than significant***).

As discussed in Initial Study, Section E.3, Population and Housing, the project or project variant, in combination with cumulative projects, would increase the number of employees working in San Francisco, although not to levels beyond planned population growth. As discussed in Initial Study, Section E.20, Energy, the project or project variant and cumulative projects would comply with existing state and local goals for

[194] San Francisco Ordinance No. 1009, the Mandatory Recycling and Composting Ordinance passed by the San Francisco Board of Supervisors in 2009, requires all of San Francisco to separate recyclables, compostables, and trash to be landfilled. California's Mandatory Commercial Recycling Law (Assembly Bill [AB] 341) established a policy goal for California to source-reduce, recycle, or compost not less than 75 percent of the solid waste generated by 2020 and requires businesses and public entities that generate 4 cubic yards or more of commercial solid waste per week, and multi-family entities with five units or more, to arrange for recycling services. California Public Resources Code section 42649.8 requires businesses that generate four cubic yards or more of commercial solid waste per week to arrange for organic waste recycling services and either source-separate organic waste, recycle onsite or self-haul organic waste for recycling, or subscribe to a service that specifically recycles organic waste.

energy efficiency and renewable energy (Title 24 of the California Code of Regulations).[195] As discussed in Impact UT-3, the project or project variant would temporarily increase wastewater flows to the Southeast Treatment Plant during construction, primarily resulting from excavation dewatering. The project or project variant's 400 workers would generate wastewater in the form of toilet flushes and drainage from sinks. Other projects proposed in the area that drain to the combined sewer system (including most projects listed in Table 3.1-3) could involve discharges to the combined sewer system. Discharges from construction of cumulative projects would be temporary in nature and do not typically involve the discharge of large volumes of wastewater. The following development projects listed in Table 3.1-3 would increase wastewater flows to the combined sewer system (including via pipelines operated by Bayshore Sanitary District) year-round as a result of planned population growth: Candlestick Point-Hunters Point Shipyard Phase II, Executive Park Subarea Plan – Thomas Mellon Waterfront Residences/150 Executive Park Boulevard, Brisbane Baylands Specific Plan, Baylands North, Midway Village Redevelopment, Sunnydale Hope SF Master Plan, Pier 70 Waterfront Site, India Basin Mixed-Use Development, and Potrero Power Station Mixed-Use Development Project. However, the SFPUC projects that total wastewater flows to the Southeast Treatment Plant will increase to 69 mgd by the year 2045 and the planned growth under these cumulative projects is encompassed within this projection. With respect to the wastewater system as a whole, the Sewer System Improvement Program is being implemented to ensure the long-term reliability of the system. Because the projected wastewater flows are well within the existing 85 mgd dry weather treatment capacity of the Southeast Treatment Plant, the project or variant in combination with other cumulative projects would not result in a significant cumulative impact related to wastewater treatment capacity (***less than significant***).

Impact C-UT-2: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact related to solid waste facilities and regulations. *(Less than Significant)*

All Project Components

Multiple landfills are located within 100 miles that could be used by the cumulative projects listed in Table 3.1-3. Most of the cumulative projects listed in Table 3.1-3, regardless of construction date, would dispose of construction debris and other solid waste at available landfills, which would contribute to reductions in available landfill capacity. However, similar to the project or project variant, cumulative projects in San Francisco would be required to divert at least 75 percent of solid waste generated, as discussed in Impact UT-4. Similar to the project or project variant, the cumulative projects in both San Francisco and San Mateo County would be subject to California's Mandatory Commercial Recycling Law and California Public Resources Code section 42649.8. The nearby landfills have more than 60 million cubic yards of total remaining capacity. Given that cumulative projects and the project or project variant would be required to comply with the local and state requirements, the project or project variant in combination with cumulative projects would not result in a significant cumulative impact on landfill capacity or attainment of solid waste reduction goals (***less than significant***).

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[195] In California, energy consumption in buildings is regulated by Title 24 of the California Code of Regulations. Title 24 includes standards that regulate energy consumption for the heating, cooling, ventilation, and lighting of residential and non-residential buildings. In San Francisco, documentation demonstrating compliance with title 24 standards is required to be submitted with a building permit application. Compliance with title 24 standards is enforced by the San Francisco Department of Building Inspection.

E.14 Public Services

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
14. PUBLIC SERVICES. Would the project:					
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services such as fire protection, police protection, schools, parks, or other public facilities?	☐	☐	☒	☐	☐

Issues related to parks, which are referred to in topic 14(a) above, are addressed in Initial Study Section E.12, Recreation. Issues related to access for emergency vehicles are discussed in Initial Study Section E.6, Transportation and Circulation. Issues related to wildland fires are addressed in Initial Study Section E.21, Wildfire.

Impact PS-1: Construction and operation of the project or project variant would not result in an increase in demand for fire protection, police protection, schools, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities. ***(Less than Significant)***

The project or project variant could have a significant impact on public services if (1) it would require the construction of new or physically altered governmental facilities in order to maintain acceptable levels of public services, *and* (2) the construction or alteration of such facilities would result in one or more substantial adverse impacts on the environment.

Table 12 shows police and fire services in the project areas and vicinity. Fire protection and police services are offered by the cities of San Francisco, Daly City, and Brisbane, and by unincorporated San Mateo County. In 2003, the cities of Daly City, Brisbane, and Pacifica collaborated to form the North County Fire Authority to provide cost-effective and efficient delivery of fire department services through strategic placement of fire stations and companies throughout the three communities.[196] Therefore, fire protection and police services would be available throughout the project area, including in unincorporated San Mateo County.

The San Francisco Unified School District, Jefferson Union High School District, and various San Mateo County school districts provide school services to residents in the project areas and vicinity. The San Francisco Public Library, Brisbane Public Library, and Daly City Public Library provide library services in the project areas and vicinity.

[196] Daly City, *Fire Department*, n.d., https://www.dalycity.org/461/Fire-Department, accessed March 11, 2024.

Construction Impacts – All Project Components

Incidents requiring law enforcement, fire protection, or other public facilities or services (such as emergency medical services) could occur during construction. Responding to such incidents is routine for the police and fire departments as construction projects are common and ongoing in the area and, as shown in Table 12, multiple facilities are located in the project areas and vicinity. As discussed in detail in Draft EIR Chapter 2, Section 2.5.2, Construction Schedule, while the duration of construction would depend on the number of crews working concurrently and crew deployment timing would be confirmed as project design progresses, project construction would employ up to 76 workers when multiple construction activities overlap. Construction workers would likely commute from San Francisco and other Bay Area counties. Furthermore, construction workers who are residents of San Francisco, Daly City, or Brisbane are currently being served by the respective city services and thus would not represent an increase in demand for public services. Project construction is not expected to result in a substantial unplanned increase in the local population (as described in Initial Study Section E.3, Population and Housing). Therefore, construction of the project or project variant would not require construction of new or physically altered facilities to maintain public services and the impact would be ***less than significant***.

Table 12 Fire Protection and Police Services in Project Areas and Vicinity

Name	Address
FIRE PROTECTION SERVICES	
San Francisco Fire Department Station 19	390 Buckingham Way
San Francisco Fire Department Station 15	1000 Ocean Avenue
San Francisco Fire Department Station 33	8 Capitol Avenue
San Francisco Fire Department Station 43	720 Moscow Street
San Francisco Fire Department Station 44	1298 Girard Street
North County Fire Station 91	151 Lake Merced Boulevard
North County Fire Station 92	18 Bepler Street
Daly City Fire Department Station 93	464 Martin Street
POLICE SERVICES	
Taraval Police Station	2345 24th Avenue
Ingleside Police Station	1 Sergeant John V. Young Lane
Bayview Police Station	201 Williams Avenue
Daly City Police Department	333 90th Street
Broadmoor Police Department	388 88th Street
Brisbane Police Department	147 Valley Drive
San Mateo County Sheriff's Office	400 County Center

SOURCE: Google Maps (2024)

Operation Impacts – All Project Components

Project components would be designed in accordance with the National Electric Code, and California Public Utilities Commission General Orders 95 and 128. Typical operations of the project including the introduction of a new gas-insulated switchgear facility and the use of sulfur hexafluoride gas (SF6 or SF6 gas) for the project variant, would be similar to operations of existing electric equipment in San Francisco and San Mateo counties. SF6 gas is used to insulate electric equipment due to its inert and non-flammable properties. While there would be a new gas-insulated switchgear facility, it would not necessitate additional fire or emergency services as it would not increase fire risk. The new gas-insulated switchgear facility would be remotely monitored (e.g. staff would not be stationed at the facility).

Additionally, pursuant to General Order 174, Rules for Electric Utility Substations, and General Order 128, live electrical parts must be enclosed, isolated, guarded, or insulated to prevent accidental contact. Warning signs indicating high voltage shall be installed on interior surfaces or barriers, if present, inside the entrance of vaults, manholes, handholes, pad-mounted transformer compartments, and other above-ground enclosures containing exposed live parts above 750 volts. These signs shall also be installed on the exterior surfaces of all such pad-mounted transformer compartments and other above-ground enclosures, clearly visible to anyone in a position to open any access door, other opening, or barrier. Operations would not result in incidents requiring elevated levels of emergency response from emergency service providers. Therefore, the project or project variant would not require construction of new or physically altered facilities to maintain existing levels of public services.

The project or project variant would not involve developing new residential units or services that would generate growth in the area. While the SFPUC conservatively anticipates hiring approximately 400 employees to operate the City's electrical system, as discussed in Initial Study Section E.3, Population and Housing, project employment is not expected to induce population growth. As such, the project or project variant would not result in an increase in demand for public services to maintain acceptable ratios for any public services, such as fire protection, police protection, schools, parks, or other public facilities.

For these reasons, operation of the project or variant would not require additional or physically altered facilities to maintain public services and the impact would be ***less-than-significant***.

Mitigation: None required.

Impact C-PS-1: The project or project variant, combined with cumulative projects, would not result in significant impacts associated with the provision of new or physically altered governmental facilities. ***(Less than Significant)***

The geographic scope for potential cumulative public service impacts encompasses the areas served by the same government services that would serve the project or project variant. The project or project variant would contribute to a significant cumulative effect if (1) an increase in demand during project construction or operation would make a cumulatively considerable contribution to the public service demands of other projects described that, in combination, would require the construction of new or physically altered governmental facilities (for example, fire or police stations); *and* (2) the construction of such facilities would have a significant adverse impact on the environment.

Construction Impacts – All Project Components

Construction of the project or project variant is expected to begin in 2026 and end in 2028, which would overlap with construction of most projects in Table 3.1-3, Projects Considered in Cumulative Impact Analysis, in EIR Section 3.1, Overview. These include Candlestick Point-Hunters Point Shipyard Phase II, Baylands North, Midway Village Redevelopment, Transbay Downtown Rail Extension, Sunnydale Hope SF Master Plan, Stonestown Development Project, Future State 2035 San Francisco State University Campus Vision Plan, Parkmerced Project, Lake Merced West Project, Vista Grande Drainage Basin Improvement, and Ocean Beach Climate Change Adaptation Project. During construction, the project or project variant could result in the need for law enforcement, fire protection, or emergency medical services response services. Cumulative projects could result in the same need for police, fire, and emergency services during construction, from the same public service providers that serve the project areas. The potential increase in demand for police, fire, and emergency services during construction of the project and cumulative projects would be temporary.

As discussed in Initial Study Section E.3, Population and Housing, project construction, in combination with cumulative projects, is not anticipated to induce unplanned population growth nor require relocation of construction workers, and thus would not result in the need for new or expanded schools or parks.

For these reasons, project construction in combination with the cumulative projects would result in a ***less-than-significant*** cumulative impact related to public services such as fire protection, police, schools, parks, or public facilities.

Operation Impacts – All Project Components

Cumulative development includes projects as listed in Table 3.1-3. As discussed in Initial Study Section E.3, Population and Housing, the project or project variant, in combination with cumulative projects, would not result in an unplanned increase in employment or population growth. The proposed project is anticipated to generate an estimated 400 jobs and cumulative projects are estimated to generate 29,880 jobs. The cumulative employment growth would account for 14 percent of the projected increase of 213,000 households in San Francisco by 2050 and 23 percent of the projected increase of 129,000 households in San Mateo County by 2050.

Population increases from cumulative development would align with San Francisco's and San Mateo County's planned growth projections. Further, as discussed in Impact C-PH-1, the project or project variant would not induce population growth. Therefore, the project or project variant in combination with other cumulative projects would not result in a significant impact associated with the provision of new or physically altered governmental facilities (***less than significant)***.

E.15 Biological Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
15. BIOLOGICAL RESOURCES. Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	☐
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐	☐

This section describes the existing terrestrial and aquatic biological resources that occur or have the potential to occur in the project areas. Information on natural communities, plant and animal species, and sensitive biological resources used in preparation of this section was obtained from regional databases, plans, and reports relevant to the project, including the California Department of Fish and Wildlife Natural Diversity Database,[197] the California Native Plant Society Electronic Inventory,[198] the U.S. Fish and Wildlife Service,[199]

[197] California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB) Rarefind version 5 query of the San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, Commercial Version, April 8, 2024.
[198] California Native Plant Society, Inventory of Rare and Endangered Plants for San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, https://rareplants.cnps.org/Search/result?frm=T&sl=1&quad=3712274:3712264:&elev=:m:o, April 8, 2024.
[199] U.S. Fish and Wildlife Service, My Project, IPaC Trust Resource Report and List of Federally Endangered and Threatened Species that may occur in the PG&E Power Asset Acquisition Project location, and/or may be affected by the project, April 8, 2024.

standard biological literature, eBird.org,[200,201,202] and a Biological Resources Technical Memorandum[203] prepared for the project. **Appendix I** includes the Biological Resources Technical Memorandum.

As discussed in Chapter 2, Project Description, the local distribution system separation and system reinforcement areas in Figures 2-7 and 2-8, respectively, show approximate locations within which work would occur. Within these general areas, work would be completed within or near public road right-of-ways or on existing equipment. The term "project areas" as used in this discussion refers to all areas shown in Figure 2-1; however, work would be completed within or near public road right-of-ways or on existing equipment in areas shown in Figure 2-1.

E.15.1 ENVIRONMENTAL SETTING

The location of the project areas along the San Francisco-San Mateo County border contains primarily developed landcover. The Olympic Club and San Francisco Golf Club golf courses are contained within the western project areas. Parks and open space areas overlapping the project areas include a portion of Lake Merced, San Bruno Mountain State and County Park, Icehouse Hill, Brisbane Lagoon, and undeveloped private property on slopes and valleys within the cities of Daly City and Brisbane.

Vegetation Communities and Habitat Types

The Biological Resources Technical Memorandum prepared for the project characterized vegetation communities and habitat types of the project areas, which are summarized below. The locations of these vegetation communities and habitats within the project areas are depicted in Figure 2 of Appendix H.

Urban/Suburban

The project areas generally consist of developed urban and suburban areas. These areas are characterized by engineered structures, roadways, ornamental vegetation, and disturbed ruderal vegetation along roadsides and between structures. Urban and suburban areas can provide cover, foraging, and nesting habitat, albeit somewhat limited compared to natural habitats, for a variety of common birds, reptiles, and small mammals, especially those that are tolerant of human presence. Birds commonly observed in such developed habitats include native American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), and northern mockingbird (*Mimus polyglottos*), as well as non-native house sparrow (*Passer domesticus*), rock pigeon (*Columba livia*), and European starling (*Sturnus vulgaris*). These avian species could nest within street trees, landscaping, or within buildings or other structures of the project areas. Other wildlife that are expected within developed parts of the project areas include striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*), and non-natives such as Virginia opossum (*Didelphis virginiana*) and feral cat, especially where developed areas abut open spaces. Common bats, such as the Brazilian free-tailed bat (*Tadarida brasiliensis*), can adapt to living in urban areas near water where they can forage insects, such as over Lake Merced or Brisbane Lagoon, especially in the shallows near shore. Bats may roost in nearby unoccupied structures that provide adequate thermal regulation.

[200] eBird: Lake Merced—San Bruno Mountain Park, https://ebird.org/hotspot/L247968 accessed May 3, 2024.
[201] eBird: Lake Merced—Concrete Bridge area, https://ebird.org/hotspot/L791371 accessed May 3, 2024.
[202] eBird: Candlestick Shoreline, https://ebird.org/hotspot/L1433536 accessed May 3, 2024.
[203] Coast Ridge Ecology, *Biological Resources Technical Memorandum for PG&E Power Asset Acquisition Project.* Prepared for Environmental Science Associates and the San Francisco Planning Department, May 2024. (Appendix H)

Grassland

The southeastern project areas contain several areas with grassland habitat, including San Bruno Mountain State and County Park, Icehouse Hill, and private open spaces or undeveloped lands in the cities of Daly City and Brisbane. Species composition of each grassland varies but includes a combination of native and non-native species that have become naturalized to the region. Grassland alliances expected in the project areas may include wild oat and annual brome grasslands (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance), needle grass – melic grass grasslands (*Nassella* spp. – *Melic* ssp. Herbaceous Alliance), and California goldfield – dwarf plantain – small fescue flower fields (*Lasthenia californica - Plantago erecta - Vulpia microstachys* Herbaceous Alliance). Some invasive species, such as wild fennel (*Foeniculum vulgare*), cotoneaster (*Cotoneaster* sp.), and gorse (*Ulex europaeus*), are expected in these grasslands as is common to this habitat type in the region.

Grasslands support insect forage for birds, bats, reptiles, and small mammals. Bird species expected to use this habitat include tree swallow (*Tachycineta bicolor*), American goldfinch (*Spinus tristis*), lesser goldfinch (*Spinus psaltria*), Brewer's blackbird (*Euphagus cyanocephalus*), black phoebe (*Sayornis nigricans*), and western bluebird (*Sialia mexicana*). Red-tailed hawk and red-shouldered hawk (*Buteo jamaicensis*, B. lineatus) will hunt small mammals occupying grasslands, such as deer mouse (*Peromyscus maniculatus*) or vagrant shrew (*Sorex vagrans*). Western fence lizard (*Sceloporus occidentalis*), northern alligator lizard (*Elgaria coerulea*), and Pacific gopher snake (*Pituophis catenifer catenifer*) are common grassland occupants and would be expected within this habitat of the project areas.

Freshwater Emergent Wetlands, Lakes, and Ponds

Several freshwater wetlands and open water features occur within the project areas. Three emergent freshwater wetlands are located in the eastern project areas, all within the city of Brisbane. These include Visitacion Creek Marsh north of Main Street and south of the existing Martin Substation and two unnamed wetlands east of Industrial Way (refer to Appendix H, Figure 2). A portion of Lake Merced's Impound Lake overlaps the project areas and contains both open water and freshwater marsh shoreline vegetation. Emergent freshwater marsh typically includes native species such as broadleaf cattail (*Typha latifolia*), California bulrush (*Schoenoplectus californicus*), tules (*Schoenoplectus acutus* var. *occidentalis*), swamp knotweed (*Persicaria amphibia*), common bog rush (*Juncus effusus*), and spreading rush (*J. patens*). An isolated ephemeral freshwater pond is present among grasslands of the project areas within San Bruno Mountain State and County Park.

Freshwater marsh wetlands and open water (lacustrine) habitat is valuable to resident and seasonal wildlife. Many avian species will forage and nest in freshwater wetlands and lacustrine shoreline fringe, such as marsh wren (*Cistothorus palustris*), song sparrow (*Melospiza melodia*), and common yellowthroat (*Geothlypis trichas*). Larger open water features like Impound Lake may also support nesting pied-billed grebe (*Podilymbus podiceps*), mallard (*Anas platyrhynchos*), and American coot (*Fulica americana*). The Lake Merced system supports a wide range of native and non-native fish species, some of which may occur within Impound Lake, such as largemouth bass (*Micropterus salmoides*), Sacramento blackfish (*Orthodono microlepidotus*), and rainbow trout (*Oncorhynchus mykiss*). Native Sierran treefrog (*Pseudacris sierra*) and non-native American bullfrog (*Lithobates catesbeianus*) and red-eared slider (*Trachemys scripta elegans*) are also known to occupy Lake Merced open water and shoreline wetland habitat.

Salt Marsh Wetland

Two salt marsh wetlands bordering San Francisco Bay are present in the project areas. These include a portion of Brisbane Lagoon and Candlestick Shoreline east of Harney Way and south of Candlestick Point. Brisbane Lagoon is a man-made feature that is hydraulically connected to San Francisco Bay and consists of brackish conditions with both freshwater emergent wetland and salt marsh vegetation. Most of the lagoon shoreline vegetation closely resembles a saltwater marsh dominated by pickleweed (*Salicornia virginica*). Other common associates include marsh jaumea (*Jaumea carnosa*), alkali heath (*Frankenia salina*), saltgrass (*Distichlis spicata*), and marsh gumplant (*Grindelia stricta* var. *angustifolia*). Candlestick Shoreline contains saltmarsh wetland vegetation, tidal mudflat, and rocky shoreline areas.

Salt marsh and shoreline habitat of San Francisco Bay provides foraging, cover, nesting, and roosting opportunity for several bird species. Song sparrow will nest in saltmarsh vegetation, and shorebirds such as least sandpiper (*Calidris minutilla*), dunlin (*C. alpina*), black-necked stilt (*Himantopus mexicanus*), and willet (*Tringa semipalmata*) will forage among the rocky shoreline and exposed mudflat during low tide.

Sensitive Natural Communities

A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, state, or federal agencies and therefore given special regulatory recognition. Most sensitive natural communities are given special consideration because they perform important ecological functions, such as maintaining water quality and providing essential habitat for plants and wildlife. Some plant communities support a unique or diverse assemblage of plant species and therefore are considered sensitive from a botanical standpoint. For example, the California Department of Fish and Wildlife recognizes sensitive natural communities because the community is unique in its constituents, restricted in distribution, supported by distinctive soil conditions, and/or considered locally rare. One criterion for a sensitive natural community is a database global rank of G1, G2, or G3 or a state rarity rank of S1, S2, or S3.[204,205,206]

The Biological Resources Technical Memorandum identifies one sensitive natural community within the salt marsh wetlands of the project areas: pickleweed mats. Pickleweed mats (*Sarcocornia pacifica* [*Salicornia depressa*] Herbaceous Alliance) are a sensitive natural community and a state vulnerable natural community (S3). This natural community is dominated or co-dominated by pickleweed (*Sarcocornia pacifica* or *Salicornia depressa*) with algae and other species such as Pacific cordgrass (*Spartina foliosa*), California sea

[204] Sawyer, John O., Todd Keeler-Wolf, and Julie Evens, A Manual of California Vegetation, Second Edition, California Native Plant Society and California Department of Fish and Game, Sacramento, 2009.

[205] California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB) Rarefind version 5 query of the San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, Commercial Version, April 8, 2024.

[206] California Department of Fish and Wildlife, Natural Diversity Database, Special Animals List, Periodic publication, April 2024, p. iii-vii:

G1 = Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 = Imperiled—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 = Vulnerable—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 = Imperiled—At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3 = Vulnerable—At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

lavender (*Limonium californicum*), and rushes (*Juncus* spp.). This natural community occurs in coastal salt marshes or alkaline flats.

Wetlands and Other Waters

Wetlands provide important habitat for birds, fish, and other wildlife, and provide many ecosystem services. Because of their value and vulnerability, wetlands are protected by a series of special laws and regulations. The U.S. Army Corps of Engineers (Corps), San Francisco Bay Regional Water Quality Control Board (regional water board), California Department of Fish and Wildlife, and California Coastal Commission protect and regulate wetlands and other waters that meet the respective agencies' criteria for defining wetland or water features. Three definitions of "wetland" are considered for purposes of this project, one administered by the Corps under the federal Clean Water Act (federal wetlands and other waters[207]), one administered by the State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board under the Porter-Cologne Water Quality Control Act (state wetlands and other waters[208]), and one administered by the California Coastal Commission under the California Coastal Act (wetlands and other waters in the Coastal Zone[209]). Navigable open waters are regulated as "other waters" of the United States under section 404 of the federal Clean Water Act and section 10 of the River and Harbors Act.[210] The Bay Conservation and Development Commission is a regional agency that regulates activities resulting in structures or fill in or above wetlands and waters of the United States and State within San Francisco Bay and activities within 100 feet of the Bay shoreline.

An aquatic resources delineation to identify the boundaries of aquatic resources under the jurisdiction of these federal and state regulatory agencies was not conducted for the project or project variant. San Francisco Bay and Impound Lake are presumed to be regulated as navigable other waters of the United States and State. Freshwater emergent and salt marsh wetlands of the project areas described above under Vegetation Communities and Habitat Types are presumed to qualify as federal and/or State regulated wetlands.

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[207] Wetlands are a subset of waters of the United States and receive protection under section 404 of the Clean Water Act. The term "waters of the United States," as defined in the Code of Federal Regulations under the Navigable Waters Protection Rule (33 CFR Part 328), includes 1) Territorial seas and navigable waters; 2) perennial and intermittent tributaries that, in a typical year, contribute surface water flow to such [territorial seas and navigable] waters; 3) certain lakes, ponds, and impoundments of jurisdictional waters; and 4) wetlands adjacent (hydrologically connected in a typical year through surface water [includes connections resulting from normal flooding]) to other jurisdictional waters. Federal wetlands are defined in title 33, chapter II, part 328.4 of the Code of Federal Regulations: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

[208] The State Water Resources Control Board adopted the following definition of state wetlands on April 2, 2019, which became effective May 28, 2020: "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." The Water Code defines "Water of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the state" includes all "water of the U.S."

[209] Wetlands and other environmentally sensitive habitats in California's Coastal Zone are regulated by the California Coastal Commission under the California Coastal Act of 1976. The commission broadly defines wetlands under the Coastal Act (California Public Resources Code section 30121) as follows: "Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens." Whereas both the federal and state water board definitions require the presence of all three wetland identification parameters to be met (hydrophytic vegetation, hydric soils, and hydrology), the commission regulations (California Code of Regulations Title 14 (14 CCR)) establish a "one parameter definition" that only requires evidence of a single parameter to establish wetland conditions.

[210] The term "waters of the United States," as defined in the Code of Federal Regulations under the Navigable Waters Protection Rule (33 Code of Federal Regulations Part 328), includes (1) territorial seas and navigable waters; (2) perennial and intermittent tributaries that, in a typical year, contribute surface water flow to such [territorial seas and navigable] waters; (3) certain lakes, ponds, and impoundments of jurisdictional waters; and (4) wetlands adjacent (hydrologically connected in a typical year through surface water [includes connections resulting from normal flooding]) to other jurisdictional waters.

Wildlife Movement Corridors

Wildlife movement corridors are considered an important ecological resource by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range.

Movement corridors for wildlife through the project areas are severely limited. Land between San Bruno Mountain State and County Park east to the San Francisco Bay shoreline facilitates wildlife movement within the otherwise developed surrounding geography. A portion of San Bruno Mountain State and County Park and this undeveloped private property overlaps the project areas. Based on review of the California Department of Fish and Wildlife's California Essential Habitat Connectivity project, the project areas do not contain essential connectivity areas.[211] No essential connectivity areas are identified within San Francisco; the nearest essential connectivity area borders the Sharp Park Golf Course, located over 4 miles south of the project areas.

Special-Status and Otherwise Protected Species

A review of databases and biological reports identified special-status plant and animal species with potential to occur in the project areas. Table B-1 in Appendix H lists special-status plants and animals, their preferred habitats and plant blooming periods, and likelihood for occurrence at the project areas. Conclusions regarding habitat suitability and species occurrence are based on the understanding of habitat conditions of the project areas, proximity of database query occurrence records to the project areas, and the analysis of existing literature on the species' regional presence. It was then determined whether there is a low, moderate, or high potential for species occurrence at the project areas. Only species with a moderate or high potential for occurrence at the project areas are discussed further in this section.

Special-status species with at least a moderate potential to occur at the project areas include northwestern pond turtle, two special-status butterflies, and two special-status birds, discussed in detail below.

Northwestern Pond Turtle

Northwestern pond turtle (*Actinemys marmorata*) is proposed for federal listing as threatened and is a California species of special concern. It inhabits rivers, streams, natural and artificial ponds, and lakes, using exposed banks, mats of vegetation, logs, or rocks to bask in the sun. Adjacent terrestrial habitat with loose sandy soils is also critical for egg laying, winter refuge, and dispersal. Two distinct habitats may be used for egg laying: (1) along large slow-moving streams, in which eggs are deposited in nests constructed in sandy banks, and (2) along foothill streams, where females may climb hillsides, sometimes moving considerable distances to find a suitable nest site.[212] One Bay Area study documented female western pond turtles selecting egg laying sites within 100 yards of aquatic habitat and among tall grasses with sun exposure.[213]

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[211] Gogol-Prokurat, Melanie, *Essential Connectivity Areas – California Essential Habitat Connectivity (CEHC)*, January 13, 2014; and California Department of Fish and Wildlife, Biogeographic Information and Observation System (BIOS), https://apps.wildlife.ca.gov/bios6/, accessed July 9, 2024.

[212] Storer, T. I., Notes on the range and life-history of the Pacific fresh-water turtle, Clemmys marmorata, Univ. Calif. Publ. Zool. 32:429-441, 1930.

[213] Jones, Carolyn, Study dials up western pond turtle. SFGate. July 29, 2013, https://www.sfgate.com/science/article/Study-dials-up-western-pond-turtles-4694326.php.

This species has been documented in East Lake (2007)[214] and North Lake (2000)[215] of Lake Merced and suitable aquatic habitat for northwestern pond turtle is present within the entire Lake Merced system, including the aquatic and shoreline freshwater emergent wetland habitat within the project area at Impound Lake. The breeding status of Lake Merced turtle population, if still present, is unknown; however, abundant shoreline vegetation throughout the lake system appears sufficient to support a viable local population.[216] Due to the recorded presence of northwestern pond turtles in East Lake and North Lake, interconnectedness of the Lake Merced system, and presence of suitable aquatic and terrestrial habitat for this species, northwestern pond turtle is considered to have a moderate potential to occur within the Lake Merced portion of the project areas.

Special-status Butterflies

Mission blue butterfly (*Icaricia icarioides missionensis*) and callippe silverspot butterfly (*Speyeria callippe callippe*) are listed as endangered under the federal Endangered Species Act. The mission blue butterfly is blue with black-edged wings and distinctive off-white irregular spots on the undersides of its wings. The mission blue butterfly has three host plants, all perennial lupines: silver bush lupine (*Lupinus albifrons var. collinus*), western lupine (*L. formosus*), and variicolor bluff lupine (*L. littoralis* var. *variicolor*). This species has a complex lifecycle in which they will spend most of their lives in diapause as larvae during the summer, fall, and winter. When the larvae awake from diapause in the early spring, they feed on the host plant foliage before pupating. The typical flight period for this species once they emerge from the pupae as adults is late March to early July. *Lupinus albifrons var. collinus* were observed within the project areas overlapping grasslands within San Bruno Mountain State and County Park near Alta Vista Way in Daly City (refer to orange areas in Appendix H, Figure 2). Although this area is somewhat isolated from known occurrences of mission blue butterfly, the presence of the host plant and proximity to the known population of the species that occupies grasslands of the park, there is a moderate potential for mission blue butterfly to occur in these project areas. Suitable grassland habitat for mission blue butterfly is also present in undeveloped grasslands east of the park and west of Bayshore Boulevard at Icehouse Hill, where system reinforcements are proposed (area 9). There are California Natural Diversity Database (CNDDB) occurrence records for mission blue butterflies in grasslands in and near the project areas and prior observations of host plants; however, host plants were not observed in these areas during surveys supporting this analysis.[217,218] Mission blue butterfly has a moderate potential to occur in grasslands in these project areas.

Callippe silverspot butterfly is a medium-sized butterfly with brown, orange, and black markings on the dorsal side of the wing and teardrop-shaped silver spots on the underside. The callippe silverspot butterfly is a non-migratory butterfly with four life stages: egg, larva, pupa, and adult. During the species' lifetime, it is dependent on its host plant, *Viola pedunculata*. The adults emerge from pupae in late spring to early summer for a flight period lasting from approximately mid-May to mid-July when they mate; the average adult life span for callippe silverspot butterflies is about two weeks. Females oviposit eggs around the host plant where, after a week, the larvae emerge from the egg and go into diapause until the following spring. Post

[214] San Francisco Public Utilities Commission, Lake Merced Watershed Report, January 2011.

[215] California Department of Fish and Wildlife, California Natural Diversity Database Rarefind 5, Biogeographic Data Branch, Sacramento, 2021, data dated April 8, 2024.

[216] San Francisco Recreation and Parks Department, Significant Natural Resource Areas Management Plan – Final Draft. February 2006.

[217] Coast Ridge Ecology, Biological Resources Technical Memorandum for PG&E Power Asset Acquisition Project, Prepared for Environmental Science Associates and the San Francisco Planning Department, May 2024. (Appendix H)

[218] California Department of Fish and Wildlife, California Natural Diversity Database Rarefind version 5 query of the San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, Commercial Version, April 8, 2024.

diapause larvae will then feed on the host plant in the early spring, followed by pupation and finally adult emergence around mid-May. The same grasslands of San Bruno Mountain State and County Park and undeveloped grasslands east of the park that overlap the project areas (reinforcement areas 1 and 9) could support *Viola pedunculata*, although none were observed during surveys informing this analysis and habitat quality for the host plant is low due to the presence of invasive species and brush. Similar conditions are present at the project area overlapping Icehouse Hill grasslands (reinforcement area 9); *Viola pedunculata* was not observed but could be supported by this habitat. CNDDB documented occurrence records for callippe silverspot butterfly in both the undeveloped grasslands east of the park and within Icehouse Hill grasslands.[219] Because of the proximity of all these locations to the known population of callippe silverspot butterfly at San Bruno Mountain State and County Park, this species has a moderate potential to occur within grasslands of the project areas if the host plant is present.

Special-status Birds

Bank swallow (*Riparia riparia*), a California threatened species, is a migratory bird found in California from spring to fall while breeding, nesting, and rearing young. Bank swallow is known to nest in the sandy coastal bluffs north and south of Fort Funston and to forage insects over the open waters of Lake Merced.[220,221] There is no suitable nesting habitat for this species within the project areas. This species may move through the project areas overlapping and near Lake Merced while foraging and therefore has a moderate potential to occur.

San Francisco (or saltmarsh) common yellowthroat (*Geolthlypis trichas sinuosa*), a California species of special concern, is known to occupy and nest within riparian and freshwater emergent wetland habitat bordering Lake Merced. This species has high potential to occur and nest within shoreline vegetation bordering Impound Lake that is within the project areas.[222]

Resident and Migratory Birds

Resident and migratory birds that do not have special federal or state species status could nest within or nearby the project areas in trees and shrubs and on buildings and other structures. Several raptors known to nest in San Francisco could also occupy urban or open space habitats of the project areas during breeding season and establish nests within large trees or cavities. These species may include red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), and great horned owl (*Bubo virginianus*).[223] Some additional native birds that would be expected to nest in the project areas and vicinity include marsh wren, black phoebe, pygmy nuthatch (*Sitta pygmaea*), dark-eyed junco (*Junco hyemalis*), American robin (*Turdus migratorius*), California towhee (*Melozone crissalis*), California scrub jay (*Aphelocoma californica*), bushtit (Psaltriparus minimus), Anna's hummingbird (*Calypte anna*), American crow, song sparrow, and white-crowned sparrow (*Zonotrichia leucophrys*).[224] The Migratory Bird Treaty Act and California Fish and Game Code protect raptors, most native migratory birds, and breeding birds that would occur in the project areas or nest in suitable habitat in the vicinity.

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[219] Ibid.
[220] National Park Service, Bank Swallow Monitoring at Fort Funston, GGNRA, 2019 NPS Report, 2019.
[221] National Park Service, 2020 Bank Swallow Summary Report, 2020.
[222] California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB) Rarefind version 5 query of the San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, Commercial Version, April 8, 2024.
[223] San Francisco Field Ornithologists, *San Francisco Breeding Bird Atlas - Draft*, last revised June 2003.
[224] Ibid.

Bats

Several bat species without special status are expected to occupy the project areas, especially portions with mature trees for roosting, and adjacent to open spaces for foraging insects. Bats utilize structures such as buildings and bridges as well as trees for roosting. Structures within the project areas as well as trees with suitable cavities and exfoliating bark may provide suitable roosting habitat for bats. Non-special status bats species have some protection under California Department of Fish and Wildlife Code section 4150, which prohibits the "take"[225] of non-game mammals. Bats are most vulnerable to "take" when occupying maternity or hibernation roosts. Non-special status bat species such as the Mexican free-tailed bat (*Tadarida brasiliensis*), California myotis (*Myotis californicus*), and Yuma myotis (*Myotis yumanensis*), potentially occur in the project areas.

Species Not Likely to Occur

Species unlikely to occur within the project areas due to lack of suitable habitat or known range are not included in this discussion. Based on field surveys supporting the Biological Resources Technical Memorandum and evaluation of project areas' habitats, no special-status plants were determined to have at least a moderate potential to occur within the project areas. The project does not propose any work within open waters of San Francisco Bay or the Pacific Ocean, and thus special-status fish and marine mammals that occupy San Francisco Bay or Pacific Ocean waters are not discussed further. Based on historical survey records and the lack of connectivity of Lake Merced to the Pacific Ocean, no special-status fish species are expected within the Impound Lake aquatic habitat near the project areas.

Critical Habitat

The U.S. Fish and Wildlife Service can designate critical habitat for species listed as threatened or endangered. "Critical habitat" is defined in section 3(5)(A) of the federal Endangered Species Act as those lands (or waters) within a listed species' current range that contain the physical or biological features that are considered essential to its conservation and that may need special management or protection.

A small portion of the project areas that overlaps McLaren Park in San Francisco is designated critical habitat for Franciscan manzanita (*Arctostaphylos franciscana*), listed as endangered under the federal Endangered Species Act. This critical habitat unit (Unit 13: McLaren Park West) does not currently support this species but contains potentially suitable habitat that could support the future reintroduction of the species.[226]

Environmentally Sensitive Habitat Areas

California Coastal Act section 30107.5 defines an environmentally sensitive habitat area (ESHA) as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." For a resource to be determined an ESHA, it must retain three qualities: (1) the area contains rare species or habitat, which may include globally rare but locally abundant resources that have experienced historical decline; or (2) the species or habitat is especially valuable, such as being unusually

[225] The California Fish and Game Code defines "take" of a species for purposes of legislative statutes as "to hunt, pursue, catch, capture, kill, or attempt to hunt, pursue, catch, capture, or kill." (Fish and Game Code section 86.)
[226] U.S. Fish and Wildlife Service, Proposed Rule: Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Arctostaphylos franciscana*, 78 Federal Register No. 125, pages 38897-38911, June 28, 2013.

pristine, supporting species at the edge of their range, or otherwise special nature; and (3) the species or habitat in question is vulnerable to human disturbance or degradation.

The California Coastal Commission retains authority to designate ESHA in jurisdictions where it has not certified a Local Coastal Program (LCP) and/or implementing maps and policies. Local jurisdictions have primary authority to designate ESHA within their boundaries through their LCPs. The California Coastal Commission is generally restricted in its ability to designate ESHA other than those set forth in an LCP adopted by the relevant jurisdiction. San Francisco's certified LCP, the Western Shoreline Area Plan, which includes Lake Merced, does not identify specific ESHA within the plan area, but rather makes reference to ESHA that may be associated with bluffs, dunes, beaches, and intertidal areas. Because the California Coastal Commission retains jurisdiction over Lake Merced, it would ultimately determine whether ESHA is present in the portion of the project areas under its retained jurisdiction.

Arroyo willow riparian habitat and some upland vegetation communities along the shorelines of the Lake Merced system have previously been identified as ESHA by the California Coastal Commission because these shoreline communities adjacent to Lake Merced provide unique habitat in the region, support special-status species (northwestern pond turtle and several special-status birds), and are easily disturbed or degraded by human activities or development.[227] Freshwater emergent wetlands within the Lake Merced system have previously been identified as coastal wetlands rather than ESHA.

Based on precedent, the Impound Lake shoreline freshwater emergent wetlands within the project areas are not considered potential ESHA for the purposes of the CEQA analysis but rather coastal wetlands. There is no riparian habitat within the project areas at Impound Lake, and the upland vegetation above the extent of freshwater emergent wetlands consists of ruderal non-native grasses unlikely to qualify as ESHA. The final determination of whether these shoreline vegetation communities are ESHA (or wetlands) would be made by the San Francisco Planning Commission or the California Coastal Commission through consideration of a coastal development permit if required for the project and may differ from the conclusion presented here.

San Bruno Mountain Habitat Conservation Plan

The San Bruno Mountain Habitat Conservation Plan (HCP) is a guidance document for managing and monitoring conservation actions to benefit the unique and sensitive biological resources of San Bruno Mountain. The HCP specifies management and monitoring activities for various locations within the HCP area with the purpose of conserving native habitats for mission blue butterfly, callippe silverspot butterfly, and San Bruno elfin butterfly (*Callophrys mossii bayensis*) populations, the three butterfly species listed as endangered under the federal Endangered Species Act that occupy San Bruno Mountain.

San Mateo County and the cities of South San Francisco, Brisbane, and Daly City are the permittees responsible for implementing the HCP under permit from the U.S. Fish and Wildlife Service. The San Mateo County Parks Department is the HCP Plan Operator and is responsible to the permittees for managing and monitoring the conserved habitat and the endangered species within the HCP. The project areas include two locations within the San Bruno Mountain HCP area, although primarily within "development areas" or "unplanned areas" as mapped by the HCP agreement. A corner of system reinforcements area 1 (shown in Figure 2-8) is within "conserved habitat" area as mapped in the HCP agreement. Parts of system reinforcements area 9 also overlap conserved habitat. Projects that would disturb habitat within the "conserved habitat" areas are

[227] California Coastal Commission, Staff Report, Application Number 2-14-1612, December 19, 2014.

required to comply with the HCP's site activity review process to ensure that the project would not conflict with the HCP and management specifications or restrictions adopted for the project location. [228] The site activity review process is used to review projects that are minor in scale yet have potential to affect sensitive habitat areas within the HCP area.

E.15.2 IMPACTS AND MITIGATION MEASURES

Impact BI-1: The project or project variant could have a substantial adverse effect, either directly or through habitat modifications, on special-status species: northwestern pond turtle, saltmarsh common yellowthroat, mission blue butterfly, and callippe silverspot butterfly. ***(Less than Significant with Mitigation)***

Local Distribution System Separation and System Reinforcements

Construction Impacts

Impound Lake aquatic habitat and shoreline wetlands could support northwestern pond turtle throughout all life stages, foraging bank swallow, and nesting and foraging saltmarsh common yellowthroat. Grasslands within San Bruno Mountain State and County Park provide suitable habitat for the host plants required by mission blue butterfly and callippe silverspot butterfly and are contiguous with grasslands that support both species' local populations. Nearby Icehouse Hill grasslands could also support the host plant for callippe silverspot butterfly.

Northwestern Pond Turtle

Although northwestern pond turtle is not previously documented within Impound Lake, it has been recorded in the larger interconnected Lake Merced system (in East Lake and North Lake). Site conditions at Impound Lake meet this species' ecological requirements and it is therefore presumed present. The project does not propose any in-water work or physical disturbance of aquatic and freshwater emergent marsh shoreline habitat; thus, direct impacts on northwestern pond turtle from physical disturbance are not expected. However, construction of underground equipment and installation of new utility pole foundations (if needed) could result in a small amount of ground disturbance within or near existing roadways or paths near Impound Lake (approximate disturbance footprints would be 9 square feet). Construction trenching or installation of new electrical poles could affect northwestern pond turtle using shoreline vegetation for cover, foraging, nesting, or basking on the bank nearby through harassment associated with increased human presence, noise, or visual disturbance during project construction, which would be a significant impact. Implementation of **Mitigation Measure M-BI-1a (Worker Environmental Awareness Program Training)**, and **Mitigation Measure M-BI-1b (Avoidance and Minimization Measures for Northwestern Pond Turtle)** would reduce potential impacts on this species to a less-than-significant level by educating workers on this species and its presence in the project vicinity, conducting preconstruction surveys and monitoring during construction activities near the Impound Lake shoreline, and requiring additional protection measures during construction should this species be observed, such as restricting certain construction activities (e.g., vegetation removal or ground disturbance) in a buffer zone until the turtle is no longer present. A qualified biologist would monitor the turtle or its habitat during construction within 50 feet of Impound Lake to detect disturbance and confirm the buffer is sufficient to avoid impacts. The qualified

[228] The HCP Site Activity Form is available on the San Mateo County website at: https://www.smcgov.org/parks/webforms/scientific-permit-site-activity-review-application.

biologist would increase or decrease the buffer as necessary based on monitoring observations. Expansive buffer distances would be unlikely because Impound Lake is in an urban area and abundant continuous aquatic and shoreline wetland habitat outside of the project areas would remain available to turtles. John Muir Drive and Lake Merced Boulevard roadways provide a decisive habitat boundary and ongoing traffic disturbance, and thus construction activities supporting system reinforcements or the local distribution system separation on the south and east sides of these roads are not anticipated to affect northwestern pond turtle occupying Lake Merced and would not require biological monitoring during construction. With implementation of these mitigation measures during construction, the project's impact on northwestern pond turtle would be ***less than significant with mitigation***.

Mitigation Measure M-BI-1a: Worker Environmental Awareness Program Training

This measure applies to: Local Distribution System Separation, System Reinforcements, Distribution Express Feeders, New City Substation (Project Variant)

A project-specific Worker Environmental Awareness Program (WEAP) training shall be developed by a qualified biologist and implemented by SFPUC for the project and attended by all construction personnel prior to beginning work onsite for the local distribution system separation and system reinforcements. The training could consist of a recorded presentation that could be reused for new personnel. The WEAP training shall generally include but not be limited to the following:

- Applicable state and federal laws, environmental regulations, project permit conditions, and penalties for non-compliance;
- Special-status animal species with potential to occur on or in the vicinity of the project areas, avoidance measures, and a protocol for encountering such species (or their host plants) including a communication chain;
- Preconstruction surveys and biological monitoring requirements associated with certain work activities (e.g., vegetation, ground disturbance, tree trimming, etc.) or near certain locations (e.g., Impound Lake, San Bruno Mountain);
- Known sensitive resource areas in the project vicinity that are to be avoided and/or protected (e.g., wetlands) as well as approved project work areas; and
- Best Management Practices (e.g., silt fencing/species exclusion fencing, straw wattles) and their location in the project areas for erosion control and/or species exclusion.

Mitigation Measure M-BI-1b: Avoidance and Minimization Measures for Northwestern Pond Turtle

This measure applies to: Local Distribution System Separation, System Reinforcements

The SFPUC shall ensure a biological monitor is present during construction activities requiring vegetation removal or ground disturbance within 50 feet of the Impound Lake shoreline associated with the local distribution system separation and system reinforcements. Also, the following measures shall be implemented:

- Any erosion and sediment control materials used onsite shall be free of plastic monofilament material that could cause animal entanglement.

- A qualified biologist shall survey the project areas within 48 hours before the start of initial ground-disturbing activities and shall be present during all vegetation clearing and ground-disturbing activities within 50 feet of the Impound Lake shoreline.
- If northwestern pond turtles are found during construction, construction activity that poses a threat to the individual shall be halted in the vicinity as determined by the qualified biologist. If possible, the individual shall be allowed to move out of the work area of its own volition. Only a qualified biologist approved by regulatory agencies with authority over this species shall relocate turtles to the nearest suitable habitat should they not leave the work area of their own accord. Construction shall resume after the individual is out of harm's way, as determined by a biologist.
- Excavations deeper than 6 inches that cannot be backfilled or covered at the end of the work day shall have a sloping escape ramp of earth or a wooden plank installed at a 3:1 rise to allow species to escape.
- Openings, such as pipes, where northwestern pond turtles might seek refuge shall be covered when not in use (e.g., if staged overnight).
- All trash that may attract predators or hide northwestern pond turtles shall be properly contained, removed from the worksite, and disposed of at the end of each work day.

Following site construction, the contractor shall remove all trash and construction debris from the work areas and revegetate any disturbed areas to preconstruction conditions, unless otherwise authorized by regulatory permits and authorizations issued for this work.

Significance after Mitigation: Less than Significant.

Special-Status Birds

During the nesting season (February 1 through August 30), construction activities related to the local distribution system separation and system reinforcements near Impound Lake could disrupt breeding and nesting efforts by saltmarsh common yellowthroat and other migratory bird species within 250 feet of construction activities through direct disturbance to nests (e.g., tree trimming) or through indirect disturbance associated with increased noise or visual disturbance near active nests. This disturbance could result from tree trimming, vegetation removal, and ground disturbance from trenching or access to existing vaults, or removal and replacement of electrical infrastructure. These project components could elevate noise levels above existing conditions and increase human presence at work sites during construction. Refer to Impact BI-4 for the complete discussion of potential project impacts on nesting birds, including special-status birds. The project would avoid potential impacts on special-status nesting birds through implementation of **Mitigation Measure M-BI-1a (Worker Environmental Awareness Program Training) included above and Mitigation Measure M-BI-4 (Nesting Bird Protection Measures)** included below in Impact BI-4, and through compliance with all local, state, and federal requirements for protection of nesting and migratory birds. Project personnel would be educated on special-status bird species with potential presence in the project vicinity and protective measures to implement if nests are found during construction. A qualified biologist would conduct surveys of suitable nesting habitat within 250 feet of the project area near Impound Lake for active nests during nesting season and would establish protective measures around active nests, such as restricting certain construction activities (e.g., tree trimming) in buffer zones during the time of year when and where birds are breeding and nesting. Buffers would be determined by considering the bird species, whether the nest has a visual line of sight from work activities, and the types of work

activities. A qualified biologist would monitor the active nest to confirm the buffer is sufficient to avoid impacts and would increase or decrease the buffer as necessary. The buffer would be maintained until the birds fledge. With implementation of Mitigation Measures M-BI-1a (Worker Environmental Awareness Program Training) and M-BI-4 (Nesting Bird Protection Measures) during construction, the impact of the project or project variant on nesting special-status birds would be ***less than significant with mitigation***.

Special-Status Butterflies

Portions of the system reinforcements extend into suitable grassland habitat for mission blue butterfly and callippe silverspot butterfly within San Bruno Mountain State and County Park and undeveloped grasslands to the east, between the park lands and Bayshore Boulevard. The system reinforcements area also overlaps grasslands at Icehouse Hill, east of Bayshore Boulevard, which also provides suitable habitat for these special-status butterflies.

Grasslands within San Bruno Mountain State and County Park and undeveloped grasslands to the east between the park and Bayshore Boulevard are within the San Bruno Mountain Habitat Conservation Plan (HCP) area. Any project work in these areas would have to comply with plan requirements to protect these butterflies and their host plants from impacts resulting from construction activities. Project compliance with this plan is discussed in detail under Impact BI-7. Grasslands habitat at Icehouse Hill east of Bayshore Boulevard is not within the HCP area.

The project does not propose construction activities including but not limited to vegetation removal, ground disturbance, or access through or staging within San Bruno Mountain State and County Park, because the relevant infrastructure is not located within park lands. To reconfigure and separate overhead electrical lines behind residences on Alta Vista Way and Estate Court, crews would access the lines either from the private properties or from an easement that is owned by the City of Daly City and located between the park lands and private properties near the intersection of South Hill Boulevard and Alta Vista Way.

The area of the park closest to the City of Daly City's easement where project work would occur is identified as the "Saddle Area." Mission blue butterfly host plants were observed within this portion of the park during the biological resources assessment surveys.[229] Similar grassland habitat is present within the City of Daly City's easement and could also support perennial lupine species and mission blue butterfly. If access is required through the City of Daly City's easement to the existing overhead distribution lines, host plants for the mission blue butterfly and/or the callippe silverspot butterfly, if present, could be trampled by foot traffic, vehicles, or equipment, resulting in direct or indirect impacts on butterflies, if present. Direct impacts could occur if host plants were supporting eggs, pupae, or larval stages; indirect impacts could occur during the butterflies' flight period when individuals are not completely reliant on host plants and prior to egg laying. Indirect impacts on mission blue butterfly and/or the callippe silverspot butterfly could also result from the introduction or spread of invasive species during construction.

Similarly, if system reinforcement work requires disturbance in the undeveloped grasslands to the east between the park and Bayshore Boulevard, the project could result in direct or indirect impacts on mission blue butterfly or callippe silverspot butterfly through mortality of individuals, their host plants, or habitat degradation, which would be significant.

[229] Refer to Appendix H.

Similar direct and indirect impacts on special-status butterflies are possible from proposed system reinforcements near Icehouse Hill if the callippe silverspot butterfly hostplant *Viola pedunculata* or perennial lupines hosting mission blue butterfly are present within the project disturbance footprint.

Implementation of **Mitigation Measure M-BI-1c (Special-Status Butterfly Protection Measures)** and **Mitigation Measure M-BI-1d (Control Measures for Spread of Invasive Plants)** would protect against direct and indirect impacts on mission blue butterfly and/or the callippe silverspot butterfly and their habitat through preconstruction surveys by a qualified biologist to identify host plants within 100 feet of the proposed disturbance footprints or access paths, flagging such host plant populations for avoidance, monitoring construction near host plants, and modifying disturbance areas or access paths as needed, preventing introduction of invasive species to these areas by washing and inspecting equipment and vehicles for soil and seeds before use onsite, and minimizing disturbance areas necessary to accomplish project work. With implementation of Mitigation Measures M-BI-1c and M-BI-1d, impacts would be ***less than significant with mitigation***.

Mitigation Measure M-BI-1c: Special-Status Butterfly Protection Measures

This measure applies to: Local Distribution System Separation, System Reinforcements

The following measures shall apply to project construction activities for the local distribution system separation and system reinforcements within suitable grassland habitat for special-status butterflies within the Daly City easement adjacent to San Bruno Mountain State and County Park, undeveloped grasslands east of the park, and grasslands associated with Icehouse Hill.

- **Habitat Delineation Survey.** A qualified biologist shall conduct preconstruction surveys of grassland habitat during the period of identification for mission blue butterfly host plants (*Lupinus albifrons* var. *collinus, Lupinus littoralis* var. *variicolor* [April – July]; *Lupinus formosus* [June-October]) and callippe silverspot butterfly host plants (*Viola pedunculata* [February – April]).

  i. Surveys shall occur during the blooming season prior to or overlapping the construction schedule for work at these locations to ensure potential host plants are identified and can be protected. Preconstruction surveys to confirm prior survey results or identify additional plants shall be conducted again within 7 days prior to project construction activities in these locations, as appropriate.

  ii. The surveys shall identify and delineate the boundaries of host plant populations for mission blue butterfly (*Lupinus albifrons* var. *collinus*, *Lupinus formosus* and *Lupinus littoralis* var. *variicolor*), and callippe silverspot butterfly (*Viola pedunculata*) within 100 feet of the disturbance footprint (i.e., access, staging, equipment, excavation, etc.).

- **Avoidance During Construction**. A minimum 20-ft no disturbance buffer shall be established around host plant populations identified during preconstruction surveys, or unless otherwise permitted by applicable regulatory agencies.
- **Habitat Monitoring During Construction**. All work occurring within 100 feet of host plant populations shall be monitored by a qualified biologist.
- **Habitat Occupation Survey**. If the SFPUC determines that ground disturbance must occur within 20 feet or less of habitat identified in the habitat delineation survey, and if habitat delineation survey did not determine habitat occupancy, then a qualified biologist shall conduct habitat occupation surveys of host plant populations to evaluate whether mission blue and

callippe silverspot butterflies actively occupy the host plant populations within the project area where work would occur. Surveys shall be appropriately timed (conducted between March 1 and June 30) to identify the presence of adults, larvae, eggs, and/or feeding damage on host plants which would indicate occupation. Documentation of survey results shall be prepared by the qualified biologist and maintained by the SFPUC.

i. **No Occupied Habitat Present**. If the qualified biologist conclusively determines the absence of rare butterflies within the survey area, host plant removal shall be minimized and area restored to preconstruction conditions, including reseeding with butterfly host plants. SFPUC will confirm successful establishment of the host plants within 1-2 years of restoration.

ii. **Occupied Habitat within 20 feet of Work**. If work would occur within 20 feet of occupied habitat but would not remove habitat, SFPUC shall implement avoidance and minimization measures including but not limited to: dust control during construction activity, scheduling construction to avoid flight season, and clearly demarcating the habitat to be avoided with flags and fencing.

iii. **Occupied Habitat Within Work Area.** If the qualified biologist determines through surveys that the host plant population is occupied and cannot be avoided, or if the qualified biologists determines rare butterflies are otherwise presumed to be present due to known occupation of host plants adjacent to the project area(s), the SFPUC shall implement a Restoration Plan, described in greater detail below, and confer with the U.S. Fish and Wildlife Service if potential "take" of the species[230] cannot be avoided through further project modifications, seasonal construction timing, or pre-planting of host plants nearby prior to ground disturbance. Compensatory mitigation to offset project impacts on the protected butterflies from loss of host plants within an occupied population shall be satisfied through habitat enhancement activities described in a Restoration Plan, which may include seed salvage, host plant relocation, and/or plantings, implemented at a 1:1 ratio for the acreage of habitat impacted to acreage of habitat enhanced, or as determined in any consultation with the U.S. Fish and Wildlife Service. The following elements shall be incorporated into the Restoration Plan:

    1) Host plant relocation shall be conducted under the direction of a qualified restoration specialist or botanist, by a contractor experienced in plant salvage and restoration activities. The Restoration Plan shall describe site preparation specifications, a plant palette, planting procedures, development of reasonable success criteria, appropriate monitoring and reporting protocols, implementation timelines, and contingency measures in the event of restoration failure.

    2) Host plants within the work area may either be relocated to nearby suitable grassland habitat that would remain undisturbed by project activities or temporarily retained off-site and replanted within the disturbance footprint.

    3) Planting areas shall be monitored by a qualified biologist twice a year for a period of five years following planting or seeding to provide recommendations for site improvements such as changes to the watering schedule, reseeding, replanting, or control of weeds. If plantings experience 20 percent mortality or greater in any monitoring year, the SFPUC shall implement habitat enhancement activities, such as invasive species removal

[230] Section 3 of the federal Endangered Species Act defines the term 'take' as "…means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."

and/or seeding host plant species. Monitoring shall be deemed complete when at least 75 percent of the plantings or seeding areas show good or better plant vigor without the need for supplemental water or maintenance.

Mitigation Measure M-BI-1d: Control Measures for Spread of Invasive Plants

This measure applies to: Local Distribution System Separation; System Reinforcements

The following measures shall apply to construction of the local distribution system separation and system reinforcements within suitable grassland habitat for special-status butterflies within the Daly City easement adjacent to San Bruno Mountain State and County Park, undeveloped grasslands east of the park, and grasslands associated with Icehouse Hill. Construction best management practices shall be implemented in all construction areas to prevent the spread of invasive plants, seed, propagules, and pathogens through the following actions:

- Avoid driving in or operating equipment in weed-infested areas and restrict travel to established roads and trails whenever possible.
- Avoid leaving piles of exposed soil or construction materials in areas with the potential for invasive plants. Cover inactive earthen stockpiles with plastic or a comparable material.
- Clean tools, equipment, and vehicles before transporting materials and before entering and leaving worksites (e.g., wheel washing stations at SFPUC yards or access points). Inspect vehicles and equipment for weed seeds and/or propagules stuck in tire treads or mud on the vehicle to minimize the risk of carrying them to unaffected areas. Designate areas within active construction sites or the operations and maintenance yards for cleaning and inspections.

Significance after Mitigation: Less than Significant.

Operation Impacts

Operation of these project components would not be substantially different from existing conditions and is not expected to affect northwestern pond turtle or saltmarsh common yellowthroat or their habitat at Impound Lake, or mission blue butterfly or callippe silverspot butterfly and their host plants in grasslands within the City of Daly City's easement, San Bruno Mountain State and County Park, and undeveloped grasslands to the east, and between the park lands and Bayshore Boulevard. Operations and maintenance of the project or project variant would not require vegetation removal, ground disturbance, or access through habitats near Impound Lake or grassland habitat on or near San Bruno Mountain and therefore would not affect persistence of these species. Similarly, once constructed, the project or project variant would provide similar nesting opportunities for birds in suitable habitat of the project areas and surrounding vicinity. Ongoing noise and visual disturbance related to operations and maintenance is anticipated to be short term and temporary, similar to existing conditions, and is not expected to substantially disrupt nesting efforts in the vicinity of electrical system infrastructure. Therefore, operation of the project or project variant would have ***no impact*** on these or other special-status species.

All Other Project Components

All other components of the project or project variant would primarily occur in developed areas where existing PG&E infrastructure and electrical equipment is currently located, and within paved roads or sidewalks. Most of the project areas do not contain suitable habitat for special-status species except for the

portions of local distribution system separation or system reinforcements that overlap Impound Lake, San Bruno Mountain State and County Park, and Icehouse Hill, as discussed above. All other project components would have ***no impact*** on special-status species.

Impact BI-2: The project or project variant would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. ***(No Impact)***

System Reinforcements

Although riparian habitat is present around Impound Lake, it was not identified within the limits of the project areas; therefore, no impacts on this sensitive natural community would occur with implementation of the project or project variant.

The Biological Resources Technical Memorandum identified the sensitive natural community pickleweed mats within the portions of the project areas overlapping San Francisco Bay where salt marsh wetlands are present at Brisbane Lagoon and Candlestick Shoreline east of Harney Way and south of Candlestick Point. Although portions of the project areas identified for system reinforcements overlap San Francisco Bay at Brisbane Lagoon and Candlestick Shoreline east of Harney Way and south of Candlestick Point, the project does not propose any work within San Francisco Bay, including within any shoreline salt marsh wetlands that may contain the pickleweed mats. System reinforcements activities would occur upland of the highest tidal boundary of San Francisco Bay open water, in currently developed areas.

Thus, the system reinforcements would have ***no impact***, either directly or indirectly, on sensitive natural communities.

All Other Project Components

The locations of all other project components do not contain riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service; therefore, implementation of these project components and the proposed variant would have ***no impact***, either directly or indirectly, on riparian habitat or other sensitive natural community.

Mitigation: None required.

Impact BI-3: The project or project variant could have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means. ***(Less than Significant with Mitigation)***

Construction Impacts

As discussed in Chapter 2, Project Description, and noted in Figure 2-8, the system reinforcements areas show approximate locations within which project construction work would occur. Although the Biological Resources Technical Memorandum identified open water aquatic habitat, freshwater emergent wetlands, and salt marsh wetlands within these areas that are likely to be regulated as waters of the United States

and/or State, the project does not propose any work within San Francisco Bay and therefore would not directly affect open waters or salt marsh wetlands within Brisbane Lagoon and along Candlestick Shoreline east of Harney Way and south of Candlestick Point through placement of fill material. The project also does not propose any work requiring placement of fill within Impound Lake (Lake Merced) open waters or disturbance of shoreline freshwater emergent wetlands below the top of bank.

Freshwater emergent wetlands are present within the project areas in Brisbane at Visitation Creek Marsh south of the existing Martin Substation and in two unnamed locations east of Industrial Way. These wetlands could be affected by construction of the Martin Substation separation, local distribution system separation, or system reinforcements.

Martin Substation Separation

Although Visitacion Creek Marsh is located within the PG&E property boundary, directly south of the current Martin Substation boundary, the project is proposed within currently developed areas of the smaller Martin Substation project site, shown in Figure 2-2. The project does not propose placing fill in Visitacion Creek Marsh freshwater emergent wetlands.

The City of Brisbane relies on ditches and drainage channels to contain and convey stormwater runoff into storm drain mainlines that empty into San Francisco Bay. Ground disturbance, stockpiling of excavated materials, and materials transport could result in temporary soil erosion; when it is raining, eroded soil could flow directly into receiving waters, in violation of water quality standards. Other activities supporting the Martin Substation separation during construction could adversely affect water quality in the marsh through site runoff, including accidental chemical releases from the project work areas due to the use of paints, solvents, fuels, lubricants, and other hazardous materials associated with heavy construction equipment. Federal and state laws and regulations require that discharges of potential pollutants to jurisdictional waters of the United States or State comply with water quality standards (refer to Section E.17, Hydrology and Water Quality). As discussed in Impact HY-1, where project construction would disturb more than 1 acre of area, it would be required to comply with the State Water Resources Control Board adopted General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order WQ 2022-0057-DWQ,[231] construction general permit). The construction general permit requires development and implementation of a Stormwater Pollution Prevention Program (SWPPP), including best management practices identified in the SWPPP prepared by a qualified SWPPP developer. For smaller construction areas in San Francisco, San Francisco Public Works Code article 4.2, section 146 requires an erosion and sediment control plan be prepared and implemented for construction activities disturbing 5,000 square feet or more of the land surface, and allows for preparation of a SWPPP in lieu of the erosion and sediment control plan for projects also requiring the construction general permit. With implementation of best management practices to comply with federal and state laws, and through compliance with the construction general permit, water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of construction-related stormwater runoff would be ***less than significant***.

Local Distribution System Separation and System Reinforcements

The local distribution system separation and system reinforcement areas in Figures 2-7 and 2-8, respectively, show approximate locations within which work would occur. The local distribution system separation areas

[231] State Water Resources Control Board, General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, 2022, https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html, accessed February 27, 2024.

overlap or abut open waters or wetlands in several places: at the south end of Impound Lake; on the north side of Visitacion Creek Marsh; and west of San Francisco Bay at Candlestick Shoreline east of Harney Way and south of Candlestick Point. System reinforcements areas overlap Impound Lake, a portion of Visitacion Creek Marsh, the two unnamed freshwater emergent wetlands east of Industrial Way, and San Francisco Bay at Brisbane Lagoon and Candlestick Shoreline east of Harney Way. Within these general areas, work would be completed within or near public road right-of-ways or on existing equipment. As discussed in Chapter 1, Introduction and Background, uncertainty remains regarding the exact locations of separation activities. Because the exact locations of the local distribution system separation and system reinforcement activities within the areas shown in Figures 2-7 and 2-8 are not yet known, this analysis conservatively assumes that project activities could occur within or adjacent to Visitacion Creek Marsh and the two unnamed freshwater emergent wetlands east of Industrial Way, and that these wetlands would be jurisdictional.

Similar to potential effects of construction at the Martin Substation on Visitacion Creek Marsh, ground disturbance or use of heavy equipment to implement the local distribution system separation and system reinforcements could affect water quality of nearby aquatic resources if contaminated stormwater were to flow into receiving waters during rainfall. All potential water quality impacts on open water aquatic habitat, salt marsh wetlands, and freshwater emergent wetlands within the project areas from stormwater runoff associated with construction during the local distribution system separation and system reinforcements would be avoided or minimized through implementation of best management practices to comply with federal and state laws and compliance with the construction general permit and development and implementation of a SWPPP.

Direct wetland impacts are not anticipated under the project or project variant; however, jurisdictional wetlands are present adjacent to construction areas for the local distribution system separation near Visitacion Creek Marsh and system reinforcements near the two unnamed freshwater emergent wetlands east of Industrial Way. Wetlands and waters would be avoided if possible; however, actions may require trenching to access existing vaults or install new wooden poles that could directly affect wetland features, which would constitute temporary or permanent placement of fill (respectively) and potential loss of jurisdictional wetlands, a significant impact. It is not known at this time if wetland impacts would occur at one or more of these locations. However, if impacts occur, it is anticipated that the impact on waters of the United States or State would be very small (e.g., approximately on the order of less than 0.01 acre in total) and temporary in nature.

Section 404 of the federal Clean Water Act prohibits dredging or filling wetlands unless it can be demonstrated that such a discharge will not degrade the chemical, physical, and biological integrity of federal waters. The freshwater emergent wetlands located in Visitacion Creek Marsh and east of Industrial Way may qualify as federal wetlands under section 404 of the Clean Water Act. California's Porter-Cologne Water Quality Control Act establishes a comprehensive program to protect water quality in the state, and applies to surface waters, wetlands, and ground water. Wetlands and other waters of the State are regulated by the regional water board under section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. All freshwater emergent wetlands in the project areas are potential waters of the State. California's "no net loss" policy for wetlands also requires that dredge or fill activities be conducted in a manner to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in the state.[232]

[232] California Governor's Executive Order W-59-93

To comply with these laws, regulations, and policies, project activities resulting in the discharge of fill or other disturbance of jurisdictional wetlands and other waters require approval from the Corps and a water quality certification and/or waste discharge requirements from the regional water board. In addition, the California Department of Fish and Wildlife has jurisdiction over lake and stream bed and banks, pursuant to sections 1600 through 1616 of the Fish and Game Code. Any project activity resulting in an alteration to lake or channel bed or banks is subject to this agency's jurisdiction; therefore, any project activity disturbing Visitacion Creek Marsh could also require a Lake and Streambed Alteration Agreement.

Implementation of **Mitigation Measure M-BI-3a (Restoration of Freshwater Emergent Marsh Wetlands)**, which requires restoration of temporarily impacted areas, and **Mitigation Measure M-BI-3b (Compensation for Permanent Fill of Wetlands and Waters)**, which requires compensation for permanent impacts on jurisdictional aquatic resources to ensure no net loss of wetlands through onsite or offsite creation, restoration**,** or enhancement or payment to a mitigation bank for in-kind habitat credits, would reduce the project's temporary and permanent impacts on jurisdictional wetlands and other waters to ***less than significant with mitigation***.

Mitigation Measure M-BI-3a: Restoration of Freshwater Emergent Marsh Wetlands

This measure applies to: Local Distribution System Separation; System Reinforcements

Freshwater emergent marsh wetlands within Visitacion Creek Marsh or the two unnamed freshwater emergent wetlands east of Industrial Way that may be temporarily affected during construction to facilitate implementation of local distribution system separation and system reinforcements work shall be restored in-place to pre-project conditions. A Wetland Restoration and Mitigation Monitoring Plan shall be prepared for the affected areas, subject to approval by the appropriate regulatory agencies, and shall include, but not be limited to, the following:

- A final grading plan for the affected freshwater emergent wetlands that would restore the topography of the affected areas to pre-project conditions**.**
- A planting plan, composed of native freshwater emergent wetland plant species, consistent with the surrounding community of the affected area**.**
- A weed control plan that prevents the spread of invasive non-native plant species on the project areas.
- Performance criteria for the revegetated areas that establish success thresholds over a specific amount of time (typically five years) as determined by the regulatory agencies with jurisdiction over the affected areas**.**
- A monitoring and reporting program under which progress of the revegetated areas shall be tracked to ensure survival of the mitigation plantings. The program shall document overall health and vigor of mitigation plantings throughout the monitoring period and provide recommendations for adaptive management as needed to ensure the site is successful, according to the established performance criteria. An annual report documenting monitoring results and providing recommendations for improvement throughout the year shall be provided to the regulatory agencies**.**
- A best management practices element describing erosion control measures to be installed around the affected areas following mitigation planting in order to avoid sediment runoff into the adjacent waters (as applicable).

Mitigation Measure M-BI-3b: Compensation for Permanent Fill of Wetlands and Waters

This measure applies to: Local Distribution System Separation, System Reinforcements

If impacts on wetlands and waters cannot be avoided, the SFPUC shall obtain the required permits and authorizations from the U.S. Army Corps of Engineers, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Wildlife, and San Francisco Bay Conservation and Development Commission for project impacts on aquatic resources regulated by these entities. The SFPUC shall provide adequate compensatory mitigation for permanent placement of fill associated with installation of new electrical system infrastructure in jurisdictional wetlands and waters. Compensatory mitigation shall achieve at least a 1:1 ratio of acreage impacted to acreage created/restored/enhanced, or greater, and as required by regulatory agencies with jurisdiction over the impacted aquatic resources, to ensure no net loss of wetlands and waters.

Compensatory mitigation obligations from permanent project fill could be satisfied through onsite or offsite creation, restoration, or enhancement of waters, wetlands, and/or riparian habitat, or payment into an approved mitigation bank for in-kind habitat credits, or other compensatory actions that avoid a net loss of these aquatic resources and as determined in consultation with these regulatory agencies.

Significance after Mitigation: Less than Significant.

All Other Project Components

The locations of other components of the project and the project variant do not contain potential waters of the United States and/or State, including potential wetlands, that may be jurisdictional to federal and state regulatory agencies that protect such aquatic resources. Thus, implementation of these project components would have ***no impact*** on jurisdictional wetlands or waters, through direct removal, filling, hydrological interruption, or other means.

Operation Impacts

Operation of the project or project variant is not anticipated to affect federal or state jurisdictional wetlands or waters because operations and maintenance activities are not anticipated to require ongoing ground disturbance or discharges to wetlands. Section E.17, Hydrology and Water Quality, of this document discusses water quality impacts of project operations. Therefore, operation of the project or project variant would have ***no impact*** on federal or state regulated wetlands or waters.

Impact BI-4: The project or project variant could interfere substantially with the movement of native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. ***(Less than Significant with Mitigation)***

Terrestrial wildlife movement corridors overlapping the project areas are limited to undeveloped land between San Bruno Mountain State and County Park east to San Francisco Bay. Portions of the system reinforcements areas overlap this connected open space which could facilitate wildlife movement within the otherwise developed surrounding geography. Project activities related to system reinforcements within these areas would not change the land use or character or prevent their continued function for wildlife dispersal within an urban environment. The project does not propose work within San Francisco Bay waters and therefore would not disrupt movement of any occupying aquatic species. Therefore, the project and

project variant would have no impact on migratory wildlife corridors and migratory wildlife corridors are not discussed further. The following discussion addresses potential project impacts on nesting birds, which could include migratory birds.

Construction Impacts

Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, and New City Substation (Project Variant)

In addition to the habitats surrounding Lake Merced, on and near San Bruno Mountain, and at Icehouse Hill, street trees and landscaping vegetation that may be used by nesting birds are present along the distribution express feeders route and within the local distribution system separation and system reinforcement areas. Street trees and landscaping also border the Daly City Yard where the new City Substation would be constructed under the project variant.

Construction of these project components would occur near suitable nesting habitat for common resident and migratory birds in trees, landscaping, ground vegetation, and existing buildings and structures. Most native bird species and their eggs, nests, and young are protected by the federal Migratory Bird Treaty Act and/or California Fish and Game Code**.** During the nesting season (February 1 – August 30), construction activities that involve physical disturbance to habitat, such as vegetation removal, tree removal and ground disturbance, and the use of heavy machinery, may adversely affect avian use of nesting habitat and disrupt nesting efforts within 250 feet of construction activities. These disturbances could result from project construction associated with trenching to install duct banks, tree trimming, line work, installation of new electrical system infrastructure, building modification, or construction of the new City Substation (project variant). While birds occupying habitat in these areas are accustomed to varying levels of ambient noise from traffic and other human activities, project construction activities and an increased human presence at these project locations would generate additional noise and visual disturbances that could adversely affect bird foraging, roosting, breeding, and nesting behaviors nearby.

Both long- and short-term loud noises can affect bird foraging and roosting by temporarily disturbing these behaviors and may deter bird use of an area (including for nesting) if such noises persist over the long term. Construction activities that would substantially alter the noise environment could disrupt birds foraging, roosting, or attempting to nest, or could displace mated pairs. Effects of visual or noise disturbance on birds vary, but typically birds will avoid disturbance areas and move to preferable environments that provide similar habitat characteristics. Such temporary alteration of behavior would not be substantially adverse, considering the similar opportunity to occupy urban nesting habitat within the project areas and surrounding vicinity. If project construction activities resulted in the loss or disruption of an active nest occupied by a protected bird, this loss or disruption would be considered a significant impact and could constitute unauthorized take. Nest abandonment and mortality of eggs and chicks would also be considered significant impacts. The loss of an active nest by, for example, removing vegetation containing an active nest or causing visual or auditory disturbance that leads to nest abandonment is also considered a significant impact and is prohibited under federal and state law.

The project would comply with all local, state, and federal requirements for protection of nesting and migratory birds. Through implementation of **Mitigation Measure M-BI-4 (Nesting Bird Protection Measures)**, the project would avoid potential impacts on nesting birds during construction. A qualified biologist would conduct surveys of the project areas for active nests during nesting season and would establish protective

measures around active nests, such as restricting certain construction activities in buffer zones during the time of year when and where birds are breeding and nesting. Buffers would be determined by considering the bird species, whether the nest has a visual line of sight from work activities, and the types of work activities in process. A qualified biologist would monitor the active nest to confirm the buffer is sufficient to avoid impacts and would increase or decrease the buffer as necessary. The buffer would be maintained until the birds fledge. Based on the urbanized setting of these project components, the need for expansive buffer distances is not anticipated. With implementation of Mitigation Measures M-BI-1a (Worker Environmental Awareness Program Training) and M-BI-4 (Nesting Bird Protection Measures) during construction, the impact of the project or project variant on nesting birds would be ***less than significant with mitigation***.

Mitigation Measure M-BI-4: Nesting Bird Protection Measures

This measure applies to: Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; New City Substation (Project Variant)

Nesting birds and their nests shall be protected during construction of the local distribution system separation, system reinforcements, distribution express feeders, and new City Substation (project variant) through the implementation of the following measures:

a. To the extent feasible as determined by the SFPUC with their contractor, ground disturbance, vegetation removal, tree trimming, and other construction activities that may compromise breeding birds or the success of their nests shall be conducted from September 1 to January 31, which is outside of nesting season.

b. If the SFPUC and their contractor determine construction activities must occur during bird nesting season (i.e., from February 1 to August 31), a qualified wildlife biologist shall conduct preconstruction nesting surveys within seven days prior to the start of construction. Surveys shall be performed for the individual project areas and suitable habitat within 250 feet of where work would occur or an appropriate distance as determined by the qualified biologist under the project or project variant to locate any active nests.

c. If active nests are located during the preconstruction bird nesting surveys, a qualified biologist shall evaluate whether the schedule of construction activities could affect the active nests and shall apply the following measures:

    i) If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect and may revise their determination at any time during the nesting season.

    ii) If construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines it is no longer in use. Typically, these buffer distances are 250 feet for passerines and 500 feet for raptors; however, nest buffers may be increased or decreased by a qualified biologist based on factors such as the type of work occurring, line of sight from the nest to construction activities, and sensitivity of the bird species, so long as the buffer distance is sufficient to avoid impacts on the nesting bird. Removing or relocating active nests shall be coordinated with the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service, as appropriate, given the nests that are found on the site.

    iii) Any work that the SFPUC and their contractor determine must occur within established no-disturbance buffers around active nests and is deemed appropriate by the qualified biologist

(e.g., vegetation removal, grading, work with hand tools, etc.) shall be monitored by a qualified biologist. If adverse effects in response to project work within the buffer are observed and could compromise the nest, work shall halt until the nest fledges.

d. Any birds that begin nesting within the project areas and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels, so exclusion zones around nests may be reduced or eliminated in these cases as determined by the qualified biologist. Work may proceed around these active nests as long as they and their occupants are not directly affected. Protective buffers shall be established around such nests at any time if project-related adverse effects on birds, nests, or nestlings are observed.

Significance after Mitigation: Less than Significant.

All Other Project Components

Construction of other project components would not require tree trimming, tree removal, or building demolition, or include other construction activities that would substantially alter the baseline noise environment near nesting bird habitat. Construction of all other project components therefore would have ***no impact*** on nesting birds.

Operation Impacts

Operations and maintenance of the project or project variant would not require vegetation removal and, once constructed, the project or project variant would provide similar nesting opportunity for birds in suitable habitat of the project areas and surrounding vicinity. Ongoing noise and visual disturbance related to operations and maintenance of the new components is anticipated to be short term and temporary, and is not expected to substantially disrupt nesting efforts in the vicinity of electrical system infrastructure. The project or project variant would not introduce a new or substantially greater risk of collision or electrocution for birds and bats occupying the project areas. Overhead power lines can present electrocution risk to birds if their wings touch multiple lines concurrently and complete the electrical circuit. Electrocution risk is higher for raptors with large wingspans; smaller passerine birds and bat species that might occur in the project areas do not have wingspans large enough to complete such a connection. Local distribution system separation and system reinforcements would use a combination of new or replacement underground and overhead distribution lines depending on existing facilities at a given location but would not substantially alter existing collision or electrocution risk in the area because the types of equipment installed, height of equipment, voltage level (kV), and lighting would be similar to existing surrounding conditions. Therefore, operation of the project or project variant would have ***less-than-significant*** impacts on nesting birds.

Impact BI-5: The project or project variant could have a substantial adverse effect on bat maternity colony roosts. ***(Less than Significant with Mitigation)***

Construction Impacts

Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, and Operations Control Center

Several common bat species, such as Mexican free-tailed bat, California myotis, and Yuma myotis, may roost in mature trees of the project areas, within cavities, beneath exfoliating bark, and among dense foliage, or within underutilized structures with protected crevices or eaves. Bats will forage insects over open spaces in the project areas, such as Impound Lake, The Olympic Club and San Francisco Golf Club courses, grasslands of San Bruno Mountain and Icehouse Hill, and other undeveloped, vegetated spaces. Bat maternity and hibernation roosts are protected under the California Fish and Game Code. Maternity roosts are roosts occupied by pregnant females or females with non-flying young. Non-breeding roosts are day roosts without pregnant females or non-flying young. Hibernacula are roost sites used by bats to overwinter cold weather periods until temperatures warm. Destruction of an occupied non-breeding bat roost resulting in the death of special-status bats, disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), or destruction of a hibernation roost would be considered a significant impact (although bats generally do not hibernate in the Bay Area due to sufficiently high temperatures year-round).

Project construction, particularly work associated with the distribution express feeders, local distribution system separation, and system reinforcements, could require tree trimming of mature street trees. Construction activities at the operations control center could also require trimming of existing landscaping or street trees. Tree trimming could result in direct mortality of or indirect disturbance to roosting bats, if present (e.g., bats avoid routine foraging or fail to return to a maternity roost due to an increase in human presence and construction activity within the project areas). Disturbance that results in maternity roost abandonment and mortality of young bats not yet able to fly would be a significant impact. Implementation of **Mitigation Measure M-BI-5 (Avoidance and Minimization Measures for Bat Maternity Roosts)** would reduce potential impacts on bat maternity roosts by requiring preconstruction surveys and implementing minimization and avoidance measures if potential bat roosting habitat or active maternity roosts are found. The impact would be ***less than significant with mitigation***.

> **Mitigation Measure M-BI-5: Avoidance and Minimization Measures for Bat Maternity Roosts**
>
> *This measure applies to: Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; Operations Control Center*
>
> The following measures shall apply to project construction activities related to the distribution express feeders, local distribution system separation, system reinforcements, and the operations control center requiring tree trimming. A qualified biologist experienced in the identification of bats shall conduct a preconstruction survey and assessment of potential bat habitat in advance of any tree trimming to identify signs of an active maternity colony or active roost sites. Identified bat maternity colonies shall be avoided, if feasible, as determined by the SFPUC and their contractor. Should potential maternity colonies or active bat roosts be found in trees but cannot be avoided, the following measures shall be implemented under the supervision of a qualified biologist:
>
> a. Trees shall be trimmed or bat exclusion devices shall be installed when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15; outside

of the bat maternity roosting season (approximately April 15 to August 15) if a maternity roost is present; and outside the months of winter torpor (approximately October 15 to February 28, or as determined by a qualified biologist experienced in the identification of special-status bats).

b. If tree trimming is not feasible during the periods when bats are active, and bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of the tree trimming, a qualified biologist shall delineate a no-disturbance buffer around these roost sites until they are no longer in use as maternity or hibernation roosts or the young are capable of flight.

c. Based on the professional opinion of a qualified biologist, buffer distances may be adjusted around roosts depending on the level of surrounding ambient activity (e.g., if the subject tree is adjacent to a busy road) or if an obstruction, such as a building, is within the line of sight between the roost and construction.

d. A biologist experienced in the identification of special-status bats shall be present during tree trimming (and removal, if needed) if bat roosts are present. Project activities shall disturb trees with roosts only when no rain is occurring or rain is not forecast to occur for three days and when daytime temperatures are at least 50 degrees Fahrenheit.

e. Under the supervision of the qualified biologist, trees containing or suspected to contain roost sites shall be trimmed over two days. On the first day, branches and limbs not containing cavities or fissures in which bats could roost shall be cut using chainsaws. The following day, branches or limbs containing roost sites shall be trimmed with chainsaws, under the supervision of the biologist.

Significance after Mitigation: Less than Significant.

All Other Project Components

Construction of all other project components would not require tree trimming or removal, or building demolition, and therefore would have ***no impact*** on bat maternity colonies.

Operation Impacts

Once constructed, the project or project variant would provide similar roosting opportunities for bats in suitable habitat near the project components. Ongoing noise and visual disturbance related to operations and maintenance is anticipated to be short term and temporary and is not expected to substantially disrupt maternity roost establishment or success in the project vicinity. Therefore, operation of the project or project variant would have ***no impact*** on bat maternity colonies.

Impact BI-6: The project or project variant would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. ***(Less than Significant)***

Distribution Express Feeders, Local Distribution System Separation, and System Reinforcements

San Francisco General Plan and Western Shoreline Area Plan

As discussed in detail in Section C, the project would not conflict with policies and objectives of the San Francisco General Plan that address environmental protection related to biological resources, which concern water quality of the bay, ocean, and shoreline areas.

Also discussed in Section C, San Francisco's local coastal program, the Western Shoreline Area Plan, overlaps portions of the project areas at The Olympic Club and Lake Merced where local distribution system separation and system reinforcement work is proposed. Policies and objectives related to these project areas include to preserve the recreational and natural habitat of Lake Merced (objective 5). The Western Shoreline Area Plan does not identify specific ESHA within the plan area, but rather makes reference to ESHA that may be associated with bluffs, dunes, beaches, and intertidal areas. For the purposes of CEQA, ESHA resources may be present within shoreline vegetation overlapping the project area at Lake Merced's Impound Lake; however, because the project does not propose disturbance to the shoreline vegetation below the top of bank, the project would not obviously conflict with the Western Shoreline Area Plan policies protecting such resources.

After construction, temporarily disturbed areas would be restored to the same or similar preconstruction conditions. Thus, the project would not substantially alter the natural habitat around Lake Merced and would not conflict with objective 5; therefore, the impact is ***less than significant***.

Tree Policies

Construction of the distribution express feeders, local distribution system separation, and system reinforcements may require trimming of mature trees in San Francisco, San Mateo County, Daly City, and Brisbane. Each of the tree protection policies for these jurisdictions is presented in Section C. Each jurisdiction has approved standards that make a tree eligible for certain protections (e.g., significant, landmark, heritage, street, etc.), the steps to secure a tree permit for removing or pruning a protected tree, the conditions for planting new trees, and the safeguards for trees close to construction when work would happen within a protected tree's dripline (refer to Appendix H, Biological Resources Technical Memorandum). Proposed work would be completed within or near public road right-of-ways or on existing equipment, and therefore most trees trimmed would likely be street trees.

The project would comply with substantive requirements of the tree protection policies of each jurisdiction, which are detailed in Appendix H. Because the project does not propose any tree removal, and the project's tree trimming would comply with applicable provisions of San Francisco, San Mateo County, Daly City, and Brisbane municipal codes, the project or project variant would not obviously conflict with tree protection policies pertaining to the project areas (***less than significant***).

All Other Project Components

All other project components would occur within developed areas and would not require tree trimming, and therefore would not obviously conflict with local policies or ordinances protecting biological resources, including trees.

No other conflict with adopted local policies or ordinances protecting biological resources is expected with implementation of the project or project variant. Thus, impacts related to conflict with policies or plans protecting biological resources would be ***less than significant*.**

Mitigation: None required.

Impact BI-7: The project or project variant could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. ***(Less than Significant with Mitigation)***

Portions of the project areas overlap the San Bruno Mountain Habitat Conservation Plan (HCP) area. The HCP includes the San Bruno Mountain State and County Park lands, the California Department of Fish and Wildlife Ecological Preserve, and adjacent undeveloped and developed lands in San Mateo County (including portions of Daly City, Brisbane, and South San Francisco).[233] Land within the HCP area is classified for management purposes as either "development areas," "unplanned areas," or "conserved habitat." These areas encompass portions of the project areas, as follows:

- **Development Areas.** The Martin Substation separation, modifications to retain PG&E access to the Martin Substation, the new City Substation at the Daly City Yard, and construction access for system reinforcements via a Daly City easement would occur within "development areas" of the HCP. The only limitations specified by the HCP for development areas are related to application of pesticides and vegetation maintenance, which are not proposed as part of the project. Therefore, implementation of the project or project variant in areas identified as "development areas" would not conflict with the HCP.
- **Unplanned Areas.** System reinforcements east of Guadalupe Canyon Parkway could occur in "unplanned areas" of the HCP. Unplanned parcels are subject to provisions of HCP Chapter III, Biological Program, related to monitoring the biological processes, development, and conservation activities on San Bruno Mountain; habitat enhancement techniques for maximizing the habitat value for special-status species; and planning assistance and plan revision related to public and private development on San Bruno Mountain to minimize potential impacts on special-status species.
- **Conserved Habitat.** Corners of the system reinforcements areas 1 and 9 overlap "conserved habitat" areas in the Saddle Area of San Bruno Mountain State and County Park and the undeveloped hillside east of Guadalupe Canyon Parkway, respectively. Land in conserved habitat areas is to be used only for habitat purposes and for other uses consistent with use as a habitat. Restrictions on land use in conserved habitat can only be relaxed or modified with the unanimous consent of the U.S. Fish and Wildlife Service, California Department of Parks and Recreation, California Department of Fish and Wildlife, San Mateo County, and the cities of Brisbane, Daly City, and South San Francisco.

[233] San Bruno Mountain Habitat Conservation Plan Agreement, 1982.

System Reinforcements

Some system reinforcement areas overlap the HCP area. As discussed under Impact BI-1, system reinforcements in area 1 could require access to existing lines in private backyards that abut San Bruno Mountain State and County Park. This access would not occur within conserved park lands but a City of Daly City easement or within private properties, identified as a development area. While system reinforcements within area 9 along the eastern end of Gaudalupe Canyon Parkway in the HCP area would be completed within or near public road right-of-ways or on existing equipment, because these areas could support special-status butterflies and their host plants, Mitigation Measures M-BI-1c (Special-Status Butterfly Protection Measures) and M-BI-1d (Control Measures for Spread of Invasive Plants) are identified to avoid potential impacts on mission blue butterfly and callippe silverspot butterfly and their habitat as described in Impact BI-1. Through these mitigation measures, these "unplanned" and "conserved" areas would continue to function as habitat for special-status butterflies and the project would avoid potential conflicts with the HCP. Therefore, with mitigation, the project or project variant would not obviously conflict with the HCP, and the impact of project or project variant implementation within areas subject to the plan would be ***less than significant with mitigation***.

Martin Substation Separation, Local Distribution System Separation, and New City Substation (Project Variant)

As discussed in detail in Section C and noted above, portions of the project areas identified for the Martin Substation separation and modifications to retain PG&E access, the new City Substation (project variant), and some local distribution system separation areas are within the HCP area. However, work on these components would not require development in "unplanned" or "conserved" areas and therefore would not obviously conflict with the HCP.

Distribution Express Feeders, Operations Control Center, Operations and Maintenance Service Yards, and Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

These project components are not within lands subject to the San Bruno Mountain HCP or other protected habitat areas; therefore, these project components would not obviously conflict with this plan and there would be ***no impact***.

Impact C-BI-1: The project or project variant, in combination with cumulative projects, could result in significant cumulative impacts on biological resources. ***(Less than Significant with Mitigation)***

All Project Components

The geographic scope for potential cumulative impacts on biological resources encompasses the species occurrences, habitats, and sensitive natural communities within the biological resources study area (defined in Appendix H), as well as biologically linked areas sharing the adjacent shoreline of Impound Lake or occurring along the City and County of San Francisco/San Mateo County border where the project or project variant would be located. Cumulative projects are generally within 3 miles of the project or project variant because this distance encompasses a reasonable representative range for populations of the sensitive species, such as nesting birds, identified in the impact analysis for the project. The temporal extent of the

analysis for considering cumulative impacts related to biological resources includes all projects that may affect biological resources concurrently with the project or project variant.

Table 3.1-3 in Section 3.1.5.2, Approach to Cumulative Impact Analysis, in the Draft EIR (p. 3.1-7) provides a description of projects considered in the cumulative impact analysis. Unless otherwise exempt, all of the cumulative projects that would involve physical environmental effects are subject to CEQA review and would be required to implement measures or project modifications to avoid or mitigate significant environmental effects, as feasible. All cumulative projects would also be required to comply with applicable regulatory requirements protecting biological resources. The following cumulative projects could also affect biological resources in the geographic scope:

During Construction of the Project or Project Variant:

- Candlestick Point-Hunters Point Shipyard Phase II – noise or visual disturbance to nesting birds, roosting bats
- Brisbane Baylands Specific Plan – jurisdictional waters, noise or visual disturbance to nesting birds, roosting bats, special-status butterflies
- Baylands North, formerly Visitacion Valley Redevelopment Area – noise or visual disturbance to nesting birds
- Midway Village Redevelopment – noise or visual disturbance to nesting birds, roosting bats
- Guadalupe Quarry Redevelopment Project – special-status butterflies
- Sunnydale Hope SF Master Plan – noise or visual disturbance to nesting birds, roosting bats
- Parkmerced Redevelopment – noise or visual disturbance to nesting birds
- Lake Merced West Project **–** northwestern pond turtle, riparian and wetland impacts, noise/visual disturbance to nesting birds, special-status birds, roosting bats
- Vista Grande Drainage Basin Improvement Project – northwestern pond turtle**;** riparian and wetland impacts**;** noise or visual disturbance to nesting birds, special-status birds, and roosting bats**;** tree removal
- Ocean Beach Climate Change Adaptation Project, Long Term Improvements – noise or visual disturbance to nesting birds and roosting bats, tree removal

During Operation of the Project or Project Variant:

- Cormorant Battery Storage – avian collision and electrocution impacts related to new aboveground electrical transmission lines

Special-Status Butterflies

As explained in Impact BI-1, project construction could require access through or work within potential grassland habitat of the mission blue butterfly or callippe silverspot butterfly, both federally listed endangered species. Host plants in grassland habitat supporting these special-status species could be trampled by vehicles, equipment, or workers associated with the proposed local distribution system separation and system reinforcements where these grassland habitats occur. As discussed, the potential project impacts on special-status butterflies would be reduced to a less-than-significant level with mitigation. The only cumulative project located within the San Bruno Mountain HCP area that could affect

suitable grassland habitat is the Guadalupe Quarry Redevelopment Project. The project and the Guadalupe Quarry Redevelopment Project could contribute to a significant cumulative impact on special-status butterflies. Like the project, the quarry redevelopment would be required to comply with conditions of the HCP to ensure the continuance of suitable habitat for special-status butterflies that occupy the HCP area and federal and state laws protecting the species. Because of the existing development at the quarry site, it is not anticipated that implementation of the redevelopment project would substantially reduce or alter supportive habitat for either mission blue butterfly or callippe silverspot butterfly. The quarry redevelopment project also includes preservation of the property's grassland habitat on the upper benches and undeveloped slopes as protected open space. These grasslands are known to support host plants for these special-status butterflies.[234] East of the HCP area, the Brisbane Baylands Specific Plan could result in permanent impacts on special-status butterflies through development of suitable grassland habitat at Icehouse Hill. The project or project variant in combination with cumulative projects could result in a significant cumulative impact on special-status butterflies. The project or project variant could have a cumulatively considerable contribution to the significant impact. Implementation of Mitigation Measure M-BI-1c (Special-Status Butterfly Protection Measures), and Mitigation Measure M-BI-1d (Control Measures for Spread of Invasive Plants), would reduce the project or project variant's contribution to the significant cumulative impact such that the impact would be ***less than significant with mitigation***.

Special-status Northwestern Pond Turtle

As explained in Impact BI-1, project construction within 50 feet of Impound Lake could adversely affect northwestern pond turtle through harassment if individuals occupy the freshwater emergent wetlands along the shoreline or the lake's aquatic habitat while system local distribution system separation and system reinforcements are constructed. The project does not propose direct disturbance (e.g., vegetation removal, ground disturbance, etc.) to either the lake's shoreline vegetation or open waters; therefore, direct impacts on individuals or nests are not anticipated. Both the Lake Merced West Project and Vista Grande Drainage Basin Improvement Project require temporary and/or permanent removal of shoreline vegetation and construction of project components within the shoreline and in open waters of Lake Merced, which are anticipated to be more severe than disturbance that could occur under the project or project variant. Both projects contain components within Lake Merced shoreline vegetation that would disturb habitat for northwestern pond turtle and could occur concurrently with construction of the project or project variant. However, the project locations in South Lake (Lake Merced West and Vista Grande) and Impound Lake (Vista Grande and the project or project variant) are small, and a large majority of the overall shoreline habitat available to northwestern pond turtle in the lake system would remain available. Given that the only known occurrences for northwestern pond turtle in the Lake Merced system are located in North Lake and East Lake, and the footprint of habitat disturbance of the cumulative projects would be small, the project or project variant in combination with cumulative projects would not result in a significant cumulative impact on northwestern pond turtle (***less than significant)***.

Nesting Special-status and Migratory Birds

As explained in Impacts BI-1 and BI-4, project construction would result in noise and visual disturbance that could adversely affect special-status birds and other birds nesting in the project areas. Many of the identified cumulative projects would generate noise and/or create visual disturbance during construction, which could affect nesting birds. Further, some of these projects may require tree trimming or tree and other vegetation

[234] City of Brisbane, Guadalupe Quarry Redevelopment Project Draft Environmental Impact Report (SCH# 2022060358), Prepared by Panorama Environmental Inc., October 2024.

removal during the nesting bird season. In addition, the Cormorant Battery Storage Facility would include a line with underground sections outside of the Daly City Yard and overhead sections in the Daly City Yard, which would connect the project to the Martin Substation.

While the project and several of the cumulative projects could affect nesting birds, the combined effect would not be substantially adverse because many of the cumulative projects are within developed city areas with little habitat for nesting birds to occupy or in locations where baseline noise levels and human disturbance among existing habitat are high. Cumulative projects would be required to comply with biological resource protection laws and regulations, including the state and federal endangered species acts, Migratory Bird Treaty Act, and the California Fish and Game Code as well as environment protection policies and provisions in the general plan and other applicable biological resource protection plans (such as the bird-safe building and urban forestry ordinances in San Francisco). Further, birds nesting within San Francisco are accustomed to a baseline level of noise and visual disturbance and thus have a higher tolerance for some construction activities, making it less likely such indirect disturbances would contribute to nest failure. Therefore, the project or project variant in combination with cumulative projects would not result in a significant cumulative impact on nesting birds (***less than significant)***.

Wetlands and Waters

Impact BI-3 explains that, if project construction cannot avoid wetlands and waters, it could require temporary or permanent removal of wetland vegetation within potential federal and state jurisdictional wetlands at Visitacion Creek Marsh and in two unnamed freshwater emergent wetlands east of Industrial Way. Of the cumulative projects considered, only the Brisbane Baylands Specific Plan would result in impacts on jurisdictional wetlands and waters affected by the project or project variant, either through the direct placement of fill or through indirect impacts on water quality. While the project or project variant's effects would be temporary during construction, the Brisbane Baylands Specific Plan could result in permanent impacts on these wetlands. Therefore, the project or project variant in combination with cumulative projects could result in a significant cumulative impact on wetlands. The project or project variant would have a cumulatively considerable contribution to the significant cumulative impact. With implementation of Mitigation Measure M-BI-3a (Restoration of Freshwater Emergent Marsh Wetlands) and Mitigation Measure M-BI-3b (Compensation for Permanent Fill of Wetlands and Waters), the project's contribution to the significant cumulative impact would be ***less than significant with mitigation***.

Bat Maternity Roosts

As explained in Impact BI-5, project construction would include tree trimming and generate noise and increase human activity above pre-project conditions, which could have a substantial adverse effect on bat maternity roosts, if present; these impacts would be reduced to a less-than-significant level with mitigation.

Of the cumulative projects considered, the Lake Merced West Project, Vista Grande Drainage Basin Improvement Project, Ocean Beach Climate Change Adaptation Project, Brisbane Baylands Specific Plan, Midway Village Redevelopment Project, Candlestick Point-Hunters Point Shipyard Phase II project, and Sunnydale Hope SF Master Plan are located in areas that contain potentially suitable habitat for bat maternity roosts and would trim or remove trees or demolish buildings or structures with potential to host bats. Tree removal proposed under the Lake Merced West Project, Vista Grande Drainage Basin Improvement Project, and Ocean Beach Climate Change Adaptation Project is not extensive relative to available habitat for tree-roosting bats along the Lake Merced shoreline. Artificial structures that do not have human occupants

and that might attract bats to establish maternity roosts are limited in the area where the Sunnydale Hope SF Master Plan, Candlestick Point-Hunters Point Shipyard Phase II project, Brisbane Baylands Specific Plan, and Midway Village Redevelopment Project are located; however, these cumulative projects involve building demolition that could directly affect roosts if present. In combination with the project or project variant, this would be a potentially significant cumulative impact. Cumulative projects would be required to comply with federal and state laws protecting biological resources, including bat maternity roosts. However, the project or project variant could have a cumulatively considerable contribution to the significant impact. Implementation of Mitigation Measure M-BI-5 (Avoidance and Minimization Measures for Bat Maternity Roosts) would reduce the project's or project variant's contribution to the significant cumulative impact such that the impact would be ***less than significant with mitigation***.

E.16 Geology and Soils

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

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐	☐

The project areas are not located within an Earthquake Fault Zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no active or potentially active faults exist on or in the immediate vicinity of the project areas.[235] Neither the proposed project nor project variant proposes septic tanks or alternative wastewater disposal systems. Therefore, topics 16(a)(i) and 16e are not applicable and not discussed further.

Impact GE-1: The project or project variant would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismically induced ground failure, including liquefaction, or landslides. ***(Less than Significant)***

The project areas are in San Francisco, Daly City, Brisbane, and unincorporated San Mateo County, California. This area is within the geologically complex California Coast Ranges *geomorphic province*.[236] The Coast Ranges province is characterized by a series of northwest-trending ridges and valleys that run roughly parallel to the San Andreas Fault Zone and can be further divided into the northern and southern ranges separated by San Francisco Bay. San Francisco Bay lies within a broad depression created from an east-west expansion between the San Andreas and Hayward fault systems.[237]

Seismic Ground Shaking

All Project Components

The project is proposed in a seismically active region near the boundary between two major tectonic plates, the Pacific Plate to the southwest and the North American Plate to the northeast. The relative movement between the Pacific Plate and the North American Plate generally occurs across a 50-mile-wide zone extending from the San Gregorio Fault in the southwest to the Great Valley Thrust Belt in the northeast. Strain produced by the relative motions of these plates is relieved by right lateral strike slip faulting on the San Andreas Fault Zone and related faults (San Gregorio, Calaveras, Hayward), and by vertical reverse slip displacement on the Great Valley and other thrust faults in the central California area.

The project areas are in an area of high seismicity where strong earthquake shaking could occur from a large earthquake on the San Andreas Fault Zone or any of the active regional faults.[238] The nearest active fault to the project areas is the northern segment of the San Andreas Fault, which is located approximately 2 miles to the southwest of the nearest local distribution system separation work. Farther from the project areas are the northern Hayward Fault, the San Gregorio Fault, and the Calaveras Fault, which are located approximately 15 miles east, 12 miles southwest, and 25 miles east of the project area, respectively.[239] A study by the United

[235] California Geological Survey, Earthquake Zones of Required Investigation, San Francisco South Quadrangle, released September 23, 2021.
[236] California's geomorphic provinces are naturally defined geologic regions that display distinct landscapes or landforms with unique, defining features based on geology, faults, topographic relief, and climate.
[237] California Geological Survey, Earthquake Zones of Required Investigation, San Francisco South Quadrangle, released September 23, 2021.
[238] Branum, D., Rm Chen, M. Petersen, and C. Wills, Earthquake Shaking Potential for California, 2016.
[239] California Geological Survey, Earthquake Zones of Required Investigation, San Francisco South Quadrangle, released September 23, 2021.

States Geological Survey 2014 Working Group on California Earthquake Probabilities concludes that there is a 72 percent probability of a strong earthquake (maximum moment magnitude [Mw] ≥ 6.7) occurring in the San Francisco Bay region over the next 30 years (starting in 2014).[240] The probability of a strong earthquake (Mw ≥ 6.7) occurring during that time period is 33 percent for the North San Andreas Fault Zone, 32 percent for the Hayward-Rodgers Creek Fault Zone, and 25 percent for the Calaveras Fault Zone.[241] The intensity of earthquake ground motion in the project areas would depend upon the characteristics of the generating fault, distance to the earthquake fault, magnitude and duration of the earthquake, and specific subsurface conditions. Ground shaking is the primary cause of earthquake damage to man-made structures. Strong ground shaking could cause shearing, differential settlement, or heave of structures, causing damage to buildings and structures.

California Public Utilities Commission General Orders 128 (underground electrical supply and communication systems) and 95 (overhead lines) identify requirements for electrical supply, communication systems, and overhead line design and maintenance in California. The rules in General Order 128 apply to underground electrical supply systems used in connection with public utility service. An element added to an existing underground system must meet the requirements of General Order 128, although the General Order does not require a change in elements already existing. General Order 128 requires the materials, design and construction of manholes, handholes, subsurface equipment enclosures, and other underground boxes to be such as to provide sufficient strength to sustain, with a suitable margin of safety, the loads which may reasonably be imposed on them (Rule 32.3). California Public Utilities Commission (CPUC) General Order 95 applies to construction and reconstruction of overhead electric lines in California. The replacement of poles, towers, or other structures is considered to be reconstruction and requires adherence to all strength and clearance requirements of this order. The rules in General Order 95 apply to all overhead electrical supply and communication facilities that come within the jurisdiction of the CPUC, located outside of buildings, including facilities that belong to non-electric utilities, with some exceptions. In addition to new construction, the replacement of poles, towers or other structures is considered to be reconstruction and requires adherence to all strength and clearance requirements of the rules in General Order 95. Section IV specifies strength requirements for all classes of lines.

Codes to which design of transmission lines must adhere include the National Electric Safety Code. Guidance documents are published by the Institute of Electrical and Electronics Engineers and the American Society of Civil Engineers (ASCE), including ASCE 74, Guidelines for Electrical Transmission Line Structural Loading, which states that “Transmission structures are not typically designed for vibration caused by earthquakes because these loads are less than that of wind/ice combinations.” The exception to this general rule occurs if the tower is built in liquefiable materials, in which case the materials may not support the weight of the tower and tower foundation during a seismic event. The potential for project components to exacerbate liquefaction hazards is discussed below. The project or project variant would also be required to comply with relevant portions of the California Building Standards Code (title 24 of the California Code of Regulations), the building code for California. The California Building Standards Code is maintained by the California Building Standards Commission, which oversees processes and regulations related to the California building codes in accordance with California Building Standards Law. The purpose of the California Building Standards Code is to regulate and control the design, construction, quality of materials, use and occupancy, location, and maintenance of all

[240] 2014 Working Group on California Earthquake Probabilities, “A New Earthquake Forecast for California’s Complex Fault System,” U.S. Geological Survey 2015-3009, 2015. http://pubs.usgs.gov/fs/2015/3009/.
[241] 2014 Working Group on California Earthquake Probabilities, “A New Earthquake Forecast for California’s Complex Fault System,” U.S. Geological Survey 2015-3009, 2015. http://pubs.usgs.gov/fs/2015/3009/.

buildings and structures within its jurisdiction. The California Building Code, a component of the California Building Standards Code, contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. California Building Code provisions provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures and certain equipment. The provisions of the California Building Code apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures, throughout California.

California Building Code chapter 18 covers the requirements of geotechnical investigations (section 1803); excavation, grading, and fills (section 1804); load bearing of soils (section 1806) and foundations (section 1808); shallow foundations (section 1809); and deep foundations (section 1810). The 2022 edition of the California Building Code contains amendments based on the American Society of Civil Engineers Minimum Design Standard (ASCE/SEI 7-16), Minimum Design Loads for Buildings and Other Structures. The California Building Code provides requirements for general structural design and includes means for determining earthquake forces (loads), as well as other loads (such as wind), for inclusion in building codes. Buildings and structures must be designed to withstand the relevant loads identified in the California Building Code. Designing structures to withstand seismic and other loads would prevent or reduce the likelihood of substantial adverse effects related to seismic hazards.

In addition, while not a codified regulatory requirement, the SFPUC's General Seismic Design Requirements for Design of New Facilities and Upgrade of Existing Facilities (Seismic Design Requirements) set forth consistent criteria for the seismic design and retrofit of San Francisco's infrastructures.[242] In accordance with these design requirements, every project that includes modifications to an existing facility or construction of a new facility must assign the facility a Seismic Performance Class (SPC) based on the seismic environment at the site and importance of the facility in meeting level of service goals. The SPC for a specific facility is determined based on its importance in meeting level of service goals. The three SPCs are SPC-I (Standard), SPC-II (Important), and SPC-III (Critical). Facilities of each SPC must provide life-safety protection for an earthquake likely to affect the site. In addition, the level of service required for each SPC is as follows:

- **SPC I (Standard)**: These facilities may not be economically repairable in the event of a major earthquake.
- **SPC II (Important)**: These facilities may experience damage but should be capable of restoration to service within 30 days after a major earthquake.
- **SPC III (Critical)**: These facilities must provide a reasonable expectation of post-earthquake operability and should be capable of restoration to service within 72 hours after a major earthquake.

The General Seismic Design Requirements define a major earthquake as an earthquake with a moment magnitude of Mw 7.8 or more on the San Andreas fault, Mw 7.1 or more on the Hayward fault, or Mw 6.8 or more on the Calaveras fault. The project or project variant would incorporate applicable Seismic Design Requirements into the design.

Because the project or project variant would be designed to meet requirements of the relevant codes and seismic standards identified above, the project or project variant would not expose persons or structures to

[242] San Francisco Public Utilities Commission (SFPUC), General Seismic Design Requirements for Design of New Facilities and Upgrade of Existing Facilities, Revision 3, June 2014.

substantial adverse effects related to ground shaking and would not exacerbate existing conditions related to ground shaking, a ***less-than-significant*** impact.

Seismic-Related Ground Failure

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength due to increases in pore pressure during periods of earthquake-induced strong ground shaking. The susceptibility of an area to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects.

Lateral spreading is a seismically induced ground deformation failure in which near-surface soil layers typically break into blocks that progressively move downslope or toward a nearby free face such as a stream channel, river embankment, or shoreline. Underground facilities and structural elements (e.g., duct banks, spread footings, pile foundations) that extend through or across a zone of lateral spreading may be pulled apart or sheared.

Martin Substation Separation, Distribution Express Feeders, Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation, New City Substation (Project Variant), Local Distribution System Separation, and System Reinforcements

The Martin Substation separation, new City Substation (project variant), and eastern extent of the distribution express feeders would be located in areas mapped within earthquake liquefication hazard zones.[243] The system reinforcements in low-lying areas of Brisbane and near Lake Merced, and local distribution system separation work at the south end of Lake Merced, also include areas mapped by the California Geological Survey as having high or very high liquefaction susceptibility.[244] Potentially liquefiable materials include loose sandy layers in artificial fill. As discussed above, the project design must comply with CPUC General Orders 95 and 128, and would reflect SFPUC's Seismic Design Requirements, which includes minimum requirements for seismic loading of structures that are intended to limit substantial adverse effects related to seismic hazards, including seismic-related ground failure. Engineering and design recommendations developed consistent with those requirements would be implemented in the project or project variant to address the potential for seismic-related ground failure for proposed new infrastructure. Because the project or project variant would be designed to meet requirements of the relevant codes and seismic standards identified above, the project or project variant would not expose persons or structures to substantial adverse effects related to seismic-related ground failure and would not exacerbate existing conditions related to seismic-related ground failure, a ***less-than-significant*** impact.

Operations Control Center, Operations and Maintenance Service Yards, Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

There are multiple areas with high or very high liquefaction susceptibility in San Francisco. While the exact location within southeastern San Francisco is not known, the operations control center and operations and

[243] Areas where historical occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in California Public Resources Code section 2693(c) would be required. California Geological Survey, Earthquake Zones of Required Investigation, San Francisco South Quadrangle, released September 23, 2021.
[244] California Geological Survey, Earthquake Zones of Required Investigation, San Francisco South Quadrangle, released September 23, 2021.

maintenance service yards could be located on sites that overlie areas susceptible to liquefaction. The modifications to retain PG&E access to non-electrical facilities at Potrero Substation would occur within an area susceptible to liquefaction. However, these project components would include minor new construction, consisting of curb cuts, underground utility improvements, and fencing. The operations control center, operations and maintenance service yards, and modifications at Potrero Substation would be implemented in San Francisco and therefore would be constructed in accordance with the San Francisco Building Code, including Section 1803 of the code which requires implementation of a site-specific geotechnical investigation to characterize the geologic and seismic conditions at the site which are then used as the basis for project design. The investigation must address the depth to groundwater, soil strength, the presence and adequacy of load-bearing soils, the effects of moisture on the adequacy of soil-bearing capacity, slope stability, compressibility, corrosive and expansive soils, and other geological conditions potentially present at the site. Section 1803.5.8 of the San Francisco Building Code also requires that the geotechnical investigation address requirements for the placement of compacted fill materials, including specifications for the fill material and the minimum in-place density. All project components, including the operations control center, operations and maintenance service yards, and modifications at Potrero Substation, would be constructed the SFPUC's Seismic Design Requirements that incorporate other well-established industry design criteria. Therefore, these components would result in ***less-than-significant*** impacts associated with seismic-related ground failure.

Landslides

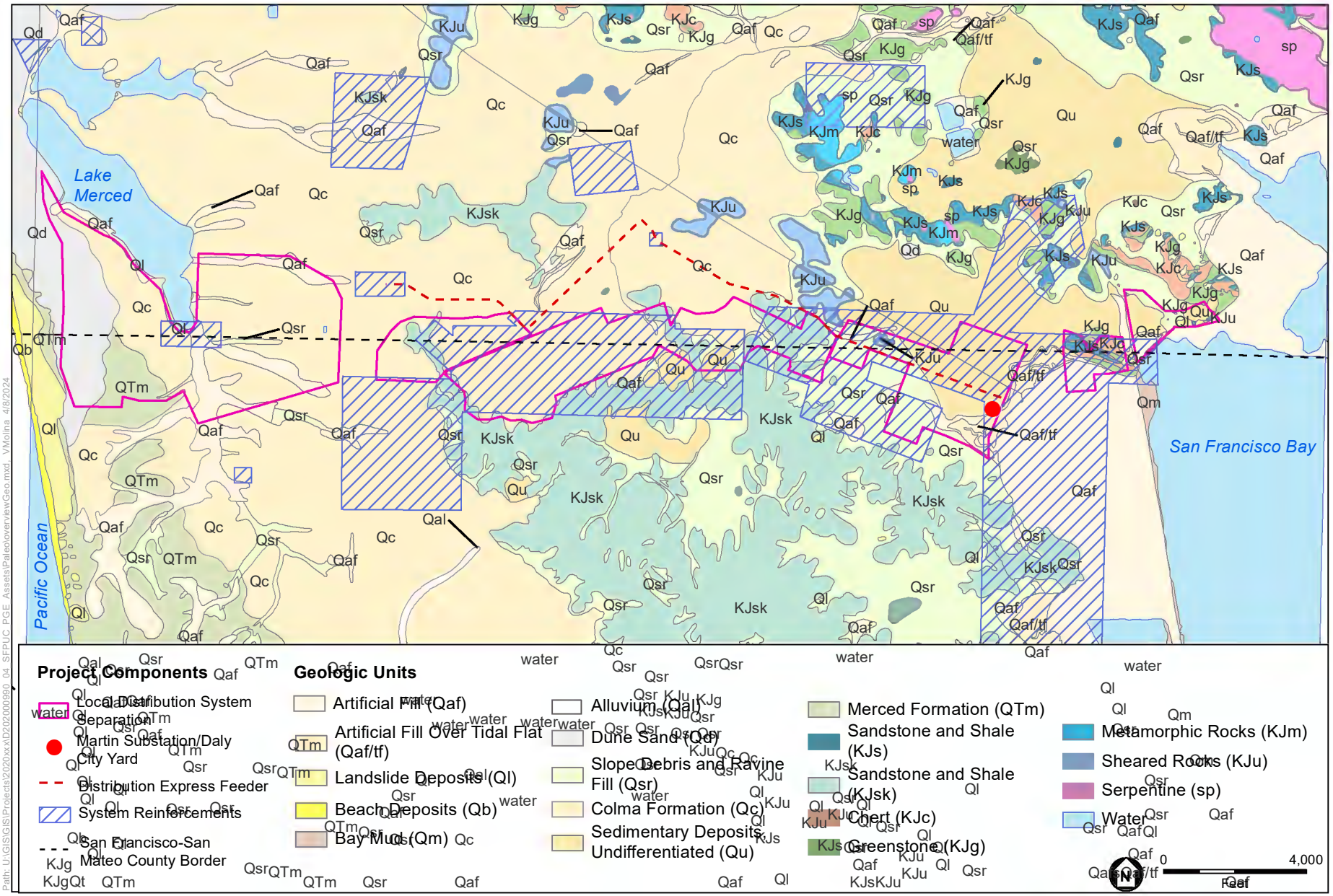
Other forms of seismically induced ground failures that may affect the project areas include seismically induced landslides and slope failures. Although much of the project areas are relatively level, some areas are more steeply sloped. Excavations for new duct banks could result in slope instability, potentially triggering slope failures that could result in landslides, slumps, and soil creeps. Areas that are most susceptible to earthquake-induced landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose and/or weak soils, and areas on or adjacent to existing landslide deposits.

Martin Substation Separation, Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation and Potrero Substation, New City Substation (Project Variant)

The Martin Substation separation, modifications to retain PG&E access to non-electrical facilities at Martin Substation and Potrero Substation, and new City Substation would be constructed in flat areas that do not overlie material susceptible to landslides. There would be ***no impact*** related to this criterion.

Local Distribution System Separation, System Reinforcements, Distribution Express Feeders, and Operations Control Center

Landslide deposits (Ql) and slope and ravine fill (Qsr) underlie portions of the local distribution system separation and system reinforcement areas, as shown in **Figure 4**. The distribution express feeders would also traverse slope and ravine fill for a portion of its length. While the exact location within southeastern San Francisco is not known, the site of the operations control center could include ground disturbance within similar geologic units.



SOURCE: Appendix I, Paleontological Resources Technical Memorandum

PG&E Asset Acquisition Project

Figure 4
Geologic Units in the Project Vicinity

ESA

Installation of the distribution express feeders, local distribution system separation, system reinforcements, and utility connection work at the operations control center all would include underground work and require open cut excavation. Consistent with California Division of Occupational Safety and Health (Cal/OSHA) requirements, excavations deeper than 5 feet would require shoring that would address slope stability during construction. Operation of these project components would not include activities that could increase the risk of earthquake-induced landslides, such as water storage or permanent steepening of hillsides. Therefore, these components of the project or project variant would not directly or indirectly cause potential adverse effects involving seismically induced landslides, and the impact would be ***less than significant***.

Operations and Maintenance Service Yards

While the work activities for the operations and maintenance service yards could occur anywhere within southeastern San Francisco, the work would be limited to new fences or driveway improvements, and would not include new construction that could cause substantial adverse effects related to landslides. There would be ***no impact*** related to this criterion.

Summary

As discussed above, the project is proposed in areas where the project or project variant could directly or indirectly cause substantial adverse effects related to seismic hazards. However, the project or project variant would be designed consistent with relevant codes and seismic standards including CPUC general orders 95 and 128, the California Building Code, and SFPUC's Seismic Design Requirements, which require that the proposed structures be designed to withstand the expected seismic forces and seismic-related ground failure. In addition, excavations in areas susceptible to earthquake-induced landslides would implement requirements of Cal/OSHA. Therefore, the project or project variant would not cause substantial adverse effects related to seismic hazards, and the impact would be ***less than significant***.

Mitigation: None required.

Impact GE-2: The project or project variant would not result in substantial soil erosion or loss of topsoil. ***(Less than Significant)***

All Project Components

Project construction would occur within previously developed areas (primarily within paved areas) and would not remove substantial volumes of topsoil. Construction-related ground disturbance consisting of clearing, trenching, and excavation could increase the potential for soil erosion in the area of ground disturbance. As discussed in Section E.17, Hydrology and Water Quality, the project or project variant would be required to secure coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order WQ 2022-0057-DWQ,[245] construction general permit), which applies to construction projects in California or, in areas draining to the City's combined sewer system, meet substantive requirements of the San Francisco Public Works Code article 4.2, section 146 (construction site runoff control permit requirements). To comply with the Construction General Permit or article 4.2, the SFPUC or its contractor(s) would be required to develop and implement an erosion and sediment control

[245] State Water Resources Control Board, General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, 2022, https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html, accessed February 27, 2024.

plan or a stormwater pollution prevention plan (SWPPP) to address construction-related runoff. The plan would include a suite of best management practices tailored to the project to prevent erosion. These best management practices may include measures such as use of straw wattles, sandbags, track-out control, silt fencing, and stockpile covering to prevent or avoid substantial erosion and sedimentation during construction. These plans would require review and approval by the regional water board or the SFPUC of the proposed best management practices to be implemented during construction. Compliance with existing regulations would minimize potential for soil erosion during construction. Project or project variant operations would not include ongoing ground disturbance that could cause soil erosion. As a result, impacts of the project or project variant associated with soil erosion and loss of topsoil would be ***less than significant***.

Mitigation: None required.

Impact GE-3: The project or project variant would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse by being located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project. ***(Less than Significant)***

Construction Impacts

Martin Substation Separation, Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, Operations Control Center, New City Substation (Project Variant)

As discussed in Impact GE-1, geologic units that may be relatively unconsolidated (landslide deposits [Ql] and slope and ravine fill [Qsr]) underlie portions of the local distribution system separation and system reinforcement areas. The distribution express feeders would also traverse slope and ravine fill for a portion of its length. Unconsolidated geologic units are more susceptible to localized landsliding if disturbed compared to consolidated geologic units. Martin Substation separation and the new City Substation (project variant) are in flat areas but overlie undifferentiated sedimentary units that, during excavation, could become locally unstable. While the exact location within southeastern San Francisco is not known, the site of the operations control center could include ground disturbance within similar geologic units.

Construction trenching would occur within these geologic units to install underground facilities. In accordance with the Cal/OSHA regulations pertaining to temporary shoring in title 8 of the California Code of Regulations, these excavations would be appropriately sloped or supported by conventional shoring methods such as soldier piles and lagging, which would prevent the excavation sidewalls from becoming unstable. The impact would be ***less than significant***.

Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation and Potrero Substation, Operations and Maintenance Service Yards

Construction of these project components would not require excavation to depths greater than three feet and therefore would have ***no impact*** related to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project.

Operation Impacts – All Project Components

Project operations would not include ongoing activities that disturb or otherwise could destabilize geologic units or soil. There would be ***no impact*** related to this criterion during operation.

Summary

The project or project variant would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse due to being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project. The impact would be ***less than significant***.

Mitigation: None required.

Impact GE-4: The project or project variant would not create substantial direct or indirect risks to life or property by being located on expansive soils. ***(Less than Significant)***

All Project Components

Expansive soils are characterized by their ability to undergo significant volume change (shrink and swell) due to variation in soil moisture content, which can damage buildings and structures built on expansive soils. Changes in soil moisture could result from multiple factors, including rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soils are typically very fine grained with a high to very high percentage of clay. Soils with moderate to high shrink-swell potential would be classified as expansive soils. Expansive soils are defined in the California Building Code as those soils demonstrating certain distributions of particle sizes and that have an expansion index greater than 20, or if the soil has a plasticity index of 15 or greater, more than 10 percent of soil particles are silt or clay-sized, and 10 percent of the soil particles are smaller than 5 micrometers.

A review of soil survey maps indicates that soils that are more than 10 percent silt or clay-sized are present in portions of the system reinforcement areas, although none of the soils has a plasticity index rating of more than 15.[246] Linear extensibility, which refers to the change in volume of soil as it dries, also can characterize expansive soil. Of the soils rated, none in the project areas are expansive (the maximum volume change when soils dry is less than 6 percent).[247]

Further, while the overall risk to life or property due to implementation of the project on expansive soils would be low, soil expansion would be considered during design of the project or project variant consistent with the requirements of CPUC general orders 95 and 128, the California Building Code, and SFPUC's Seismic Design Requirements. Engineering and design recommendations developed consistent with those requirements would be implemented in the project or project variant to address the potential for expansive soils for proposed new infrastructure. Therefore, the project or project variant would not create substantial direct or indirect risks to life or property by being located on expansive soils, a ***less-than-significant*** impact.

[246] Natural Resources Conservation Service, Soil Survey information for San Mateo County, Eastern Part, and San Francisco County, California. Versions 19, September 12, 2023. Web Soil Survey available online at https://websoilsurvey.nrcs.usda.gov/app/.
[247] Natural Resources Conservation Service, Soil Survey information for San Mateo County, Eastern Part, and San Francisco County, California. Versions 19, September 12, 2023. Web Soil Survey available online at https://websoilsurvey.nrcs.usda.gov/app/.

Mitigation: None required.

Impact GE-5: Construction of the project or project variant could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. ***(Less than Significant with Mitigation)***

A unique geologic feature embodies distinctive characteristics of any regional or local geologic principles, provides a key piece of information important to geologic history, contains minerals not known to occur elsewhere in the county, and/or is used as a teaching tool. The project areas are located primarily within existing public right-of-way and substations. There are no unique geologic features in the project area; therefore, no impacts on unique geologic features would occur.

Paleontological resources are the fossilized evidence of past life found in the geologic record. Fossils preserved in sedimentary rocks may include bones, teeth, shells, leaves, and wood. Despite the abundance of sedimentary rocks, and the vast number of organisms that have lived through time, preservation of plant or animal remains as fossils can be a rare occurrence. Paleontological resources are considered non-renewable resources because the organisms they represent no longer exist; thus, once destroyed, these resources can never be replaced. Not all paleontological discoveries are considered of scientific importance, and as such there are several criteria to determine the scientific importance of fossils. These criteria include whether fossils provide data on the following: evolutionary relationships and developmental trends among organisms, both living and extinct; the age of rock units, sedimentary stratum, or depositional history of the region; development of biological communities; or unusual or spectacular circumstances in the history of life.[248,249] These data are important because they are used to examine evolutionary relationships, provide insight on the development of and interaction between biological communities, and establish time scales for geologic studies, and for many other scientific purposes.

The probability of finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. Therefore, geologic mapping classifications of rock units can be used for assessing the potential for the occurrence of paleontological resources. The City uses the modified Potential Fossil Yield Classification system developed by the federal Bureau of Land Management as the basis for its paleontological potential designations.[250] The classification system is a predictive resource-management tool founded on two basic facts of paleontology: that occurrences of paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) that contain them, and that the likelihood of the presence of fossils can be broadly predicted from the distribution of geologic units at or near the surface.

As discussed in greater detail in **Appendix I**, the online collections database of the University of California Museum of Paleontology has records of paleontological resources found in Pleistocene-age sediments, primarily the Colma and Merced formations in the project areas. The Franciscan Complex units in the project areas are determined to be of very low to low sensitivity due to the rarity of fossils (for sandstone, shale, and

[248] Murphey, P.C., Knauss, G.E., Fisk, L.H., Deméré, T.A., and Reynolds, R.E., Best practices in mitigation paleontology: Proceedings of the San Diego Society of Natural History, No. 47, 2019.
[249] Society of Vertebrate Paleontology (SVP), Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology, Impact Mitigation Guidelines Revision Committee, 2010.
[250] United States Department of the Interior, Bureau of Land Management, Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands. IM 2016-124. Instruction Memorandum https://www.blm.gov/sites/blm.gov/files/uploads/IM2016-124_att1.pdf.

chert) and other physical considerations that reduce the likelihood of fossil formation or preservation (extensive shearing and metamorphism).[251]

Construction Impacts

Martin Substation Separation, Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, Operations Control Center, and new City Substation (Project Variant)

The project or project variant would require excavation in geologic units with moderate paleontological resources sensitivity for the Martin Substation separation, distribution express feeders, local distribution system separation, and system reinforcements. The paleontological resources sensitivity of geologic units in southeast San Francisco varies; depending on the location, construction of the utility improvements associated with the operations control center could also require excavation in geologic units with moderate paleontological resources sensitivity. The project variant would similarly require ground disturbance in geologic units with moderate paleontological sensitivity. No geologic units with high or very high sensitivity for paleontological resources have been identified within the project areas.[252]

While fill materials are anticipated to be present below roadways and other paved areas to several feet in depth, excavations would be up to approximately 15 below ground surface. Construction activities for the Martin Substation separation, distribution express feeders, local distribution system separation, system reinforcements, and operations control center would affect units with moderate sensitivity for paleontological resources, including moderately sensitive units that exist at depth below unknown sensitive units, a potentially significant impact. **Mitigation Measure M-GE-5 (Inadvertent Discovery of Paleontological Resources During Construction)** requires construction worker awareness training by a qualified paleontologist and procedures to be followed should a fossil be identified during construction. In the event the fossil is determined unique, development of a paleontology monitoring plan by a qualified paleontologist to monitor construction activities affecting moderately sensitive geologic units would be required. With implementation of Mitigation Measure M-GE-5, the impact on paleontological resources, if present, would be ***less than significant with mitigation***.

> **Mitigation Measure M-GE-5: Inadvertent Discovery of Paleontological Resources During Construction**
>
> *This measure applies to: Martin Substation separation; Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; Operations Control Center (utility connections); and New City Substation (Project Variant)*
>
> **Worker Awareness Training**. Prior to commencing construction, and ongoing throughout ground disturbing activities (e.g., excavation, utility installation), the SFPUC and/or their designee shall engage a qualified professional (paleontologist, archeologist, or cultural resources specialist) to train all project construction workers regarding how to recognize paleontological resources and on the contents of the paleontological resources alert sheet, as provided by the Planning Department. The paleontological resources alert sheet shall be prominently displayed at the construction site during ground-disturbing activities for reference regarding potential paleontological resources. In addition, the qualified professional shall inform the contractor and construction personnel of the immediate stop work procedures and other procedures to be followed if bones or other potential fossils are

[251] Appendix I, PG&E Power Asset Acquisition – Paleontological Resources Technical Memorandum, May 2024.
[252] Ibid.

unearthed at the project areas. Should new workers that will be involved in ground-disturbing construction activities begin employment after the initial training has occurred, the construction supervisor shall ensure that they receive the worker awareness training as described above.

Paleontological Resource Discoveries. In the event of the discovery of an unanticipated paleontological resource during project construction, ground-disturbing activities shall temporarily be halted within 25 feet of the find until the discovery is examined by a qualified paleontologist as recommended by the Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology 2010) and best practices in mitigation paleontology (Murphey et al. 2019). The paleontologist shall consult the Environmental Review Officer (ERO). Work within the sensitive area shall resume only when deemed appropriate by the qualified paleontologist in consultation with the ERO. The qualified paleontologist shall determine 1) if the discovery is scientifically significant; 2) the necessity for involving other responsible or resource agencies and stakeholders, if required or determined applicable; and 3) methods for resource recovery. If a paleontological resource assessment results in a determination that the resource is not scientifically important, this conclusion shall be documented in a paleontological evaluation letter to demonstrate compliance with applicable statutory requirements (e.g., Federal Antiquities Act of 1906, CEQA Guidelines section 15064.5, Public Resources Code Chapter 17, section 5097.5, Paleontological Resources Preservation Act 2009). The paleontological evaluation letter shall be submitted to the ERO for review within 30 calendar days of the discovery. If in consultation with the ERO the qualified paleontologist determines that a paleontological resource is of scientific importance, the qualified paleontologist shall make a recommendation as to what action, if any, is warranted and prepare a paleontological mitigation program. The mitigation program shall include measures to fully document the resource of scientific importance. It shall include: 1) procedures for construction monitoring at the project areas; 2) fossil preparation and identification procedures; 3) curation of paleontological resources of scientific importance into an appropriate repository; and 4) preparation of a Paleontological Resources Report (report or paleontology report) at the conclusion of ground-disturbing activities.

The qualified paleontologist shall submit the mitigation program to the ERO for review and approval within ten business days of the discovery. To avoid construction delays, fully exposed fossils will be immediately removed by the paleontologist to the extent feasible. Consistent with the Society of Vertebrate Paleontology 2010 guidelines, samples of the soil matrix where the discovery occurred may need to be removed from the project areas and processed elsewhere. Mitigation required by this measure could suspend construction within an appropriate buffer zone around a discovered paleontological resource or area for up to a maximum of four weeks. At the direction of the ERO and in coordination with the SFPUC, the suspension of construction may be extended beyond four weeks for a reasonable time required to implement appropriate mitigation only if such a suspension is the only feasible means to reduce potential effects on a significant paleontological resource to a less-than-significant level. Upon approval by the ERO, ground-disturbing activities in the project area shall resume and be monitored as determined by the qualified paleontologist for the duration of such activities. The paleontology report shall include dates of field work, results of monitoring, fossil identifications to the lowest possible taxonomic level, analysis of the fossil collection, a discussion of the scientific significance of the fossil collection, conclusions, locality forms, an itemized list of specimens, and a repository receipt from the curation facility. The SFPUC shall be responsible for the preparation and implementation of the mitigation program, in addition to any costs necessary to prepare and identify collected fossils, and for any curation fees charged by the paleontological

repository. The paleontology report shall be submitted to the ERO for review within 30 business days from conclusion of ground-disturbing activities, or as negotiated following consultation with the ERO.

Significance after Mitigation: Less than Significant.

Modifications to Retain PG&E Access to Non-Electrical Facilities, Operations and Maintenance Service Yard

The project or project variant would involve fence construction and curb cuts that would allow PG&E to retain access to non-electrical facilities. Fence construction and curb cuts would also occur at the operations and maintenance service yards. While the project areas may contain unique paleontological resources or geologic features, the impact is expected to be minimal due to the minor nature of the excavation. Additionally, there is a high likelihood that the entire area has already been disturbed at depths greater than what is required for the proposed improvements. Based on this assessment, the modifications to retain PG&E access to non-electrical facilities and the operations and maintenance service yards would have ***no impact*** on paleontological resources and geologic features.

Operation Impacts – All Project Components

Operations and maintenance of the project or project variant would involve routine inspections, meter readings, periodic testing, and as-needed repairs and replacement of proposed equipment during regular maintenance cycles. The project or project variant's operations would not require ground disturbance in areas not previously disturbed during project construction. As a result, there would be ***no impact*** on unique paleontological resources or geologic features.

Impact C-GE-1: The project or project variant, in combination with cumulative projects, would not result in significant cumulative geology and soils impacts. ***(Less than Significant)***

All Project Components

The entire Bay Area is a seismically active region with a high risk of seismic hazards and a wide variety of geologic conditions. Nevertheless, the geographic scope of potential geology and soils impacts is restricted to the project areas and the immediate vicinity because related risks of potential substantial adverse effects are relatively localized or area-specific. As a result, the geographic scope of potential cumulative impacts for these resources includes the project areas and immediately adjacent areas. In order to have a cumulative impact, adverse geologic impacts would have to occur at the same time and in the same location or similar conditions of the project or project variant. Cumulative projects within the geographic scope include the Vista Grande Drainage Basin Improvement, Westlake South Mixed-Use, 6225 Mission Street Mixed-Use Building, Sunnydale Hope SF Master Plan, Cormorant Battery Storage Facility, Pacific Place Retail Conversion, Egbert Switching Station Project, Midway Village Redevelopment, and Baylands North (for descriptions of these projects refer to Table 3.1-3, Projects Considered in Cumulative Impact Analysis, in Draft EIR Section 3.1, Overview).

The project or project variant and cumulative projects could be subject to strong ground shaking and would be located in areas mapped as having "very high" liquefaction susceptibility. As described in Impact GE-1, the project or project variant would be designed and constructed in accordance with current building codes, standards, and engineering practices to protect against seismic and soil-related hazards. The cumulative

projects would also be subject to these same requirements. Implementing the projects in accordance with building code and engineering requirements would minimize safety risks related to seismic hazards. Therefore, the project or project variant, in combination with the cumulative projects, would not result in a significant cumulative impact related to seismic safety and unstable soils (***less than significant***).

Regarding soil erosion, the project or project variant could increase the potential for soil erosion in the area of ground disturbance, as discussed in Impact GE-2. Immediately adjacent cumulative projects under construction could also cause soil erosion. The project or project variant and cumulative projects would be required to implement the requirements of the Construction General Permit and article 4.2 of the San Francisco Public Works Code (discussed in more detail in Initial Study, Section E.17, Hydrology and Water Quality), which would reduce the potential for a cumulative impact. Therefore, the project or project variant, in combination with the cumulative projects, would not result in a significant cumulative impact related to erosion from construction sites (***less than significant***).

Excavation safety requirements specified in California Code of Regulations title 8 would reduce the likelihood that construction activities undertaken for the cumulative projects and the project or project variant would result in unstable soils or geologic units. Therefore, the project or project variant, in combination with the cumulative projects, would not result in a significant cumulative impact related to unstable soils and geologic units (***less than significant***).

Impact C-GE-2: The project or project variant, in combination with cumulative projects, could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. ***(Less than Significant with Mitigation)***

All Project Components

The geographic scope of impacts on a unique paleontological resource is generally localized and site-specific, encompassing the cumulative project sites and immediate vicinity where activities could disturb the same potential fossils, primarily within Pleistocene-aged Colma and Merced formations. As discussed in Impact GE-5, project-related excavation could encounter the Colma and Merced formations, and these geologic units have moderate paleontological sensitivity based on the identification of several vertebrate fossils in similarly aged sediments in the area. Cumulative projects including the Vista Grande Drainage Basin Improvement, Westlake South Mixed-Use, 6225 Mission Street Mixed-Use Building, Sunnydale Hope SF Master Plan, Cormorant Battery Storage Facility, Pacific Place Retail Conversion, Egbert Switching Station Project, Midway Village Redevelopment, and Baylands North could include excavation within the same geologic units adjacent to the project or project variant. If there are paleontological resources that extend across excavation boundaries of the project and these other cumulative projects, the projects could result in the loss of paleontological resources, a potentially significant cumulative impact. The project or project variant could have a cumulatively considerable contribution to a significant cumulative impact on paleontological resources. However, with implementation of Mitigation Measure M-GE-5 (Inadvertent Discovery of Paleontological Resources During Construction), the project or project variant would effectively reduce or avoid damage to or loss of paleontological resources, and the project or project variant's contribution to this significant cumulative impact would be ***less than significant with mitigation***.

E.17 Hydrology and Water Quality

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
17. HYDROLOGY AND WATER QUALITY. Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:					
i) Result in substantial erosion or siltation on- or offsite;	☐	☐	☒	☐	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;	☐	☐	☒	☐	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐	☐

Impact HY-1: The project or project variant would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. *(Less than Significant)*

The project areas straddle the San Francisco Bay watershed and the San Francisco Coastal South watershed.[253] Within San Francisco and San Mateo counties, the project areas extend through the natural drainage areas of the Islais Creek, Yosemite, Sunnydale, and Lake Merced watersheds. The Islais Creek, Yosemite, and Sunnydale watersheds[254] flow to central or lower San Francisco Bay. The Lake Merced watershed drains west

[253] U.S. Geological Survey, Locate Your Watershed, 2024, https://water.usgs.gov/wsc/cat/18050004.html, accessed February 20, 2024.
[254] San Francisco Water Power Sewer, Discover Your Watershed Today!, 2024, https://sfgov.maps.arcgis.com/apps/MapSeries/index.html?appid=6341c3a2eb5d4dc597495bafa77b1ca1, accessed February 23, 2024.

to the Pacific Ocean. Within San Mateo County, the project areas span the Guadalupe Valley watershed, which encompasses Brisbane and drains east to San Francisco Bay, and the Vista Grande/Broadmoor watershed, which drains northwestern Daly City. The Vista Grande watershed drains to the Pacific Ocean through the Vista Grande canal and tunnel.[255] Depth to groundwater within the project areas ranges from approximately a few feet to 70 feet below ground surface, and groundwater at the project areas in both the shallow water-bearing zone and deeper aquifers is expected to be of poor quality due to urban activities, the presence of historical Leaking Underground Storage Tank (LUST) sites, historical dry cleaners, historical Cortese sites, former manufactured gas plants (MGP) sites, and infilling.[256]

With the exception of southwest Daly City, Broadmoor (in unincorporated San Mateo County), stormwater in Brisbane, and stormwater in the area bordering Lake Merced, stormwater in the project areas drains to San Francisco's combined sewer system, which collects, transports, and treats sanitary sewage and stormwater runoff prior to discharge to the Pacific Ocean and San Francisco Bay.[257] During dry weather (typically May through September), the combined sewer flows consist mainly of industrial wastewater and sanitary sewage, collectively referred to as wastewater. During wet weather (generally October through April), the combined sewer system collects large volumes of stormwater runoff in addition to wastewater, referred to as wet-weather flows.[258] During wet weather, the City is required to maximize the use of the combined sewer system for wastewater storage and to maximize the volume of wastewater treated at the plant, among other technology-based effluent limitations. If wet weather flows exceed the capacity of the overall system, the excess is discharged through combined sewer overflow structures. Under the federal Clean Water Act, the discharge of pollutants to waters of the United States is prohibited unless performed in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Any stormwater that flows into the City's combined sewer system during construction is treated at permitted facilities (Southeast Treatment Plant, Oceanside Treatment Plant, or North Point Treatment Plant) consistent with standards set forth in the combined sewer system's NPDES permit prior to discharge into San Francisco Bay or the Pacific Ocean. Dry weather combined sewer overflows are prohibited.

The area bordering Lake Merced is served by a separate storm drain system, and stormwater either drains directly to the Pacific Ocean without treatment or infiltrates to the ground in areas without a separate drain system. The State Water Resources Control Board (state water board) classifies these areas where stormwater drains to the Bay as a municipal separate storm sewer system. Accordingly, stormwater discharges surrounding the Lake Merced area are regulated under the state water board Water Quality Order No. 2013-0001-DWQ, NPDES General Permit for Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems.

The City of Brisbane Public Works Department operates separate sewer and stormwater systems. Stormwater is collected in ditches and drainage channels and funneled into storm drain main lines which empty into the

[255] RMC Water and Environment, Vista Grande Watershed Study, August 2006.
[256] CDIM Engineering, Inc., 2024a. Hazardous Materials Study for the Pacific Gas and Electric Company Power Asset Acquisition Project. Prepared for Environmental Science Associates, San Francisco Public Utilities Commission, and the San Francisco Planning Department. August 2024. (Appendix J)
[257] City of Brisbane, Public Works Department. Brisbane Municipal Separate Storm Sewer System, 2024, and City of Brisbane, Public Works Department., Brisbane Municipal Separate Storm Sewer System Map, https://www.brisbaneca.org/sites/default/files/fileattachments/public_works/page/6651/brisbane_storm_drain_map_for_web_page.pdf, accessed February 23, 2024; City of Brisbane, Public Works Department, Sewer Information, 2024, https://www.brisbaneca.org/publicworks/page/sewer-information#:~:text=The%20sewer%20collection%20system%20consists,and%206%2Dinch%20diameter%20pipelines, accessed February 23, 2024.
[258] SFPUC, Our Combined Sewer, 2024, https://www.sfpuc.org/about-us/our-systems/sewer-system/our-combined-sewer, accessed February 20, 2024.

San Francisco Bay.[259] The Vista Grande storm drain system in Daly City is operated by the Daly City Public Works Department and is comprised of storm sewers, box culverts, manholes, catch basins, and flow equalization facilities, plus the canal and tunnel.[260]

Water quality standards applicable to the project areas are identified in the Regional Water Quality Control Board's Water Quality Control Plan for the San Francisco Bay Basin[261] (basin plan). The basin plan designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwater, and includes implementation programs to achieve water quality objectives.

Construction Impacts – All Project Components

Construction-Related Stormwater Runoff

If not properly managed, construction activities such as ground disturbance, stockpiling of excavated materials, and materials transport could result in temporary soil erosion. Sediments disturbed by construction activities could flow into the combined sewer system, separate stormwater system, or directly into receiving waters in violation of water quality standards when it is raining. Chemical releases from the project work areas and staging areas could also occur due to the use of paints, solvents, fuels, lubricants, and other hazardous materials associated with heavy construction equipment. Once released, these hazardous materials could be transported to receiving waters through stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters.

Project construction would disturb more than 1 acre of area and therefore all work would be required to comply with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (state water board Order WQ 2022-0057-DWQ,[262] construction general permit), which applies to construction projects in California. The construction general permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP) for construction activities that disturb 1 or more acres of soil that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the construction general permit.

The construction general permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The

[259] Wastewater generated in Brisbane and eastern areas of Daly City is collected in sanitary sewer lines operated by the Bayshore Sanitary District. Wastewater from the Bayshore Sanitary District collection system is routed to the SFPUC's Southeast Plant for treatment prior to discharge to San Francisco Bay. Refer to Section E.13, Utilities and Service Systems, for additional information.
[260] RMC Water and Environment, Vista Grande Watershed Study, August 2006.
[261] Regional Water Quality Control Board, Water Quality Control Plan for the San Francisco Bay Basin. Chapter 2, Beneficial Uses, 2023, https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html, accessed February 27, 2024.
[262] State Water Resources Control Board, General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, 2022, https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html, accessed February 27, 2024.

receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards;
- Good site management "housekeeping;"
- Non-stormwater management;
- Erosion and sediment controls;
- Run-on and runoff controls;
- Inspection, maintenance, and repair; or
- Monitoring and reporting requirements.

All project or project variant components would be covered by the construction general permit. In San Francisco, compliance with the construction general permit would also comply with article 4.2, section 146 of the San Francisco Public Works Code,[263] which requires an erosion and sediment control plan be prepared and implemented for construction activities disturbing 5,000 square feet or more of the land surface. Article 4.2 provides that for projects subject to both the construction general permit and article 4.2, a SWPPP may be prepared in lieu of the erosion and sediment control plan.[264]

Pursuant to the construction general permit, a stormwater pollution prevention plan (SWPPP) must be prepared before construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project area. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The construction general permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction). The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer, and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner.

In San Francisco and San Mateo counties, the construction general permit is implemented and enforced by the San Francisco Bay Regional Water Quality Control Board (regional board), which administers the stormwater permitting program. Dischargers must notify the regional board of violations or incidents of non-compliance and submit annual reports identifying deficiencies in the BMPs and explaining how the deficiencies were corrected.

With compliance with the construction general permit or compliance with article 4.2, section 146 of the San Francisco Public Works Code, water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of construction-related stormwater runoff would be ***less than significant***.

[263] City and County of San Francisco, Public Works Code, 2023, https://sfpublicworks.org/about/sf-public-works-code, accessed February 14, 2024.
[264] San Francisco Public Works Code, Article 4.2.

Construction-Related Groundwater Dewatering

The project areas extend across the Westside, Islais Valley, and Visitacion Valley groundwater basins in both San Francisco and San Mateo counties.[265] Beneficial uses of the Westside groundwater basin include municipal use, including but not limited to drinking water supply. However, these groundwater basins are much deeper than the excavation proposed as part of the project, and not related to shallow groundwater that could be affected by project activities. For example, within Martin Substation, unconfined groundwater is encountered at approximately 7 feet below ground surface.[266]

Dewatering could be needed during excavation of trenches in areas of shallow groundwater to facilitate dry working areas. Construction general permit Attachment J, Dewatering Requirements, includes the requirements for construction dewatering discharges covered by the construction general permit. Dewatering released into the permitted stormwater collection system from construction areas must be absent of pollutants in quantities that threaten to cause pollution or nuisance and must not take place in an area where existing soil and/or groundwater contamination could cause an exceedance of receiving water limitations. The groundwater must be analyzed for pH and turbidity and its release must cease if limits on these pollutants are exceeded. During construction the SFPUC would be required to implement these construction general permit requirements. The SFPUC would also be required to meet the requirements of article 4.1 of public works code,[267] supplemented by San Francisco Public Works Order No. 158170, when discharging groundwater in areas that drain to the City's the combined sewer system (which includes some areas in Daly City and Brisbane in addition to San Francisco). Article 4.1 specifies discharge limitations for specific chemical constituents as well as general conditions for the discharge. In addition, the discharge must meet the pre-treatment standards specified in Article 4.1 and the discharger must monitor the discharge quality for compliance with permit limitations.

As discussed in greater detail in Section E.18, Hazards and Hazardous Materials (Impact HZ-3), soil and groundwater at Martin Substation and Daly City Yard include hazardous materials. Martin Substation separation construction and construction of the new City Substation (project variant) must comply with existing land use covenants,[268] operations and maintenance agreements,[269] and soil management plan requirements in consultation with the California Department of Toxic Substances Control (DTSC).[270] With compliance with construction general permit and DTSC requirements, as discussed in greater detail in Section E.18, Hazards and Hazardous Materials (Impact HZ-3), groundwater dewatering during construction of the Martin Substation separation and the new City Substation (project variant) would not violate water quality standards or degrade water quality.

[265] San Mateo County, Groundwater in San Mateo County, https://www.smcsustainability.org/water/groundwater/, accessed February 20, 2024.
[266] Appendix J, CDIM, Technical Memorandum, Site Management Requirements, PG&E Martin Service Center, PG&E Power Asset Acquisition Project, Brisbane and Daly City, California, August 2024.
[267] San Francisco Public Utilities Commission, Wastewater Enterprise Collection System Division, Batch Wastewater Discharge Permit Application Instructions, revised 2023, https://sfpuc.org/sites/default/files/programs/Pretreatment%20Program/BatchWastewaterDischarge-Instructions%2008-31-2023.pdf, accessed February 27, 2024.
[268] PG&E and DTSC, 1995. Covenant to Restrict Use of Property, Daly City Yard. March 23; PG&E and DTSC, 2002. Covenant and Agreement to Restrict Use of Property, PG&E Martin Service Center February.
[269] PG&E and DTSC, 1995a. Agreement for Operation and Maintenance, PG&E Martin Service Center Daly City Yard. January 3; 2003. PG&E and DTSC, Revised Operation and Maintenance Agreement, Docket# HSA-94/95-010, PG&E Martin Service Center, Daly City Yard, Daly City, California. March 7.
[270] Haley & Aldrich, Inc. 2017. Soil Management Plan, Pacific Gas and Electric Company, Martin Service Center/Daly City MGP, 3004 Geneva Avenue, Daly City, California. June 15.

Therefore, water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of dewatering water would be ***less than significant***.

Operation Impacts

Martin Substation Separation, New City Substation (Project Variant)

Once complete, either the Martin Substation separation or new City Substation (project variant) would be paved consistent with either the existing operations and maintenance agreements or a modified version of the existing operations and maintenance agreements developed in coordination with DTSC. Operation and maintenance of the Martin Substation separation component or the new City Substation (project variant) consistent with DTSC requirements, along with the regulatory requirements discussed in Section E.18, Hazards and Hazardous Materials, would prevent degradation of water quality during operations of the Martin Substation separation or new City Substation (project variant).

Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin and Potrero Substations

The distribution express feeders would be underground and would not include use of potential water quality contaminants during operations. New infrastructure associated with the local distribution system separation and system reinforcements such as new poles and meter boxes could result in small areas of new impervious surfaces but due to their size and the type of equipment used would not substantially degrade water quality.

Operations Control Center, Operations and Maintenance Service Yards

The SFPUC would store diesel to operate the emergency generator at the operations control center and would store transformer oil (mineral oil), batteries, and propane at the operations and maintenance service yards. Storage of these products would be required to comply with regulatory requirements discussed in Section E.18, Hazards and Hazardous Materials (Impact HZ-1) designed to limit the potential for worker contact with the products, which would also reduce the risk of release of the products into the environment.

Management of maintenance supplies and equipment consistent with the existing regulatory would limit the risk of releasing pollutants that could affect surface water or groundwater, therefore, operation of the project or project variant would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality and impacts would be ***less than significant***.

Mitigation: None required.

Impact HY-2: The project or project variant would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project or project variant may impede sustainable groundwater management of the basin. ***(Less than Significant)***

Construction Impacts – All Project Components

As discussed above in Impact HY-1, project or project variant construction could require dewatering in areas of shallow groundwater. Shallow groundwater is not used for water supply. Furthermore, any effects related to lowering the water table due to dewatering would be temporary and localized and would not substantially deplete groundwater resources. Project construction activities would not substantially increase impervious

area or otherwise interfere with groundwater recharge. Therefore, the project or project variant would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, a ***less-than-significant*** impact.

Operation Impacts – All Project Components

The project or project variant would not substantially increase impervious surfaces or operate any groundwater wells for extraction of groundwater. Therefore, project operation would have ***no impact*** on groundwater supplies.

Mitigation: None required.

Impact HY-3: The project or project variant would not 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 that would result in substantial erosion, siltation, or flooding on or off site; that would 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 that would impede or redirect flood flows. ***(Less than Significant)***

Construction Impacts – All Project Components

The project work areas are mostly located in developed areas and are covered by impervious surfaces (i.e., paved streets, sidewalks, and substation yards) and do not contain any surface streams or water courses. Ground-disturbing construction activities would include excavation of trenches for installation of duct banks and foundations, and pole replacement. These activities would be temporary and the areas would be restored following installation of infrastructure. As such, the project or project variant would not substantially increase impervious surfaces, alter the course of a stream or river, or impede or redirect flood flows. Furthermore, as discussed in Impact HY-1, while construction could temporarily alter local drainage patterns, the project or project variant would not result in erosion, sedimentation, flooding or additional polluted runoff due to required implementation of site-specific stormwater control best management practices consistent with the construction general permit or article 4.2, section 146 of the San Francisco Public Works Code. Therefore, the associated impact would be ***less than significant***.

Operation Impacts – All Project Components

Neither the project nor the project variant operations would alter existing land uses or substantially increase impervious surface area. New infrastructure associated with the local distribution system separation and system reinforcements such as new poles and meter boxes could result in small areas of new impervious surfaces but due to their size the volume of runoff would not alter drainage patterns. Management of maintenance supplies and equipment consistent with the existing regulatory requirements discussed in Section E.18, Hazards and Hazardous Materials, would limit the risk of releasing pollutants that could affect surface water. Therefore, the project or project variant would not 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 that would result in substantial erosion, siltation, or flooding on or off site; that would 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 that would impede or redirect flood flows. Therefore, the associated operational impact would be ***less than significant***.

Mitigation: None required.

Impact HY-4: The project or project variant would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. ***(Less than Significant)***

Martin Substation Separation, Local Distribution System Separation, System Reinforcements, Operations Control Center, Operations and Maintenance Service Yards, Modifications to Retain PG&E Access to Non-Electrical Facilities at Martin Substation

A small portion of the Martin Substation property is located within a designated flood hazard area, as is a portion of the southwest area local distribution system separation work adjacent to the San Francisco Golf Club.[271,272] Additionally, the southeast portion of the local distribution system separation work area and the system reinforcements (reinforcement area 9 in Figure 2-8) are located partially within a mapped tsunami inundation zone.[273] While the exact location within southeastern San Francisco is not known, the operations control center or operations and maintenance service yards could be located within a designated flood hazard area. While the Martin Substation is surrounded by a wall, it is assumed for this analysis that the wall does not affect the potential for inundation at the Martin Substation.

Construction Impacts

As discussed above, portions of the Martin Substation and the local distribution system separation and system reinforcement work areas are located within flood or tsunami hazard zones. If improperly handled, pollutants encountered in excavated soil or used during construction could be released if inundation were to occur. As discussed in Impact HY-1, best management practices to control sediment and stormwater pollutants would be required by the construction general permit or erosion and sediment control plan (San Francisco Public Works Code article 4.2, section 146), such as covering soil stockpiles, installation of straw wattles, sandbags, and silt fencing that would prevent runoff of sediment and materials from the work areas. Construction materials and chemicals used in the project areas would also be handled consistent with the non-stormwater management requirements of the construction general permit or erosion and sediment control plan, which would require containment around hazardous materials storage areas and good housekeeping measures. With appropriate containment of excavated soil and construction chemicals and the low likelihood that a flood or tsunami would occur during the construction period, the potential for the project or project variant to risk release of pollutants in the event of inundation would be ***less than significant***.

Operation Impacts

As discussed in Impact HY-1, project operation would include the use of operations and maintenance service yards for vehicle parking and materials storage including storage of transformer oils, propane tanks, and uninterruptible power supply batteries. In addition, new transformers at Martin Substation would contain mineral oil. The operations and maintenance service yards could be within a flood hazard zone in San Francisco. Portions of the Martin Substation, although primarily outside of the Martin Substation project site, are located within a special flood hazard zone. As discussed in Impact HZ-1, hazardous materials needed

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[271] Federal Emergency Management Agency, 2024, National Flood Hazard Layer Viewer, Martin Substation area. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd, accessed February 26, 2024.
[272] SFPUC, 100-Year Storm Flood Risk Map, 2022, https://sfplanninggis.org/floodmap/, accessed February 27, 2024.
[273] California Department of Conservation, California Tsunami Maps, 2024, https://www.conservation.ca.gov/cgs/tsunami/maps, accessed February 26, 2024.

for maintenance activities would be stored and used in accordance with the product specifications and applicable regulations, including federal OSHA standards and Cal/OHSA standards (e.g., appropriate containment of hazardous materials), which would limit the risk of releasing water quality pollutants.

Therefore, the project or project variant would not increase the risk of releasing pollutants due to project inundation in flood hazard zones and the impact would be ***less than significant***.

Distribution Express Feeders, Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation, New City Substation (Project Variant)

The distribution express feeders, modifications to retain PG&E access to non-electrical facilities at Potrero Substation, and new City Substation (project variant) are not located within a designated flood hazard zone[274,275,276,277] or a mapped tsunami inundation zone.[278] There are no mapped seiche[279] zones in the project areas because the risk of seiche inundation around San Francisco Bay is low relative to the risk of storm surge flooding or tsunami flooding. Furthermore, no components of the project are proposed on or in open water, and therefore would not risk release of pollutants due to project inundation by seiche. These project components would result in ***no impact*** regarding risk of releasing pollutants due to project inundation in flood hazard, tsunami, or seiche zones.

Mitigation: None required.

Impact HY-5: The project or project variant would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. ***(Less than Significant)***

Construction Impacts – All Project Components

As the project or project variant would not decrease groundwater supplies or interfere with groundwater recharge, the project or project variant would not conflict with any sustainable groundwater management plan. The San Francisco Bay Basin Water Quality Control Plan (basin plan) identifies beneficial water uses, water quality objectives to protect the designated beneficial water uses, and strategies and time schedules to achieve the water quality objectives. A project could obstruct implementation of the basin plan by degrading water quality such that identified water quality objectives or strategies are not met and beneficial uses are adversely affected.

Central San Francisco Bay is currently an impaired waterbody with levels of several types of pollutants in excess of water quality standards. Listed pollutants for Central San Francisco Bay include pesticides, metals

[274] SFPUC, 100-Year Storm Flood Risk Map, 2022, https://sfplanninggis.org/floodmap/, accessed February 27, 2024.
California Department of Water Resources, Floodplain Information, 2024, https://gis.bam.water.ca.gov/bam/, accessed February 26, 2024.
[275] California Department of Water Resources, Floodplain Information, 2024, https://gis.bam.water.ca.gov/bam, accessed February 26, 2024.
[276] Federal Emergency Management Agency, 2024, National Flood Hazard Layer Viewer. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd, accessed February 26, 2024.
[277] City of Brisbane General Plan, The General Plan, City of Brisbane. Chapter X, Community Health and Safety, Figure X-H, p. X-18, 1994, https://www.brisbaneca.org/sites/default/files/fileattachments/community_development/page/2401/010_chapterx-communityhealthandsafety.pdf, accessed February 26, 2024.
[278] California Department of Conservation, California Tsunami Maps, 2024, https://www.conservation.ca.gov/cgs/tsunami/maps, accessed February 26, 2024.
[279] A seiche is caused by oscillation of the surface of an enclosed body of water due to an earthquake, landslide, or large wind event. Seiches can result in long-period waves that cause run-up or overtopping of adjacent landmasses, similar to tsunami run-up. Seiche can result in unexpected flooding in areas not subject to tidal action.

(selenium, mercury), toxic organics (dioxin compounds, furan compounds, and polychlorinated biphenyls [PCBs]), invasive species, and trash. The project or project variant would not use pesticides or use or release selenium or invasive species. The project or project variant would not use mercury but during construction and demolition the project or project variant could generate trash and debris containing mercury (e.g., leaded gasoline, electrical switches, thermostats) and products containing furan compounds, dioxin compounds, and PCBs (e.g., transformers, capacitors, glues, plastics, and fluorescent light components). As discussed in Initial Study, Section E.18, Hazards and Hazardous Materials (Impact HZ-1), the SFPUC would implement hazardous materials and waste handling requirements during construction which would reduce the risk of releasing pollutants during demolition.

As analyzed in Impact HY-1, while construction activities would disturb soils potentially contaminated by hazardous substances and use common construction chemicals, compliance with the requirements of article 4.2, section 146 of the San Francisco Public Works Code or construction general permit would require the implementation of best management practices for erosion control that would minimize potential discharges containing sediment and contaminants. Furthermore, in most project areas construction site runoff would be routed to the SFPUC Southeast Treatment Plant for treatment. Therefore, the impact would be ***less than significant***.

Operation Impacts – All Project Components

As discussed in Impact HY-1, neither the project nor the project variant operations would alter existing land uses or substantially increase impervious surface area. Management of maintenance supplies and equipment consistent with the existing regulatory requirements discussed in Section E.18, Hazards and Hazardous Materials (Impact HZ-1) would limit the risk of releasing pollutants that could affect surface water or groundwater, therefore, operation of the project or project variant would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Project construction and operation would not obviously conflict with or obstruct implementation of the basin plan, and the impact would be ***less than significant***.

Mitigation: None required.

Impact C-HY-1: The project or project variant, in combination with cumulative projects, would not result in a significant cumulative impact on hydrology or water quality. ***(Less than Significant)***

The geographic scope for potential cumulative impacts on hydrology and water quality encompasses the project area, receiving waterbodies, and groundwater underlying the project areas. All projects listed in Table 3.1-3, Projects Considered in Cumulative Impact Analysis, in EIR Section 3.1, Overview are within the geographic scope.

Water Quality Standards and Stormwater Runoff – All Project Components

Cumulative projects and the project or project variant could further exacerbate the high pollutant levels in central San Francisco Bay through erosion and sedimentation from construction site activities or stormwater runoff to the storm drain system and waterways, accidental releases of chemicals and fuels, or discharges of dewatered groundwater. The cumulative projects in San Francisco and the project or project variant would all be subject to article 4.2 the San Francisco Public Works Code, which requires implementation of an

erosion and sediment control plan. The project or project variant and all cumulative projects larger than 1 acre would be required to implement stormwater pollution controls consistent with the statewide construction general permit, which is intended to prevent cumulative water quality degradation from construction projects. The erosion and sediment control plan and construction general permit would require implementation of best management practices for the management of construction stormwater and non-stormwater, which may include but not be limited to erosion control measures, containment measures, and monitoring and reporting requirements.

As discussed in Impact HY-3, the project or project variant would result in minor increases in impervious area, primarily associated with new pole foundations or other small equipment foundations that would drain to the City's combined sewer system, the Bayshore Sanitary District system, Daly City's stormwater collection system, or to Lake Merced. All cumulative projects in San Francisco replacing 5,000 square feet or more of impervious surface would be required to comply with stormwater management requirements and to submit a stormwater control plan, a signed and recorded maintenance agreement, and signed certificate of acceptable construction. The stormwater control plan is required per the city's Stormwater Management Ordinance (Ordinance No. 83-10) to demonstrate the project meets the stormwater quality performance standards contained in the 2016 Stormwater Management Requirements and Design Guidelines.[280] The cities of Daly City and Brisbane are permittees under the San Francisco Bay Regional Municipal Regional Stormwater NPDES Permit,[281] Section C.3 of which includes stormwater management requirements for new development and redevelopment that would be applicable to cumulative projects in Brisbane and Daly City. With compliance with existing regulations, the project or variant, in combination with the cumulative projects, would not result in a significant cumulative impact related to surface runoff quality or volume.

The project or project variant and other projects that store petroleum products or other potential pollutants within flood hazard areas could increase the risk of releasing pollutants. Like the project or project variant, however, the cumulative projects would be required to comply with local, state and federal regulations promulgated to prevent the release of water quality pollutants (discussed in greater detail in Section E.18, Hazards and Hazardous Materials), which would reduce the risk of pollutant release.

Compliance with existing regulatory requirements and permits would minimize potential impacts on water quality. Therefore, the project or project variant, in combination with other projects, would not result in a significant cumulative impact on water quality (***less than significant***).

Groundwater – All Project Components

Groundwater dewatering could be required during the construction of the project or project variant and the cumulative projects. Dewatering of groundwater associated with the project and cumulative projects would not draw from sufficient depths to deplete groundwater supplies in the project vicinity. Furthermore, any cumulative effects related to lowering the shallow groundwater due to dewatering would be temporary and localized. The project or project variant, in combination with other projects, would not result in a significant cumulative impact on groundwater recharge and supplies (***less than significant***).

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[280] San Francisco Public Utilities Commission, *2016 Stormwater Management Requirements and Design Guidelines,* May 2016.

[281] San Francisco Bay Regional Water Quality Control Board, San Francisco Bay Regional Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008.

E.18 Hazards and Hazardous Materials

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
18. HAZARDS AND HAZARDOUS MATERIALS. Would the project:[282]					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☐	☒
h) Expose workers or the public to excessive shock hazards?	☐	☐	☒	☐	☐

The nearest public airport to the project is San Francisco International Airport, which is approximately 7 miles to the south. The project is not within the airport's land use plan area; therefore, Topic E.18(e) is not applicable and is not discussed further. Further, the project or project variant would not install new transmission towers or lines that could be a hazard to air traffic, and would not transport heavy materials using

[282] Items h), i), j) and k) in this checklist are topics identified in the California Public Utilities Commission's *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments* (2019) and are not included on San Francisco Environmental Planning's environmental checklist, which is a modified version of the CEQA Guidelines Appendix G checklist. Refer to Draft EIR Section 1.5.3 for additional information.

helicopters. The project is not located in or near wildlands; therefore, Topic E.18(g) is not applicable and is not discussed further.[283]

Impact HZ-1: The project or project variant would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. ***(Less than Significant)***

Construction Impacts – All Project Components

Routine Use of Hazardous Materials During Construction and Accidental Spills and Releases

Project construction would require the routine use of hazardous materials such as fuels, lubricants, paints, and solvents for motorized heavy equipment, such as excavators, bulldozers, and backhoes. Minor maintenance activities and refueling of equipment and vehicles from mobile or stationary fuel supply sources could occur at the project work area and proposed staging areas during construction. If not properly managed, the routine transport, use, and disposal of hazardous materials could pose a threat to human health or the environment. For example, hazardous materials have the potential to be spilled accidentally during maintenance, refueling, or servicing of equipment and vehicles. Improperly disposed of, spilled, or leaking hazardous materials could create a significant hazard to workers, the public, or the environment.

Hazardous materials handling, disposal, and transport must occur in accordance with applicable federal, state, and local laws and regulations designed to protect workers, the public, and the environment from hazardous materials. The Federal Resource Conservation and Recovery Act governs hazardous material disposal, ensuring that only facilities permitted to accept the specific waste are used. Under the California Hazardous Waste Control Act (California Health and Safety Code Division 20, Chapter 6.5, Article 2, section 25100 et seq.), DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Transport of hazardous materials must comply with the Resource Conservation and Recovery Act and the California Vehicle Code. Specific requirements related to hazardous materials are specified in the California Code of Regulations, Title 13, Division 2, Chapter 6. These regulations specify container types, packaging requirements, and placarding requirements as well as requirements for licensing and training for truck operators and chemical handlers. Regulatory requirements for the transport of hazardous wastes in California are specified in Title 22 Division 4.5 Chapters 13 and 29 of the regulations. In accordance with these regulations, all hazardous waste transporters must have identification numbers, which are used to identify the hazardous waste handler and to track the waste from its point of origin to its final disposal disposition. This number, issued by either the U.S. Environmental Protection Agency (USEPA) or DTSC, depends on whether the waste is classified as hazardous by federal regulations or only under California regulations. Hazardous waste transporters must also comply with the California Vehicle Code, California Highway Patrol regulations (California Code of Regulations Title 13). A hazardous waste manifest is required for transport of hazardous wastes. The hazardous waste manifest documents the legal transport and

[283] U.S. Forest Service, Wildland-Urban Interface for 2020, Published September 27, 2023, Last Updated October 2, 2023, https://data-usfs.hub.arcgis.com/documents/7804d89ed1094ccb9aae753228e8d89a/explore.

disposal of the waste, and is signed by the generator and transporter(s) of the waste as well as the disposal facility. California regulations specify specific cleanup actions that must be taken by a hazardous waste transporter in the event of a discharge or spill, and for the safe packaging and transport of hazardous wastes.

In addition to federal worker safety regulations, workers handling hazardous materials are required to adhere to California Occupational Safety and Health Administration (Cal/OSHA) health and safety requirements, which include preparation and implementation of emergency evacuation plans and health and safety plans, safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Title 8 of the California Code of Regulations requires employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings. Title 8 also includes hazard communication program regulations that contain worker safety training and hazard information requirements, procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparing health and safety plans to protect workers.

Construction activities would also be subject to the requirements of San Francisco Public Works Code Article 4.2, section 146 (in San Francisco and in locations that drain to the SFPUC's combined sewer system) and the State Water Resources Control Board's *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (construction general permit),[284] as applicable (these requirements are discussed in greater detail in Section E.17, Hydrology and Water Quality). In accordance with this article and the construction general permit, and consistent with the SFPUC's Water Pollution Prevention Program, the contractor would be required to develop and implement an erosion and sediment control plan or a stormwater pollution prevention plan (SWPPP) specifying measures to prevent stormwater pollution and control runoff at each site, in conformance with any applicable stormwater management controls adopted by the SFPUC.[285] The plan would specify minimum best management practices related to housekeeping (such as storage of construction materials, waste management, vehicle storage and maintenance, landscape materials, pollutant control); and stormwater run-on and runoff control. Article 4.2 provides that for projects subject to both an erosion and sediment control plan and the construction general permit, the SWPPP may be prepared in lieu of the erosion and sediment control plan. Construction activities subject to these permit requirements include ground disturbances and hazardous materials storage.

Compliance with laws and regulatory requirements would minimize potential impacts related to the routine transport, use, or disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the release of hazardous materials during construction.

Exposure to Potentially Contaminated Soil or Groundwater

There are approximately 155 known hazardous material storage, waste or cleanup sites within 500 feet of the project components, based upon a review of a list of sites with potentially hazardous wastes compiled by the Secretary for Environmental Protection pursuant to section 65962.5 of the Government Code, commonly referred to as the *Cortese List*.[286] A search distance of 500 feet was selected to reasonably encompass sites

[284] State Water Resources Control Board, General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order WQ 2022-0057-DWQ, 2022, https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html, accessed February 27, 2024.

[285] San Francisco Public Utilities Commission (SFPUC), Construction Site Runoff Pollution Prevention Procedures. Available online at: *http://www.sfwater.org/index.aspx?page=235*. Accessed January 19, 2021.

[286] None of the sites within 500 feet of the project areas had the potential for unexploded ordnance.

with releases of hazardous materials and wastes close enough to the project areas that such materials may be encountered during project implementation. The Cortese List includes hazardous waste sites from the Department of Toxic Substances Control's (DTSC) EnviroStor database, a list of hazardous facilities identified by DTSC that are subject to corrective action pursuant to Health and Safety Code section 25187.5, a list of leaking underground storage tank (LUST) sites maintained by the State Water Resources Control Board (water board) in its Geotracker database, a list of solid waste disposal sites maintained by the water board, and a list of sites with active cease and desist orders and clean up and abatement orders. There are 38 potentially contaminated sites within 500 feet of the proposed distribution express feeders as shown in **Table 13**. Open or active contaminated sites within 500 feet of the project components are listed in **Table 14**. The project is also proposed in proximity to I-280 (a potential historical source of aerially deposited lead), current and historical industrial uses, closed leaking underground storage tank sites, and areas of undocumented fill material. In San Francisco, these areas, along with sites on the Cortese List, are areas mapped as Maher Ordinance areas.[287] In San Francisco, a Maher Ordinance area is defined by Article 22A of the San Francisco Health Code and is under the jurisdiction of the San Francisco Department of Public Health Site Assessment and Mitigation Program. The City developed Article 22A of the San Francisco Health Code to assess pollutant impacts associated with fill and industrial activities as part of the building permit process.

Table 13 Potentially Contaminated Sites within 500 feet of Proposed Distribution Express Feeders

Site Name	HMS No. [288]	Case Type [289]	Status	Regulatory ID
Alemany Shell #152	18	UST (3 total)	N/A	38-000-031538
Shell Station #2304	19	LUST Cleanup Site	Completed - Case Closed	T0607500291
Commercial Property	20	Lust Cleanup Site	Completed - Case Closed	T0607507524
Arco #00319	22	Lust Cleanup Site	Completed - Case Closed	T0607500023
Gas Station	23	LUST Cleanup Site	Completed - Case Closed	T0607508486
Mission Martco	24	UST (3 total)	N/A	38-000-031072
Regal Station (former) #417	25	LUST Cleanup Site	Completed - Case Closed	T0607500211
Century 21 Alliance	28	LUST Cleanup Site	Completed - Case Closed	T0607501250
Commercial	29	LUST Cleanup Site	Completed - Case Closed	T10000001941
ARCO #6136	30	LUST Cleanup Site	Completed - Case Closed	T0607500015
ARCO #6136	31	UST (3 total)	N/A	38-000-035205
Nopuente Property	32	LUST Cleanup Site	Completed - Case Closed	T0607500653
Anderson Roofing & Sheet Metal	33	LUST Cleanup Site	Completed - Case Closed	T0607500884
Sadowa Street	34	LUST Cleanup Site	Completed - Case Closed	T10000013328

[287] "Maher Ordinance areas" are areas that the San Francisco Department of Public Health, Environmental Health Division (health department), as set forth in San Francisco Building Code section 106A.3.2.4, has identified as likely containing subsurface hazardous substances in soil or groundwater.
[288] "HMS No" is the number assigned to the site in CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project, in Appendix J. For site locations, refer to Figures 3-1 through 3-9 in the Hazardous Materials Study.
[289] UST = underground storage tank; LUST = leaking underground storage tank.

Table 13 Potentially Contaminated Sites within 500 feet of Proposed Distribution Express Feeders

Site Name	HMS No. [288]	Case Type [289]	Status	Regulatory ID
Chevron #090787	36	UST (3 total)	N/A	38-000-021389
Chevron Station #9-0787	38	LUST Cleanup Site	Completed - Case Closed	T0607500080
Robinson Property	39	LUST Cleanup Site	Completed - Case Closed	T0607500469
SFFD Station #33	40	LUST Cleanup Site	Completed - Case Closed	T0607500260
7-Eleven #23342	46	LUST Cleanup Site	Completed - Case Closed	T0607534907
Quality Gas for Your Cash Arco AM/PM	52	UST (3 total)	N/A	38-000-030250
Shell Station #4003	60	LUST Cleanup Site	Open – Assessment & Interim Remedial Action	T0607500304
Commercial	61	LUST Cleanup Site	Completed - Case Closed	T10000002024
Venturino Trust	65	LUST Cleanup Site	Completed - Case Closed	T0608100607
Cow Palace	70	Voluntary Cleanup	Refer: Local Agency	41070008
McDonald's Restaurant	71	LUST Cleanup Site	Completed - Case Closed	T0608100323
Nationwide Papers	72	LUST Cleanup Site	Completed - Case Closed	T0608100718
Cow Palace	73	LUST Cleanup Site	Completed - Case Closed	T0608100352
PG&E Martin Service Center	75	UST	N/A	FA0017148
S.E. Rykoff & Co.	77	LUST Cleanup Site	Completed - Case Closed	T0608101076
PG&E Martin Service Center	80	Cleanup Program Site	Completed - Case Closed	SLT2O05258
Chevron Bayshore	81	UST (3 total)	N/A	41-000-017132
Chevron 9-9428	82	LUST Cleanup Site	Completed - Case Closed	T100000010270
Chevron 9-9428	83	LUST Cleanup Site	Completed - Case Closed	T0608100129
7-Eleven Inc. #19235	85	UST (3 total)	N/A	41-000-017141
SF Water Department (PG&E Martin)	86	Voluntary Cleanup	No Further Action	41360101
CITGO (Southland)	87	LUST Cleanup Site	Completed - Case Closed	T0608100151
V & A Auto Repair	92	LUST Cleanup Site	Completed - Case Closed	T0608147688
Martin Substation	95	Non-Case Information	Informational Item / Review Complete	T10000009204

SOURCE: CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project (see Appendix J).

Table 14 Open or Active Hazardous Materials Sites or Sites with Land Use Restrictions Within 500 Feet of Project Areas

Site Name(s)	HMS No.[290]	Contaminants and Contaminated Media	Project Component(s) within 500 feet
Shell Station #4003 (5897 Mission Street)	60	Petroleum and petroleum-related compounds in groundwater	Distribution express feeders, local distribution system separation, system reinforcements
Westlake French Cleaners	113	Perchloroethene (PCE) in soil vapor	Local distribution system separation
Former Crocker Cleaners	76	Volatile organic compounds (VOCs) including PCE and degradation products in soil vapor, soil, and groundwater	Local distribution system separation, system reinforcements
Agbayani Construction	138/139	Petroleum hydrocarbons and VOCs including PCE in soil vapor	System reinforcements
Brisbane Baylands/Southern Pacific Brisbane	111	Halogenated VOCs, heavy bunker oil in groundwater; heavy bunker oil, other petroleum hydrocarbons, and metals in soil	System reinforcements
Brisbane Class II Landfill	129	Multiple chemicals of potential concern in groundwater	System reinforcements
SFPP Kinder Morgan	142/143	Aviation fuel, diesel, gasoline, benzene, methyl tert-butyl ether, tertiary butyl alcohol, and other fuel oxygenates in groundwater	System reinforcements
Heidelburg West	150/151	VOCs including PCE, tetrachloroethylene (TCE), and associated degradation products in soil, groundwater, and soil vapor	System reinforcements
Schlage Lock Co.	41/42	VOCs in soil and groundwater, land use restrictions	System reinforcements
Former Martin Service Center	90, 101, 86	Multiple chemicals of concern in soil and groundwater, land use restrictions	Martin Substation separation, distribution express feeders, local distribution system separation, system reinforcements, new City Substation
Former Midway Village	109/106	PAHs and heavy metals in soil and VOCs (benzene, ethylbenzene, naphthalene, and vinyl chloride) in soil vapor, land use restrictions	Martin Substation separation, distribution express feeders, local distribution system separation, system reinforcements, new City Substation
San Francisco Police Pistol Range	66	Lead in soil	Local distribution system separation, system reinforcements

[290] "HMS No" is the number assigned to the site in CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project, in Appendix J. For site locations, refer to Figures 3-1 through 3-9 in the Hazardous Materials Study. Former Potrero Power Station Switchyards and General Construction Yard not assigned an HMS number.

Table 14 Open or Active Hazardous Materials Sites or Sites with Land Use Restrictions Within 500 Feet of Project Areas

Site Name(s)	HMS No.[290]	Contaminants and Contaminated Media	Project Component(s) within 500 feet
Bayshore Elementary Reconstruction	84	Metals (lead) and organochlorine pesticides in soil	Distribution express feeders, local distribution system separation, system reinforcements, new City Substation
Former Potrero Power Station – Switchyards and General Construction Yard	n/a	Metals, PAHs, petroleum hydrocarbons, VOCs, semi-volatile organic compounds, PCBs, cyanide, pesticides, and naturally-occurring asbestos in soil, soil vapor, or groundwater	Modification to retain PG&E access to non-electrical facilities at Potrero Substation

SOURCE: CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project (see Appendix J); California Water Resources Control Board, Geotracker Case Summary for Potrero Power Plant – Switchyards and General Construction Yard. Accessed October 21, 2024.

Potential construction and operation impacts related to Martin Substation separation, modifications to retain PG&E access to non-electrical facilities at Martin and Potrero substations, and the new City Substation (project variant), which are located on hazardous waste or cleanup sites listed on the Cortese list (as compiled pursuant to Government Code Section 65962.5), are discussed further in Impact HZ-3, below. The following discussion focuses on construction of the distribution express feeders, local distribution system separation, system reinforcements, operations control center, and operations and maintenance service yards.

Most open or closed hazardous materials sites within 500 feet of the project components are located along the distribution express feeders or within the local distribution system separation or system reinforcements areas. In addition, distribution express feeders construction would pass within 500 feet of mapped Maher Ordinance areas in San Francisco. [291] The exact locations of underground work for the local distribution system separation and system reinforcements are not known but could occur within 500 feet of most of the sites identified in Table 1, Environmental Sites Summary, in **Appendix J**.[292] Multiple mapped Maher Ordinance areas also occur within 500 feet of the local distribution system separation and system reinforcements areas.[293] The locations of the operations control center and operations and maintenance service yards would be in southeastern San Francisco, much of which has been mapped as Maher Ordinance areas.[294]

For these components, work would generally occur in or near the public right-of-way (streets) and therefore is unlikely to occur within any of these potentially contaminated sites (the sites are generally on parcels, either private or public). However, underground work for the distribution express feeders, local distribution system separation, and system reinforcements would be adjacent to potentially contaminated sites. Most leaking underground storage tank cases identified within 500 feet of the project areas are closed, indicating that, if present, soil and groundwater contamination is below regulatory cleanup levels. While completed or ongoing cleanup actions at those sites are intended to contain contamination and prevent further release to the environment, it is possible that releases may have migrated off-site or that unanticipated hazardous

[291] HMS 30/31 (closed LUST at Arco on Geneva), HMS 28 (Century 21 Alliance closed LUST site), HMS 23/25 (Regal Station, Gas Station closed LUST), HMS 19 (closed LUST Shell station), HMS 39 (closed LUST site Robinson Property), and the crossing under I-280.
[292] CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project, August 16, 2024 (Appendix J).
[293] Refer to Figure 4 in CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project, in Appendix J.
[294] Refer to Figure 4 in CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project, in Appendix J.

materials could be encountered during excavation and groundwater dewatering, and work crews could encounter contaminated soil, soil vapor, or groundwater.

Excavation within 500 feet of open or closed hazardous materials sites or within mapped Maher Ordinance areas could encounter contamination and without proper management, could expose workers to contamination or release contaminated soil or groundwater into the environment.

Consistent with federal Occupational Safety and Health Administration regulations (29 CFR 1910.120) and California Occupational Safety and Health Administration regulations (8 CCR Section 5192), the SFPUC would be required to prepare a health and safety plan that addresses the potential to encounter workplace hazards, including hazardous substances in soil or groundwater, for project or project variant construction in San Francisco and San Mateo counties. The health and safety plan must be site-specific and be prepared by a qualified professional. Consistent with the California Hazardous Waste Control Act, the SFPUC would also be required to identify and manage hazardous soil and groundwater and identify appropriate disposal methods. Implementation of a health and safety plan and hazardous soil and groundwater management consistent with these requirements would reduce the risk of creating a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Additional local requirements would apply to construction within Maher Ordinance areas in San Francisco, which would further limit the potential for release of hazardous soil or groundwater. Article 22A of the San Francisco Health Code requires that a qualified professional prepare a site history report (commonly referred to as a phase I environmental site assessment) to determine whether hazardous substances may be present on the site at levels that exceed health risk levels or other applicable standards established by California Environmental Protection Agency, the regional water board, and DTSC. If hazardous substances may be present on the site at levels that exceed health risk levels or other applicable standards, the SFPUC may be required to conduct soil and/or groundwater sampling and analysis under a work plan approved by the health department. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, preparation of a site mitigation plan describing the methods that will be implemented to handle and dispose of contaminated materials to prevent impacts to public health and the environment during construction would be required. Specific requirements for sites located on City-owned land would be coordinated with the health department, pursuant to Article 22A.17 of the health code.

The site mitigation plan must contain measures to mitigate potential risks to the environment and to protect construction workers, nearby residents, workers, and/or pedestrians from potential exposure to hazardous substances and underground structures during soil excavation and grading activities. The site mitigation plan must also contain procedures for initial response to unanticipated conditions such as discovery of underground storage tanks, sumps, or pipelines during excavation activities. Specified construction procedures at a minimum must comply with building code section 106A.3.2.6.3 and health code article 22B related to construction dust control; and San Francisco Public Works Code section 146 et seq. concerning construction site runoff control. Additional measures would typically include notification, field screening, and worker health and safety measures to comply with Cal/OSHA requirements. The health department would require discovered underground storage tanks to be closed pursuant to article 21 of the health code and comply with applicable provisions of chapters 6.7 and 6.75 of the California Health and Safety Code (commencing with section 25280) and its implementing regulations. The closure of any underground storage tank must also be conducted in accordance with a permit from the San Francisco Fire Department. In

compliance with state and federal regulations, and health code article 22A, the SFPUC would assess the potential for site contamination prior to construction and would handle potential soil and/or groundwater contamination in accordance with all applicable regulatory requirements and through coordination with the health department, as required. Thus, the project or project variant would not result in a significant hazard to the public or environment from the release of contaminated soil and/or groundwater.

Exposure to Naturally Occurring Asbestos in Soil

Asbestos is a common name for a group of naturally occurring fibrous silicate minerals that are made up of thin but strong, durable fibers. Asbestos is a known carcinogen and presents a public health hazard if it is present in the friable (easily crumbled) form. Naturally occurring asbestos would most likely be encountered in Franciscan ultramafic rock[295] (primarily serpentinite[296]) or Franciscan mélange.[297] System reinforcements and local distribution system separation would be located in areas where these bedrock units have been identified or on Pleistocene age undifferentiated sedimentary deposits (Qu) or slope debris and ravine fill (Qsr) that are derived at least partly from these Franciscan Complex bedrock units and could also contain naturally occurring asbestos. Construction workers, the public, or the environment could be exposed to asbestos if project-related excavation were to disturb bedrock units or fill that contain these materials.

The California Air Resources Board has adopted an asbestos Airborne Toxic Control Measure for construction, grading, quarrying, and surface mining operations.[298] This regulation requires the use of best available dust mitigation measures to prevent offsite migration of asbestos-containing dust from road construction and maintenance activities, construction and grading operations, and quarrying and surface mining operations in areas of ultramafic rock, serpentine, or asbestos. The Bay Area air district implements the regulation, which became effective on July 22, 2002.

For construction projects located in areas where ultramafic rock (primarily serpentinite) is mapped and that would disturb 1 acre or less of land, the Airborne Toxic Control Measure requires the site operator to implement standard dust mitigation measures before construction begins, and to maintain each measure throughout the duration of the construction project. For construction activities that would disturb more than one acre of asbestos-containing materials, project sponsors are required to prepare an asbestos dust mitigation plan specifying measures that would be taken to ensure that no visible dust crosses the property boundary. The asbestos dust mitigation plan must be submitted to and approved by the Bay Area air district prior to the beginning of construction, and the site operator must ensure the implementation of all measures throughout the construction project. In addition, the Bay Area air district could require air monitoring for offsite migration of asbestos dust during construction activities and might change the plan on the basis of the air monitoring results. The SFPUC would also be required to comply with federal Occupational Safety and Health Administration worker protection standards applicable to construction (29 CFR section 1926.1101) and California Occupational Safety and Health Administration worker protection standards (8 CCR section 5208).

[295] Ultramafic rocks are formed in high-temperature environments well below the surface of the earth.
[296] Serpentine is a naturally occurring group of minerals that can be formed when ultramafic rocks are metamorphosed during uplift to the earth's surface. Serpentinite is a rock consisting of one or more serpentine minerals. This rock type is commonly associated with ultramafic rock along earthquake faults. Small amounts of chrysotile asbestos, a fibrous form of serpentine minerals, are common in serpentinite.
[297] Mélange is a mixture of rock materials of differing sizes and types typically contained within a sheared matrix.
[298] California Air Resources Board, 2002-07-29 Asbestos ACTM for Construction, Grading, Quarrying, and Surface Mining Operations, Final Regulation Order.

With compliance with asbestos dust regulations, excavation and trenching within areas of naturally occurring asbestos would not result in adverse effects associated with potential exposure of workers, the public, or the environment.

Summary

With compliance with existing regulations, project or project variant construction would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, a ***less-than-significant*** impact.

Operation Impacts – All Project Components

Operations and maintenance of the project or project variant would involve routine inspections, meter readings, periodic testing, and as-needed repairs and replacement of equipment during regular maintenance cycles.

The project includes installation of transformers at Martin Substation or, under the project variant, at the new City Substation. Transformers contain mineral oil. In addition, transformer oil (mineral oil) and propane would be stored at the operations and maintenance storage yards. Under the project variant, the new City Substation would include equipment insulated with SF6 gas and would store SF6 onsite. Mineral oil (other commonly used names are paraffin oil and/or white mineral oil mist) and propane gas do not appear on the list of hazardous substances provided by Cal/OSHA. SF6 gas is included on the Cal/OSHA hazardous substances list.[299] The substances on the list are subject to the provisions of Labor Code Sections 6360 through 6399.7 and Section 5194 in Title 8 of the California Code of Regulations.

The Occupational Safety and Health Administration (OSHA) is the agency responsible for assuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in Title 29 of the Code of Federal Regulations, as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards relating to hazardous materials handling. OSHA Standards Part 1910.110, Storage and handling of liquefied petroleum gases, specifies requirements applicable to storage of liquefied petroleum gases, including propane tanks. Storage tanks must meet the specifications in Part 1910.110 and be located minimum distances from the nearest buildings depending on tank size. Vegetation must be cleared within a certain distance of the container, and containers must be more than 20 feet from flammable liquid tanks.

Hazardous materials needed for maintenance activities would be stored and used in accordance with the product specifications and applicable regulations. Product specifications are described in detail on Material Safety Data Sheets (MSDS), which accompany every batch of materials considered to be hazardous. Information in the MSDS includes instructions on proper use and application of the material, accidental release measures, and handling and storage requirements. Hazard communication programs regulations enforced by Cal/OSHA requires MSDS be available to employees, and that employee information and training programs be documented. Applicable regulations specify storage and handling requirements such as proper container types and usage methods.

[299] California Occupational Safety and Health Regulations Section 339, The Hazardous Substances List.

The California Highway Patrol enforces hazardous materials and hazardous waste labeling and packing regulations to prevent leakage and spills of material in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are the responsibility of the California Highway Patrol, which conducts regular inspections of licensed transporters to assure regulatory compliance. Caltrans has emergency chemical spill identification teams at as many as 72 locations throughout the state that can respond quickly in the event of a spill. All transport of hazardous materials for the project or project variant would be undertaken in compliance with applicable laws, rules, and regulations, including the acquisition of required shipping papers, package marking, labeling, transport vehicle placarding, training, and registrations.

Compliance with applicable federal, state, and local regulations would reduce the risk of release such that operation of the project or project variant would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The impact would be ***less than significant***.

Mitigation: None required.

Impact HZ-2: The project or project variant would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (*Less than Significant*)

All Project Components

Section 15186 of the CEQA Guidelines requires that the environmental document for projects that are located within one-quarter mile of a school address the use of extremely hazardous materials and emission of hazardous air emissions. **Table 15** lists the schools located within one-quarter mile of the project site. The operations control center and operations and maintenance service yards locations are not known but could occur within one-quarter mile of a school that may not be listed in Table 15. The State of California defines acutely hazardous materials as extremely hazardous materials in Section 25532(i)(2) of the Health and Safety Code. Hazardous air emissions include the toxic air contaminants that are listed in Title 17 of the California Code of Regulations, Section 93000.

As discussed under Impact HZ-1, the project or project variant would involve operations and maintenance of the electric system in San Francisco. The project includes installation of transformers at Martin Substation or, under the project variant, at the new City Substation. Transformers contain mineral oil (other commonly used names are paraffin oil and/or white mineral oil mist). In addition, transformer oil (mineral oil) and propane would be stored at the operations and maintenance storage yards. Under the project variant, the new City Substation would include equipment insulated with SF6 gas and would store canisters of SF6 onsite. Typical gas-insulated electrical equipment is designed to avoid the release of gas into the atmosphere. Storage containers are also designed to prevent the release of SF6 gas. The leakage rate of currently available designs for circuit breakers that use SF_6 gas for insulation and interruption is approximately 0.5 percent per year.

Table 15 Schools within 0.25 Mile of the Project Areas[300]

Name	Address
SAN FRANCISCO	
Living Hope Christian School	1209 Geneva Avenue
Pomeroy Recreation and Rehabilitation Center	207 Skyline Boulevard
Saint Thomas More	50 Thomas More Way
Epiphany Elementary School	600 Italy Avenue
Our Lady of the Visitacion School	785 Sunnydale Avenue
Balboa High School	1000 Cayuga Avenue
John McLaren Early Education School	2055 Sunnydale Avenue
James Denman Middle School / Leadership Charter High	241 Oneida Avenue
Jose Ortega Elementary School	400 Sargent Street
Sheridan Elementary School / Preschool	431 Capitol Avenue
Longfellow Elementary School	755 Morse Street
Guadalupe Elementary School	859 Prague Street
Mt. Vernon Christian Academy	106 Broad Street
Friends of Potrero Hill Nursery School	1060 Tennessee Street
Aptos Middle School	105 Aptos Avenue
Commodore Sloat Elementary School	50 Darien Way
San Miguel Early Education School	300 Seneca Avenue
Hillcrest Elementary School	810 Silver Avenue
Monroe Elementary School	260 Madrid
El Dorado Elementary School	70 Delta Street
Phillip and Sala Burton Academic High School	400 Mansell Street
Visitacion Valley Middle School	1971 Visitacion Avenue
Visitacion Valley Elementary School	55 Schwerin Street
DALY CITY	
Bayshore Elementary School	155 Oriente Street
George Washington Elementary School	251 Whittier Street
Panorama Elementary School	25 Bellevue Avenue
Garden Village Elementary School	208 Garden Lane
Jefferson High School	6996 Mission Street
Woodrow Wilson Elementary School	43 Miriam Street
Hilldale School	79 Florence Street

[300] The operations control center and operations and maintenance service yards locations are not known but could occur within one-quarter mile of a school that may not be listed in Table 15.

Table 15 Schools within 0.25 Mile of the Project Areas[300]

Name	Address
Westlake Elementary School	80 Fieldcrest Drive
Our Lady of Perpetual Help School	60 Wellington Avenue
BRISBANE	
Lipman Middle School	1 Solano Street

SOURCE: Google Earth, 2024

None of these substances appear in Section 25532(i)(2) of the California Health and Safety Code (which references the list of substances in Appendix A of Part 355 of Subchapter J of Chapter I of Title 40 of the Code of Federal Regulations), or in Section 93000 of Title 17 of the California Code of Regulations.

Therefore, impacts related to hazardous emissions or the use of extremely hazardous materials within one-quarter mile of a school would be ***less than significant***.

Mitigation: None required.

Impact HZ-3: The project or project variant would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; however, it would not create a significant hazard to the public or the environment. ***(Less than Significant)***

Martin Substation Separation, Modifications to Retain PG&E Access to Non-Electrical Facilities and Martin Substation, and New City Substation (Project Variant)

Construction Impacts

The Martin Substation is identified on multiple lists of hazardous materials sites compiled pursuant to Government Code section 65962.5. The following provides an overview of the history and status of environmental investigation at the Martin Substation, the location of project components within the subareas of investigation, and the land use covenants/deed restrictions that pertain to any excavations within the substation facilities.

The Martin Service Center, which includes Martin Substation and Daly City Yard, is generally bounded by Schwerin Street on the west, Geneva Avenue to the north, Bayshore Boulevard to the east, and Main Street, Bayshore Park and Midway Village Housing complex to the south. From 1906 to 1916, a manufactured gas plant operated at the property, which made gas for lighting, heating, cooking and for fueling electric generators. The gas plant at this site used oil as a feedstock and the soil beneath the site was contaminated with residues including benzene, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH)-motor oil, and TPH-diesel.[301]

[301] DTSC. 2015. *Public Notice – Fourth Five Year Review, PG&E Martin Service Center, Daly City, California 94014,* December. Available at: https://www.envirostor.dtsc.ca.gov/public/deliverable_documents/7797836124/PGE%20Martin%20Service%20Public%20Notice.pdf

The gas plant was dismantled in 1916. During World War II, the site was graded for Navy housing construction during which the contaminated soil was spread around the site as fill material. The following listings and regulatory agency status are identified for various portions of the Martin Substation site:

- PG&E Martin Service Center – Cleanup Program Site (Case Closed as of February 3, 2021). GeoTracker I.D. SLT2O05258
- Martin Service Daly City Yard – DTSC State Response (Certified, Operation and Maintenance as of May 4, 1995). Envirostor I.D. 41360100.
- Martin Service Operable Unit 2 and Levison Parcel – DTSC State Response (Certified, Operation and Maintenance as of June 30, 2003). Envirostor I.D. 41360093
- San Francisco Water Department – DTSC Voluntary Cleanup Program (No further action as of June 26, 2001). Envirostor I.D. 41360101.

PG&E has performed numerous soil and groundwater investigations to assess the nature and extent of manufactured gas plant residues in soil and groundwater at Martin Service Center.

In 1991, DTSC and PG&E entered into a consent agreement to investigate and clean up contamination at the site.[302] Areas of known contamination have been documented across a large portion of the Martin Service Center, in part as a consequence of spreading the contaminated soil for use as fill. Results of soil sampling indicate the presence of the following constituents of potential concern: TPH, VOCs, PAHs, cyanide, and metals including arsenic, cadmium, chromium, lead, nickel, and mercury. The depth of the soil layer containing residues from the manufactured gas plant varies from 3 to 12 feet below ground surface.

In 1993 PG&E prepared a remedial action plan that established remedial action objectives applicable to the entire Martin Service Center. The remedial action objectives are to minimize direct or indirect exposure of humans and the environment to polycyclic aromatic hydrocarbons, to minimize the potential for migration of polycyclic aromatic hydrocarbons off the PG&E property, and to preserve the existing beneficial uses of the site, including potential wildlife habitat and wetlands.

The site was split into two operable units, OU-1 and OU-2.[303] OU-1 is on the western edge of the former manufactured gas plant site that contains the Daly City Yard and shallow soil contamination. OU-2 is on the eastern side where groundwater is affected.

Because most of OU-1 (at Daly City Yard) was already capped by concrete, implementation of the 1993 remedial action plan involved capping the strip of land between Schwerin Street and the Martin Service Center and capping the berm along the southern boundary of Daly City Yard. After implementation of the remedial action plan, most soil at the Martin Service Center had been covered by concrete, asphalt, or clean fill material, and site access was controlled by a fence around the property. In 1995, PG&E and DTSC entered into an agreement for operation and maintenance of the cap at Daly City Yard. A first land use covenant was recorded for the site at this time and among other restrictions requires that only industrial, utility,

[302] Appendix J, CDIM, Technical Memorandum, Site Management Requirements, PG&E Martin Service Center, PG&E Power Asset Acquisition Project, Brisbane and Daly City, California, August 2024.
[303] During cleanup, a site can be divided into distinct areas depending on the complexity of contamination associated with the site. These areas, called operable units, may address geographic areas at a site, specific site contamination issues, or areas where a specific action is required.

commercial or office space use occur at the site, and prohibits activities that will disturb the soil in the area without approval of a health and safety plan and a soils management plan by DTSC.

PG&E then prepared a second remedial action plan in 1998 that further addressed potential routes of PAH transport offsite and included recordation of a second land use covenant to control future land use for the entirety of the Martin Service Center. The second land use covenant prohibits the following land uses: residence, hospital, public or private school, or day care center for children. The second land use covenant also expands the prohibition on soil disturbance without a soil management plan and health and safety plan approved by DTSC.

Site remediation information indicates that significant quantities of gas plant waste are present in shallow soil at the Daly City Yard. Limited investigation has been performed in the Martin Substation area, but available data suggests some gas plant waste is also present at that area.

The existing land use covenants, operations and maintenance agreement, and soil management plan requirements, discussed below, would apply to proposed activities at the Martin Service Center (including Martin Substation separation or construction of the new City Substation [project variant]).

Land Use Covenants

The 1995 land use covenant applies only to the Daly City Yard. The 2002 land use covenant applies to the entire Martin Service Center. The covenants follow the land and notify landowners of site contaminants, restrict sensitive property uses, prohibit certain activities, require DTSC notice and approval of site construction, and require protection of site remediation remedial measures (e.g., caps and interceptor trench). As described above, both land use covenants prohibit activities that disturb soil below the caps without a soil management plan and health and safety plan approved by DTSC. The second land use covenant also requires that activities that may disturb the caps or the interceptor trench shall not be permitted without prior review and approval by the DTSC. All uses and development of the property must preserve the integrity of the cap and the interceptor trench.

Operations and Maintenance Agreement Requirements

Requirements for ongoing site management of the Martin Service Center are outlined in an operation and maintenance agreement between PG&E and DTSC. Among other administrative requirements, the operations and maintenance agreement requires that PG&E:

- Perform routine inspection and maintenance of caps at the Daly City Yard Berm, the Schwerin Street Strip, and the Brisbane Yard Annex;
- Notify DTSC 60-days prior to any proposed modification, discontinuation, or other disruption of the caps;
- Perform environmental monitoring and reporting to DTSC per the approved operations and maintenance plans;
- Prepare annual progress reports for activities conducted under the operations and maintenance agreement;
- Prepare a Five-Year Review Report that evaluates the adequacy of the implemented remedy in protecting public health, safety and the environment; and,
- Immediately take appropriate action to prevent, abate or minimize the threat of release from emergency actions or occurrences (e.g., fire, earthquake, explosion).

The most recent Five-Year Review Report available from DTSC concluded that the remedies at the Martin Service Center are operating as designed and meeting DTSC protectiveness criteria.[304]

Soil Management Plan

In 2017 PG&E prepared a soil management plan for the Martin Service Center that provides program level guidance on measures necessary for projects involving disturbance of soils within areas where manufactured gas plant contamination is known or suspected. The risk management measures apply before, during, and after work that would penetrate below the surface cap and into native soil or fill. The soil management plan measures are summarized below:

- **Training**—All individuals working in an excavation or with excavated soil must complete training in accordance with Hazardous Waste Operations and Emergency Response training requirements in Code of Federation Regulations, Title 29, Section 1920 and California Code of Regulations, Title 8, Section 5192 (40-HR HAZWOPER).
- **Soil Handling, Excavation and Disposal**—The soil management plan specifies that soil in the known or suspected manufactured gas plant affected area must be assumed hazardous and handled appropriately and soil handling anywhere else within the Martin Service Center should be observed by a qualified environmental professional to identify manufactured gas plant effects, (e.g., staining, odors, or the identification of manufactured gas plant residues) and handled as hazardous as needed. Pending offsite disposal, affected soil must secured within the site in a manner to prevent dispersion (e.g., stockpiled on sheet plastic sheeting, in a roll-off bin, or drums).
- **Soil Sampling**—The soil management plan recommends composite sampling of affected soil using methods to detect constituents of potential concern identified for manufactured gas plant waste.
- **Soil Disposal**—All excavated soil from inside the area of known manufactured gas plant contamination shall be removed and disposed of at an authorized facility.
- **Soil Reuse**—Soil excavated from outside the area of known manufactured gas plant contamination may be reused on the site if analytical results from its corresponding composite soil sample analysis are below lowest of the commercial/industrial limits for each constituent of potential concern among the DTSC-Modified Screening Levels established by DTSC in the Human Health Risk Assessment Note 3 and Environmental Screening Levels established by the San Francisco Bay Regional Water Quality Control Board.[305,306]
- **Health and Safety Plan**—A project health and safety plan must be developed that addresses site safety associated with constituents of potential concern and construction activities including contingencies for unexpected conditions and accidental hazardous material releases.
- **Other Items**—The soil management plan identifies other mitigations that may be appropriate based on project specific requirements, which may include: best management practices for stockpiles, storm water runoff, and odor suppression; dust and noise mitigation; traffic control; dewatering and handling of groundwater; and, quality assurance/quality control for sampling.

[304] Haley & Aldrich, Inc. (Haley & Aldrich), 2015. Fourth Five Year Review for Pacific Gas and Electric Company's Martin Service Center,731 Schwerin Street, Daly City, California. June 15.
[305] DTSC, 2022. Human Health Risk Assessment (HHRA) Note Number 3, DTSC Modified Screening Levels. May.
[306] San Francisco Bay Regional Water Quality Control Board, Site Cleanup, https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/sitecleanup.shtml, accessed February 10, 2025.

For the Martin Substation separation or the new City Substation (project variant), the SFPUC would implement the requirements of the land use covenants, soil management plan, and operations and maintenance agreement. The SFPUC would be required to notify DTSC and secure approval by the DTSC of the health and safety plan and soil management plan prior to activity that could affect the caps or interceptor trench. The health and safety plan and soil management plan would include specific practices related to soil handling, disposal, and site safety, among other considerations. The SFPUC would enter into an agreement with DTSC for DTSC review of the proposed soil management plan and health and safety plan. All work must comply with the *Guidelines for Excavations at Former Manufactured Gas Plant Sites* or comparable excavation guideline approved by DTSC.[307] The site health and safety plan would ensure that appropriate work procedures and personal protective equipment would be used so that construction workers and the public would not be exposed to contaminants in soil and groundwater. The soil management plan would include provisions for the safe and lawful disposal of soil generated from construction activities, including requirements for treatment of extracted groundwater. Excavated soil must be analyzed for contamination and impacted soil must be disposed of at an appropriate landfill, in accordance with state and federal regulations. Groundwater extraction from dewatering of the excavations could result in contaminated water that would require appropriate handling and disposal. Contaminated water could be disposed of into the sanitary sewer in accordance with the requirements of the Bayshore Sanitary District or it would require on-site treatment to remove contaminants prior to disposal in accordance with a NPDES permit. The DTSC may require additional measures it deems necessary to protect the health of the public in the community.

As stated in the land use covenant, the residual contamination at the PG&E Martin Service Center does not present an unacceptable threat to human safety or the environment provided the restrictions of the covenant are implemented. The City and its contractor must comply with the provisions of the covenant, specifically procedures for soil management and health and safety, as well as all regulations related to hazardous waste storage, handling, transportation, and disposal. With required compliance, impacts associated with construction activities on a hazardous waste site would not result in adverse effects to people or the environment.

Summary

As outlined above, recorded covenants restrict development and impose requirements for ground-disturbing activities at the Martin Substation separation site or the new City Substation (project variant) site, where known hazardous contamination has historically occurred. Remedial actions have been previously undertaken and continue to be maintained at this site in order to ensure the protection of public health and the environment. Stringent requirements are specified for excavation in this area. Although this area is subject to land use restrictions, commercial and industrial uses are permitted, and excavation is allowed if performed in accordance with relevant plans (e.g., soil management plan and health and safety plan), relevant treatments (e.g., caps) at the site are protected, and the oversight agency is notified in advance and approves the work. For construction work at this site, SFPUC would comply with relevant covenants, associated plans, and all applicable local, state, and federal regulations related to hazardous materials. Because the project or project variant would comply with all relevant requirements concerning the handling, use, and storage of hazardous materials, the project or project variant would not create a significant hazard to the public or the environment. The impact would be ***less than significant***.

[307] PG&E and DTSC,1995. Covenant to Restrict Use of Property, Daly City Yard. March 23.

Operation Impacts

The project would involve operations and maintenance of the new electricity system infrastructure in the Martin Substation or, under the project variant, at Daly City Yard. Maintenance activities such as repairing and replacing installed equipment could entail repairs that would require temporary excavations to access this facility and could encounter hazardous materials in soil and/or groundwater. This work would be conducted in compliance with the land use covenants, standard construction measures, and regulations described for construction, and thus would not result in significant hazard to the public or environment from potential releases of contaminated soil or groundwater. The impact would be ***less than significant***.

Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

The City would acquire the electrical equipment at Potrero Substation, and would make site modifications, such as fencing and driveway additions or improvements, where necessary to allow PG&E continued access to its non-electrical facilities. PG&E's Potrero Substation is located in an area called "the Switchyards and General Construction Yard" of the Potrero Power Plant, which is on the Cortese list.[308] The Switchyards and General Construction Yard are located on the western portion of the Potrero Power Plant site and total about 7 acres. The switchyards are divided into the North and South and are separated by Humbolt Street. The project or project variant would modify access in the South Switchyard area. The Switchyards and General Construction Yard were granted No Further Action in 2012, but a land use covenant with restrictions applies to the areas. Work in these areas is required to follow a site management plan.[309] The results of a site-specific human health risk assessment for the areas conducted in 2003 indicate that based on existing industrial site land use and site conditions, potential exposures to chemicals in soil and groundwater do not present an unacceptable human health risk for commercial workers, construction workers, or maintenance workers.[310] However, in order to minimize the exposure to residual chemicals in soil that may be encountered during intrusive work at the site, the site management plan presents guidelines for appropriate health and safety precautions for on-site construction or maintenance workers who may contact soil that could contain residual chemicals; procedures for short-term (i.e., ii during construction) management of the residual constituents present in soil and groundwater at the site; and procedures for long-term management of the residual constituents at the site.

As stated in the land use covenant, the residual contamination at the PG&E South Switchyard at Potrero Power Station does not present an unacceptable threat to human safety or the environment provided the restrictions of the covenant are implemented. The SFPUC and its contractor must comply with the provisions of the covenant, specifically procedures for soil management and health and safety, as well as all regulations related to hazardous waste storage, handling, transportation, and disposal. With required compliance, impacts associated with construction activities on a hazardous waste site would not result in adverse effects to people or the environment, and the impact would be ***less than significant***.

[308] State Water Resources Control Board, Geotracker Case Summary for Potrero Power Plant – Switchyards and General Construction Yard. Accessed October 21, 2024.
[309] Haley & Aldrich, Inc., Updated Site Management Plan Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant Site, 1201 Illinois Street, San Francisco California. August 2015.
[310] Ibid.

Distribution Express Feeders, Local Distribution System Separation, System Reinforcements, Operations Control Center, Operations and Maintenance Service Yard

The distribution express feeders would not be located on sites listed as hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the distribution express feeders would cause ***no impact*** relating to location on such a site.

The exact locations of underground work for the local distribution system separation and system reinforcements are not known but would generally occur within the public right-of-way. Impact HZ-1, above, addressed potential impacts related to hazardous materials on parcels adjacent to the public right-of-way. The locations of the operations control center and operations and maintenance service yards would be in southeastern San Francisco, much of which has been mapped as Maher Ordinance areas.[311] While unlikely, it is possible that the operations control center or operations and maintenance service yards could be on a hazardous materials site listed pursuant to Government Code Section 65962.5. Because both components would be in San Francisco, Article 22A of the San Francisco Health Code requires that a qualified professional prepare a site history report (commonly referred to as a phase I environmental site assessment) to determine whether hazardous substances may be present on the site at levels that exceed health risk levels or other applicable standards established by California Environmental Protection Agency, the regional water board, and DTSC. As discussed in detail in Impact HZ-1, if hazardous substances may be present on the site at levels that exceed health risk levels or other applicable standards, the SFPUC may be required to conduct soil and/or groundwater sampling and analysis under a work plan approved by the health department. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, preparation of a site mitigation plan describing the methods that will be implemented to handle and dispose of contaminated materials to prevent impacts to public health and the environment during construction would be required. With compliance with existing regulations, impacts associated with the operations control center, and operations and maintenance service yards would be ***less than significant***.

Mitigation: None required.

Impact HZ-4: The project or project variant would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (*Less than Significant*)

Construction Impacts – All Project Components

The project or project variant is not anticipated to interfere with the San Francisco Emergency Response Plan,[312] because the plan does not designate emergency response or evacuation routes. The project or project variant would not otherwise impair implementation of this plan. However, the project or project variant would have a significant impact on implementation of emergency response or emergency evacuation, if construction activities were to interfere with emergency response vehicle travel or restrict access to critical facilities such as hospitals or fire stations.

Construction of the project or project variant would require temporary lane closures on roadways along the distribution alignment. As discussed in Impact TR-1 (Section E.6), temporary travel lane closures would be reviewed by San Francisco Municipal Transportation Agency (SFMTA) and San Francisco's Transportation

[311] Refer to Figure 4 in CDIM Engineering, Hazardous Materials Study, PG&E Power Asset Acquisition Project, in Appendix J.
[312] City and County of San Francisco, Emergency Response Plan, an Element of the CCFS Emergency Management Program, May 2017.

Advisory Staff Committee, as well as Brisbane and Daly City, so that emergency access is not impaired. In addition, in some instances, emergency vehicles would be able to use other east-west or north-south arterials to reach their destination (e.g., travel on Alemany Boulevard rather than on Brotherhood Way). Pursuant to the SFMTA blue book, SFPUC or its contractor(s) would be required to work with SFMTA to identify any detour routes and locations where detour signs would be implemented and would incorporate the detour plans into the construction management plan. These detours would be reviewed by emergency service providers in San Francisco, Brisbane and Daly City, as applicable.

Compliance with the requirements of construction permits for working within streets would minimize potential impacts to emergency response and evacuation. As a result, the impact would be ***less than significant***.

Operation Impacts – All Project Components

The project or project variant would not permanently alter the existing street network, and therefore operation of the project or project variant would not alter emergency evacuation/response access routes. Operations and maintenance of the project components could require temporary excavation for as-needed repairs, similar to existing operations. All such work would be in conformance with the construction requirements outlined above. The impact would be ***less than significant***.

Mitigation: None required.

Impact HZ-5: The project or project variant would not expose workers or the public to excessive electric shock hazards. (*Less than Significant*)[313]

Construction Impacts – All Project Components

During construction, work areas would be closed to the public and, as discussed in Impact HZ-1, in compliance with federal Occupational Safety and Health Administration regulations (29 CFR section 1910.120) and Cal/OSHA regulations (8 CCR section 5192), the SFPUC would be required to prepare a health and safety plan that addresses the potential to encounter workplace hazards during construction. Consistent with federal Occupational Safety and Health Administration regulations 29 CFR section 1926.416(a), Protection of Employees, the SFPUC cannot allow work in proximity to any part of an electric power circuit that the workers could contact the electric power circuit in the course of work, unless the workers are protected against electric shock by deenergizing the circuit and grounding it or by guarding it effectively by insulation or other means. The same section of federal regulations also requires protective equipment for workers operating jack hammers or other hand operated equipment that may contact an electric line. Compliance with state and federal requirements regarding worker safety would reduce the risk of shock hazards during construction and the impact would be ***less than significant***.

Operation Impacts – All Project Components

The Martin Substation is closed to the public and would remain closed and fenced under the project or project variant. Other equipment for the distribution express feeders, local distribution system separation, and system reinforcements would be underground and inaccessible to the public. Underground components

[313] This topic is identified in the California Public Utilities Commission's *Guidelines for Energy Project Applications Requiring CEQA Compliance: Pre-filing and Proponent's Environmental Assessments* (2019) and is not included on San Francisco Environmental Planning's environmental checklist, which is a modified version of the CEQA Guidelines Appendix G checklist. Refer to Draft EIR Section 1.5.3 for additional information.

would also be encased in red-dyed concrete to alert utility workers to the presence of electrical lines. Overhead components would be low-voltage distribution lines similar to existing lines currently present throughout the area, and operations and maintenance activities would be subject to the same federal and state Occupational Safety and Health Administration regulations as identified above for construction.

Therefore, the project or project variant would not expose workers or the public to excessive electric shock hazards and the impact would be ***less than significant***.

Mitigation: None required.

Impact C-HZ-1: The project or project variant, in combination with cumulative projects, would have a substantial cumulative impact related to hazards and hazardous materials. (*Less than Significant*)

All Project Components

The geographic scope for cumulative impacts related to hazards encompasses the project areas and areas within 500 feet because the effects of typical hazardous materials releases are generally localized. As a result, cumulative impacts typically do not occur unless the cumulative projects are in close proximity to one another.

The cumulative projects have the potential to result in impacts from use of hazardous materials for construction and operation. These cumulative projects may be located within areas containing contaminated soil and groundwater, involve the handling and transport of contaminated soils, and/or handle, use or dispose of hazardous materials. Any potential hazards occurring at these cumulative project sites would be subject to the same health and safety and/or site remediation regulations required for the project or project variant, which would reduce potential cumulative hazards.

Routine Use, Transport, Disposal, and Accidental Release

Construction and operation of cumulative projects could involve the use of hazardous materials, similar to those identified for the project. Construction would also involve ground disturbance at a site listed pursuant to Government Code Section 65962.5. The effects of such uses depend on controls and precautions that are employed during construction activities. As discussed in Impacts HZ-1 and HZ-3, with compliance with applicable regulatory requirements, impacts associated with the project or project variant regarding release of hazardous materials would be less than significant. The cumulative projects would be required to comply with applicable federal, state and local hazardous material and water quality protection requirements. Once constructed, cumulative projects would be required to comply with federal, state, and local regulations applicable to the use, storage, transport, and disposal of any hazardous materials and wastes.

Accidental spills of small quantities of hazardous materials during construction (i.e., motor fuels, oils, solvents, lubricants) could expose the public or the environment to such substances. Similar to the project, all cumulative projects would be required to adhere to the applicable regulations regarding hazardous materials storage and handling, as well as to implement all construction best management practices to prevent such a release and provide the means to promptly contain and clean up any spills, if one did occur. Typically, such incidental spills are localized and occur at varying times such that they do not combine with other projects to become a significant cumulative impact.

Similarly, the storage and handling of hazardous materials for project operations would be subject to regulations that would minimize the potential for releases to result in harmful exposures to the public or the environment. Although the potential exists for releases to result during operation of the other cumulative projects, there is no way of predicting whether any such releases would occur, where they would be located, or whether they could occur contemporaneously. However, compliance with existing regulations would reduce the risk of cumulative impacts related to these topics, and therefore the project or project variant in combination with cumulative projects would not result in a significant cumulative impact related to routine use, transport, disposal, or accidental release of hazardous materials ***(less than significant)***.

Emissions Near Schools

As discussed in Impact HZ-2, the project or project variant would not use extremely hazardous materials. Cumulative projects in the project vicinity are primarily housing and mixed-used development projects, utility improvement projects, or transportation projects with limited potential to use extremely hazardous materials. Therefore, the project or project variant in combination with cumulative projects would not result in a significant cumulative impact related to hazardous air emissions (***less than significant***).

Emergency Response

Construction of other planned projects in the vicinity during the same time period could cause a cumulative emergency response impact if these projects were to cause closures of additional emergency response/evacuation routes. As discussed in Impact C-TR-1:

- Distribution express feeders construction could overlap with construction of the Sunnydale Hope SF Master Plan project;
- Local distribution system separation work could overlap with construction of the Lake Merced West Project and the Vista Grande Drainage Basin improvements in the Southeast Area; with the 6225 Mission Street Mixed-Use Building project in the Central Area; and the Sunnyvale Hope SF Master Plan, Cormorant Battery Storage Facility, and Executive Park Subarea Plan in the Southeast Area;
- System reinforcements construction could overlap with the Vista Grande Drainage Basin improvements, 6225 Mission Street Mixed-Use Building, Cormorant Battery Storage Facility, and Baylands North projects.

While these projects may require temporary closure of lanes along roadways in the project vicinity, these projects would be required to implement construction traffic management plans that would require coordination with emergency response providers prior to construction. Coordination with emergency response providers for the project and cumulative projects in compliance with emergency access requirements in the San Francisco Fire Code and traffic control requirements for road closures would minimize the potential for a cumulative emergency response effect. In addition, construction duration and work areas for most project or project variant components would be limited. Project operation would not require any permanent roadway closures or features that could limit emergency access. As such, the project or project variant in combination with the cumulative projects would not result in a significant cumulative impact on emergency response (***less than significant***).

Excessive Shock Hazards

Cumulative projects would be required to comply with state and federal regulations regarding worker exposure to electric shock hazards during construction, same as the project. While most projects in Table 3.1-3 would include new electrical lines, the PG&E Egbert Switching Station and the Cormorant Battery Storage Facility

projects are the only cumulative projects that include electrical lines used for transmission, with voltages higher than existing distribution lines in the area, near project or project variant higher voltage equipment. These two projects overlap with the project or project variant within Martin Substation and Daly City Yard, and therefore the area where cumulative exposure to shock hazards could occur would be within Martin Substation or Daly City Yard. The Martin Substation is closed to the public and would remain closed and fenced under the project or project variant. Operations and maintenance activities in this area would be subject to the same federal and state Occupational Safety and Health Administration regulations identified in Impact HZ-5 for construction and operation. Therefore, compliance with existing regulations would reduce the risk of cumulative impacts related to excessive electric shock hazard, and the project or project variant in combination with cumulative projects would not result in a significant cumulative impact related to excessive electric shock hazards ***(less than significant)***.

E.19 Mineral Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
19. MINERAL RESOURCES. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒	☐

All Project Components

Portions of the local distribution system separation, system reinforcements, distribution express feeders, and the new City Substation (project variant) areas are classified as mineral resource zone (MRZ)-1 by the California Geological Survey under the Surface Mining Act of 1975. This classification indicates that adequate information exists to conclude that no significant mineral deposits are present in these areas or that little likelihood exists for their presence.[314]

Portions of the local distribution system separation, system reinforcements, and distribution express feeders areas would cross lands classified as MRZ-2 or MRZ-4. The MRZ-2 classification indicates that significant mineral deposits are present or there is a high likelihood of their presence, and the MRZ-4 classification indicates that available information is inadequate for assignment to any other MRZ zone. While there are aggregate resources underlying these portions of the project area, residential developments are located adjacent to most sections of the roads where project or project variant work is proposed. Existing

[314] Classification of mineral resource zones is based on geologic and economic factors without regard to existing land use and land ownership. Designation is the formal recognition by the state, after consultation with lead agencies and other interested parties, of areas containing mineral deposits of regional or statewide significance.

urbanization precludes the development of a quarry and the extraction of aggregate or other minerals in MRZ-2 and MRZ-4 areas; therefore, these areas are not considered suitable for mineral extraction.

Local distribution system separation and system reinforcements proposed south of Sloat Boulevard and east of the Great Highway would occur within areas classified MRZ-3, which indicates that these areas contain mineral deposits, the significance of which cannot be evaluated from available data (including whether these deposits can be considered mineral resources). The California Department of Conservation's Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Special Report 146 notes that these (MRZ-3) areas contain dune sand, and similar material has been mined in the past, but a lack of data precludes classifying these locations as areas where significant mineral resources are present.[315] None of these areas has been designated by the state as containing mineral deposits of statewide or regional significance.[316]

There are no mines, mineral plants, oil, gas, or geothermal wells located within the project areas.[317,318] The San Francisco General Plan states that, as a very urban place, San Francisco does not contain mineral resources to any appreciable extent and, as a result, consideration of mineral resources is omitted from the general plan.[319] The general plan does not identify any areas of important mineral resource recovery sites in San Francisco. The Daly City General Plan does not identify any mineral resource zones within Daly City.[320] In addition, there are no identified mineral resources of value, and Daly City has not been delineated as a locally important mineral recovery site. The Brisbane General Plan identified the Guadalupe Valley Quarry as the only designated mineral resource within the general plan planning area.[321] However, the Guadalupe Valley Quarry is not within the project areas.

The project or project variant would not result in the loss of a mineral resource of statewide or local significance; therefore, the project or project variant would have no impact on mineral resources. For these reasons, the project or project variant would have ***no impact*** related to mineral resources.

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[315] California Department of Conservation, Division of Mines and Geology, Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Special Report 146, Part II, Plate 2.41 San Francisco north Quadrangle and Plate 2.42 San Francisco South Quadrangle, 1987.
[316] Ibid.
[317] California Department of Conservation, Division of Mine Reclamation, Mines Online, 2016, https://maps.conservation.ca.gov/mol/index.html, accessed February 13, 2024.
[318] California Department of Conservation, Geologic Energy Management Division, Well Finder, 2024, https://maps.conservation.ca.gov/doggr/wellfinder/, accessed February 13, 2024.
[319] City and County of San Francisco, San Francisco General Plan, Environmental Protection element, 2023, https://generalplan.sfplanning.org/I6_Environmental_Protection.htm, accessed February 13, 2024.
[320] City of Daly City, Daly City 2030 General Plan, Adopted March 25, 2013, Housing Element Revised March 9, 2015, https://www.dalycity.org/DocumentCenter/View/896/2030-General-Plan-amended-with-2015-Housing-Element-PDF, accessed February 13, 2024.
[321] City of Brisbane, Brisbane General Plan, Chapter IX Conservation p. IX-18, Adopted on June 21, 1994, https://www.brisbaneca.org/sites/default/files/fileattachments/community_development/page/2401/009_chapterix-conservation.pdf, accessed February 13, 2024.

E.20 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
20. ENERGY. Would the project:					
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐	☐

Impact EN-1: The project or project variant would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. ***(Less than Significant)***

Construction Impacts – All Project Components

Construction of the project or project variant would require the use of fuel-powered equipment and vehicles for construction activities, and electricity for construction trailers. Most construction equipment and vehicles would consume gasoline or diesel fuel. Heavy construction equipment (e.g., cranes, dump trucks, backhoes, loaders) and generators would be diesel powered, while smaller construction vehicles, such as pick-up trucks would be gasoline powered. The precise amount of fuel required for project construction is uncertain; however, it is expected that the quantity of gasoline and diesel use for construction equipment, as well as workers' vehicles and haul vehicles, would be comparable to the quantity used for large construction projects within the city. The majority of electric power usage would result from service to the construction trailers. In addition, indirect electricity usage would occur associated with the supply, distribution, and treatment of water used for construction; however, such water use would be minimal and temporary. Furthermore, construction equipment idling limits pursuant to California Air Resources Board regulations and the San Francisco Clean Construction Ordinance would apply. Fuel and energy usage during construction would not be wasteful or inefficient, and the impact from construction fuel and energy usage would be ***less than significant***.

Operation Impacts – All Project Components

Energy

Table 2-11 in Chapter 2, Project Description, summarizes the project's estimated operational energy demand. The new operations control center and operations and maintenance service yards would likely use approximately 494,000 and 1,740,000 kilowatt hours per year, respectively. The new Martin Substation buildings would likely use approximately 76,000 kilowatt hours per year. Alternatively, the new City Substation (project variant) would use approximately 498,000 kilowatt hours per year during operation, as shown in Table 2-15. Operational-related energy consumption would include electricity and natural gas, as well as fuel used by employees and visitors. Electricity would be used for building space heating and lighting

as well as for operation of equipment and machines. The total energy delivered to serve San Francisco electricity customers is not expected to change as a result of the proposed project.

In California, energy consumption in buildings is regulated by Title 24 of the California Code of Regulations. Title 24 includes standards that regulate energy consumption for the heating, cooling, ventilation, and lighting of residential and nonresidential buildings. Included in Part 6 of the Building Code are standards mandating energy efficiency measures in new construction. Since its establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage in California. The standards are updated every 3 years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective January 1, 2023.[322] The operations control center would be required to comply with the standards of Title 24 and the requirements of the San Francisco Green Building Code. The SFPUC would be responsible for ensuring compliance with Title 24. The operations control center major renovations or tenant improvements would be certified LEED Gold. The new City Substation (project variant), if constructed, would be 20,700 square feet and would be ENVISION certified, a design rating system similar to LEED but applicable to infrastructure development. As a result, the project or project variant would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. The impact would therefore be less than significant.

Water

As discussed in Section E.3, Population and Housing, the project or project variant do not propose housing, would not expand upon available energy supplies, would not alter existing land use, and would not result in substantial unplanned population growth. Water use for the project or project variant would be limited to sanitary uses for workers (both during construction and operation). Therefore, there would be no substantial change in the project operational energy use related to water and sewer service.

For the reasons described above, neither construction nor operation of the project or project variant would result in the wasteful use of fuel, water, or electricity, and this impact would be ***less than significant***.

Mitigation: None required.

Impact EN-2: The project or project variant would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (*Less and Significant*)

All Project Components

California's renewable energy and energy efficiency plans include the Renewables Portfolio Standard Program (as revised by SB X1-2), which requires utilities to increase their renewable energy generation to 33 percent by 2020, and the California Energy Efficiency Strategy Plan, which was developed to provide a roadmap for energy efficiency in California through the year 2020 and beyond. At a local level, the majority of the city's energy-efficiency requirements are geared toward commercial and residential development and do not apply to the project. The project or project variant would involve a three-year construction period as well as operations and maintenance of the electricity grid in San Francisco. The project or project variant would use energy-efficient fixtures and equipment, in compliance with the program and plan. The project or project

[322] California Energy Commission, 2022 Building Energy Efficiency Standard, December 23, 2022. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency, accessed June 3, 2024.

variant would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the impact would be ***less than significant***.

Mitigation: None required.

Impact C-EN-1: The project or project variant, in combination with cumulative projects, would not result in significant cumulative impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. ***(Less than Significant)***

All Project Components

The geographic scope for potential cumulative impacts on energy resources consists of the project vicinity as well as the broader Bay Area region. There is no existing significant adverse condition with regard to energy resources in the project vicinity or broader region that would be worsened or intensified by the project. The project or project variant would result in increased electricity, diesel, gasoline, and water consumption as discussed in Impact EN-1. All current and proposed projects in the region require the use of fuel and energy for construction and potentially operation. However, the projects are required to promote energy efficiency to the extent possible, consistent with applicable building codes, standards, and regulations. In addition, project contractors have a financial incentive to use fuel and energy efficiently during construction. Therefore, the project or project variant in combination with the cumulative projects would not result in a significant cumulative impact on energy and energy resources (***less than significant***).

E.21 Wildfire

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
22. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a) Substantially impair an adopted emergency response plan or emergency evacuation plans?	☐	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☐	☒

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
d) Expose people or structure to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☐	☒

All Project Components

San Francisco and the bordering areas within San Mateo County do not have any state responsibility areas for fire prevention or lands that have been classified as very high fire hazard severity zones.[323,324]

Therefore, topics 22(a) through 22(d) are ***not applicable*** to the project or project variant and are not discussed further in the EIR, including this initial study. Refer to Initial Study, Section E.18, Hazards and Hazardous Materials, for discussions of wildland fire risks and emergency response or evacuation plans.

E.22 Agriculture and Forestry Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
21. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☐	☒

[323] California Department of Forestry and Fire Protection, San Francisco County State Responsibility Area Fire Hazard Severity Zones, November 2008, https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps, accessed February 13, 2024.

[324] California Department of Forestry and Fire Protection, San Mateo County State Responsibility Area Fire Hazard Severity Zones, July 2023, https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps-2022, accessed February 13, 2024.

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☐	☒
e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or forest land to non-forest use?	☐	☐	☐	☐	☒

All Project Components

The project areas in San Francisco are located in an urban area and do not contain any prime farmland, unique farmland, farmland of statewide importance, forest, or timberlands; do not support agricultural or timber uses; are not zoned for agricultural or timber uses; and are not under a *Williamson Act* contract.[325,326] The project areas in San Mateo County are on land classified by the California Department of Conservation as Urban and Built-Up Land, which is defined as "…land [that] is occupied by structures with a building density of at least 1 unit to 1.5 acres… Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures."[327] Some proposed system reinforcements are on land classified by the California Department of Conservation as Other Land, which is defined as "…land [that is] not included in any other mapping category".[328] The California Department of Conservation's Farmland Mapping and Monitoring Program designated no land in the project areas as agricultural land. Because the project areas do not contain agricultural uses and are not zoned or designated for such uses by the cities, counties, or the state, the project or project variant would not involve the conversion of farmland to non-agricultural use. The project or project variant would not conflict with existing agricultural zoning or Williamson Act contracts.[329,330] Similarly, the project areas do not contain forest or timberlands, do not support timber uses, and are not zoned for timber uses. Therefore, the project or project variant would not conflict with zoning for forest land, cause a loss of forest land, or convert forest land to a different use. For these reasons, topics 21(a) through

[325] California Department of Conservation, California Important Farmland Finder, 2023, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed February 13, 2024.
[326] The Williamson Act is a California law enacted in 1965 that provides property tax relief to farmland and open space landowners in exchange for a 10-year agreement that the land will not be developed or converted into another use. The City and County of San Francisco does not offer Williamson Act contracts.
[327] California Department of Conservation, Important Farmland Categories, 2024, https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx, accessed February 23, 2024.
[328] Ibid.
[329] California Department of Conservation, California Important Farmland Finder, 2022, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed February 13, 2024.
[330] California Department of Conservation, California Williamson Act Enrollment Finder, 2022, https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html, accessed February 13, 2024.

21(e) are ***not applicable*** to the project or project variant, and these topics are not discussed further in the EIR, including this initial study.

E.23 Mandatory Findings of Significance

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
23. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:					
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐	☐

NOTE: Authority cited: Public Resources Code sections 21083 and 21083.05, 21083.09. Reference: section 65088.4, Government Code; Public Resources Code sections 21073, 21074, 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21080.3.1, 21080.3.2,21082.3, 21084.2, 21084.3, 21093, 21094, 21095, and 21151; *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

a) This initial study and the EIR together provide a comprehensive discussion of the potential for the project to affect the quality of the environment. Specifically, Initial Study, Section E.15, Biological Resources, discusses the potential for the project to substantially affect habitats, fish/wildlife populations, and sensitive natural communities. Initial Study, Section E.4, Cultural Resources, discusses the potential for the project to affect important examples of California history or prehistory.

b) The project could result in significant cumulative impacts related to noise and vibration, as analyzed further in EIR Section 3.2, Noise and Vibration.

c) This initial study and the EIR together provide a comprehensive discussion of the potential for the project to cause substantial adverse effects on human beings, either directly or indirectly.

F. Mitigation Measures

This section lists the mitigation measures identified in this initial study to reduce potentially significant impacts resulting from the project to less-than-significant levels. Other potentially significant impacts are fully analyzed in EIR Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, and mitigation measures are identified for significant impacts.

Mitigation Measure M-CR-1a: Martin Substation Historic Resources Setting Protection

This measure applies to: Martin Substation separation

- Where the project includes placement of new, permanent, aboveground structures, those structures shall be located at a distance that minimizes impacts on the setting of adjacent historic resources. At a minimum, new buildings shall be set back at least 20 feet from any historic resource and at least 30 feet from Geneva Avenue. This measure applies to the Martin Substation separation where a new control building and two switchgear buildings would be installed.

Other locations for new aboveground structures near historic resources, if proposed, would be subject to review and approval by San Francisco Planning Department preservation staff to ensure conformance with Secretary of the Interior's Standards regarding the setting of the historic resource.

Mitigation Measure M-CR-1b: Historic Resources Protection Program

This measure applies to: Martin Substation separation, New City Substation (Project Variant), Modifications to Retain PG&E Access to Non-Electrical Facilities at Potrero Substation

To protect historic resources that are adjacent to construction activities (activities such as excavation, trenching, and new building construction), the SFPUC shall protect and avoid damage to onsite and adjacent historic resources. Contract specifications shall be reviewed and approved by San Francisco Planning Department preservation staff prior to the start of construction. Specifications shall include, but not be limited to, the following:

- If aerial work would occur above the roofline of adjacent historic buildings and have the potential to cause building damage from falling objects, the roof of the adjacent structure shall be covered to avoid damage.
- A buffer zone of 20 feet between historic resources and heavy equipment use and/or staging of equipment and materials shall be established and maintained, if feasible.
- If a minimum buffer zone of 20 feet is not possible, barriers or construction monitoring shall be included to ensure no damage to historic resources occurs.
- Any damage to historic resources incurred as a result of construction activities shall be immediately reported to the ERO or the ERO's designee, and any damage to the historic resource shall be repaired to match pre-construction conditions per the Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic resources professional and San Francisco Planning Department preservation staff.

Mitigation Measure M-CR-1c: Historic Resources Impact Minimization within Historic Resources and Historic Districts

This measure applies to: Local Distribution System Separation (Broderick-Terry Duel site); System Reinforcements (Balboa Terrace Historic District, Ingleside Terrace Historic District; Little Hollywood Historic District)

For project components that would occur within historic resources or historic districts that have distinctive features within the public right-of-way (unusual sidewalk and roadway elements including brick surfacing, brick gutters, gutters lined with former cemetery furniture [broken head and foot stones], granite curbs, cobblestones, railway and streetcar rails, sidewalk lights, street lamps, street furniture, monuments or plaques, and/or utility plates), and where these character-defining features appear to be 45 years or older, the SFPUC shall treat such features as potentially character-defining features of their setting. For those locations, historic materials shall be protected in place. Where protection in place is not possible, materials shall be salvaged and reinstalled, or replaced in-kind to match the existing color, texture, material, and character of the feature.

For project components that would occur within historic resources or historic districts that have character-defining features related to setting, placement of new poles and/or installation of new electrical or telecommunications equipment shall be in locations that follow established patterns. If maintenance of the current pattern of poles and equipment installation is not possible, locations for new poles, if proposed, would be subject to review and approval by San Francisco Planning Department preservation staff to ensure conformance with Secretary of the Interior's Standards regarding the setting of the historic resource.

Mitigation Measure M-CR-1d: Historic Resources Impact Minimization for Adaptive Reuse

This measure applies to: Operations Control Center

After selection of a proposed building for the operations control center, the SFPUC shall notify the ERO of the selected building. If required based upon ERO and preservation staff review, the SFPUC shall engage a qualified architectural historian to evaluate the historic significance of the operations control center building and provide the relevant historic resource documentation to the ERO. If the building is a historic resource, then the character-defining features of the historic resource shall be preserved or reconstructed consistent with Secretary of the Interior's Standards. The SFPUC shall submit proposed renovation plans to the ERO for review and approval prior to construction to ensure the work conforms to the Secretary of the Interior's Standards.

Mitigation Measure M-CR-1e: Historic Resources Impact Minimization for Service Yards Improvements

This measure applies to: Operations and Maintenance Service Yards within 20 feet of buildings

After selection of proposed service yard locations, the SFPUC shall engage a qualified architectural historian to evaluate the historic significance of buildings on surrounding parcels of the service yards' location. If historic resources are identified on adjacent parcels, then the SFPUC shall incorporate into contract specifications a requirement that the contractor(s) protect and avoid damage to adjacent historic resources. These contract specifications shall be reviewed and approved by the San Francisco Planning Department preservation staff prior to the start of construction. Specifications shall include the following:

- If aerial work would occur above the roofline of adjacent historic buildings and would have the potential to cause building damage from falling objects, the roof of the adjacent structure shall be covered to avoid damage.
- A buffer zone of 20 feet between historic resources and heavy equipment use and/or staging of equipment and materials shall be established and maintained, if feasible.
- If a minimum buffer zone of 20 feet is not possible, barriers or construction monitoring shall be included to ensure no damage to historic resources occurs.
- Any damage to historic resources incurred as a result of construction activities shall be immediately reported to the ERO or the ERO's designee, and any damage to the historic resource shall be repaired to match pre-construction conditions per the Secretary of the Interior's Standards for the Treatment of Historic Properties in consultation with a qualified historic resources professional and San Francisco Planning Department preservation staff.

Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance

This measure applies to: All project components during ground disturbance.

The SFPUC shall implement the following measures.

- ***ALERT sheet***. The SFPUC shall distribute the planning department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils-disturbing activities within the project site. The "ALERT" sheet will provide information on cultural resources, including regulations and protocol in the event of an unanticipated discovery. Prior to any soils-disturbing activities being undertaken, each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, supervisory personnel, etc. The SFPUC shall provide the environmental review officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) confirming that all field personnel involved in soil-disturbing activities have received copies of the "ALERT" sheet.
- ***Procedures Upon Discovery of a Suspected Archeological Resource***. The following measures shall be implemented in the event of a suspected archeological discovery during project soil-disturbing activities:
- ***Discovery Stop Work and Environmental Review Officer Notification***. Should any indication of an archeological resource be encountered during any soils-disturbing activity of the project, the SFPUC shall immediately notify the ERO and shall immediately suspend any soils-disturbing activities within 25 feet of the discovery and protect the find in place until the significance of the find has been evaluated and the ERO has determined whether and what additional measures are warranted, and these measures have been implemented, as detailed below.
- ***Archeological Consultant Identification***. If the preliminary archeological review did not require archeological monitoring or testing, an archeological discovery during construction occurs prior to the identification of a project archeologist, and the ERO determines that the discovery may represent a significant archeological resource, then the SFPUC shall retain the services of an archeological consultant (hereinafter "project archeologist") either listed on the Qualified Archeological Consultant list maintained by the department or as otherwise approved by the

ERO to identify, document, and evaluate the resource, under the direction of the ERO. The SFPUC shall ensure that the project archeologist or designee is empowered, for the remainder of soil-disturbing project activity, to halt soil disturbing activity in the vicinity of potential archeological finds, and that work remains halted until the discovery has been assessed and a treatment determination made, as detailed below.

- ***Resource Evaluation and Treatment Determination***. If an archeological find is encountered during construction or archeological monitoring or testing, the project archeologist shall redirect soil-disturbing and heavy equipment activity in the vicinity away from the find. If in the case of pile driving activity (e.g., foundation, shoring, etc.), the project archeologist has cause to believe that the pile driving activity may affect an archeological resource, the SFPUC shall ensure that pile driving is halted until an appropriate evaluation of the resource has been made. The ERO may also require that the SFPUC immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.
- ***Initial documentation and assessment***. The project archeologist shall document the find and make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit through sampling or testing, as needed. The SFPUC shall make provisions to ensure that the project archeologist can safely enter the excavation, if feasible, and in compliance with a site-specific health and safety plan developed for archeological investigations. The SFPUC shall ensure that the find is protected until the ERO has been consulted and has determined appropriate subsequent treatment in consultation with the project archeologist, and the treatment has been implemented, as detailed below.

  The project archeologist shall make a preliminary assessment of the significance and physical integrity of the archeological resource and shall present the findings to the ERO. If, based on this information, the ERO determines that construction would result in impacts to a significant resource, then the ERO shall consult with the SFPUC and other parties regarding the feasibility and effectiveness of preservation-in-place of the resource, as detailed below.

- ***Native American Archeological Deposits and Tribal Notification***. All Native American archeological deposits shall be assumed to be significant unless determined otherwise in consultation with the ERO. If a Native American archeological deposit is encountered, soil disturbing work shall be halted as detailed above. In addition, the ERO shall notify any tribal representatives who, in response to the project tribal cultural resource notification, requested to be notified of discovery of Native American archeological resources in order to coordinate on the treatment of archeological and tribal cultural resources. Further, the project archeologist shall offer a Native American representative the opportunity to monitor any subsequent soil disturbing activity that could affect the find.
- ***Submerged Paleosols***. Should a submerged paleosol[331] be identified, the project archeologist shall extract and process samples for dating, paleobotanical analysis, and other applicable special analyses pertinent to identification of possible cultural soils and for environmental reconstruction.
- ***Archeological Site Records***. After assessment of any discovered resources is complete, the project archeologist shall prepare an archeological site record or primary record (Department of

[331] Paleosols represent landforms in the past that were stable and thus suitable for human habitation prior to subsequent sediment deposition. Paleosols have the potential to preserve archaeological resources if humans occupied or settled the area.

Parks and Recreation [DPR] 523 series) for each documented resource, unless the Planning Department determines that documenting the discovery in the final report is adequate. In addition, a primary record shall be prepared for any prehistoric isolate. Each such record shall be accompanied by a map and GIS location file. Records shall be submitted to the planning department for review as attachments to the archeological resources report (see below) and once approved by the ERO, to the Northwest Information Center.

- ***Plans and Reports***. All archeological plans and reports identified herein and in the subsequent measures, shall be submitted by the project archeologist directly to the ERO for review and comment and shall be considered draft reports subject to revision until final approval by the ERO. The project archeologist may submit draft reports to the SFPUC simultaneously with submittal to ERO.
- ***Limit on Construction Delays for Archeological Treatment***. Archeological testing and as applicable data recovery programs required to address archeological discoveries, pursuant to this measure, could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less-than-significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section 15064.5 or Public Resources Code section 21083.2(g).
- ***Preservation-in-Place Consideration***. Should an archeological resource that meets California Register significance criteria be discovered during soil disturbing activities including archeological testing, preservation-in-place (i.e., permanently protecting the resource from further disturbance and take actions, as needed, to preserve depositional and physical integrity) of the entire deposit or feature is the preferred treatment option. The ERO shall consult with the SFPUC and, for Native American archeological resources, with tribal representatives, if requested, to consider the feasibility of permanently preserving the resource in place. The ERO's determination of feasibility shall be based upon the ability to relocate or redesign proposed project activities to avoid the identified resource and preserve its historical significance. Preservation options that shall be considered for feasibility include redesign of the project to place open space over the resource location; foundation redesign to avoid the soil disturbance within the sensitive area; and a plan to expose and conserve the resource in place and include it in an on-site interpretive exhibit. If the ERO determines that preservation in place is feasible and effective, then the project archeologist, in consultation with the ERO, shall prepare a Cultural Resources Preservation Plan. For Native American archeological resources, the project archeologist shall also consult with the tribal representatives, and the Cultural Resources Preservation Plan shall take into consideration the cultural significance of the tribal cultural resource to the tribes. The SFPUC shall ensure that the approved plan is implemented and shall coordinate with the planning department to ensure that disturbance of the resource will not occur in future, such as establishing a preservation easement.

  If, based on this consultation, the ERO determines that preservation-in-place is infeasible or would be ineffective in preserving the significance of the resource, then archeological data recovery, public interpretation of the resource, and archeological testing or monitoring if necessary to further characterize or protect the resource during project activities shall be carried out, as detailed below.

- ***Coordination with Descendant Communities***. On discovery of an archeological site associated with descendant Native Americans, Chinese, or other identified descendant cultural group, the project archeologist shall contact an appropriate representative of the descendant group and the ERO. The representative of the descendant group shall be offered the opportunity to monitor archeological field investigations of the site and to offer recommendations to the ERO regarding appropriate archeological treatment of the site and data recovered from the site, and, if applicable, any interpretative treatment of the site. The project archeologist shall provide a copy of the Archeological Resources Report to the representative of the descendant group.
- ***Compensation***. Following the initial tribal consultation, the ERO, SFPUC and project archeologist, as appropriate, shall work with the tribal representative or other descendant or descendant community representatives to identify the scope of work for a representative to fulfill the requirements of this mitigation measure, which may include participation in archeological monitoring, preparation and review of deliverables (e.g., plans, interpretive materials, artwork). Tribal representatives or other descendant community representatives for archeological resources or tribal cultural resources, who complete tasks in the agreed upon scope of work project, shall be compensated for their work as identified in the agreed upon scope of work.
- ***Archeological Data Recovery Program***. The project archeologist shall prepare an archeological data recovery plan if all three of the following apply: (1) a potentially significant resource is discovered; (2) preservation-in-place is not feasible, as determined by the ERO after implementation of the Preservation-in-Place Consideration procedures; and (3) the ERO determines that the project impacts on the archeological resource will be reduced by archeological data recovery. When the ERO makes such a determination, the project archeologist, SFPUC, ERO and, for tribal cultural archeological resources, the tribal representative, if requested by a tribe, shall consult on the scope of the data recovery program. The project archeologist shall prepare a draft archeological data recovery plan and submit it to the ERO for review and approval. If the time needed for preparation and review of a comprehensive archeological data recovery plan would result in a significant construction delay, the scope of data recovery may instead be agreed upon in consultation between the project archeologist and the ERO and documented by the project archeologist in a memo to the ERO and the ADRP will be finalized during the data recovery and subsequent analysis. The archeological data recovery plan/memo shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan/memo will identify what scientific/historical research questions are applicable to the expected or discovered resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the property that could be adversely affected by the proposed project.
- The archeological data recovery plan/memo shall include the following elements:
  - Field Methods and Procedures: Descriptions of proposed field strategies, procedures, and operations
  - Cataloguing and Laboratory Analysis: Description of selected cataloguing system and artifact analysis procedures
  - Discard Policy: Description of and rationale for field and post-field discard and deaccession policies

  - Security Measures: Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities
  - Report of Data Recovery Results: Description of proposed report format and distribution of results
  - Public Interpretation: Description of potential types of interpretive products and locations of interpretive exhibits based on consultation with SFPUC
  - Curation: Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities

- The project archeologist shall implement the archeological data recovery program upon approval of the archeological data recovery plan/memo by the ERO.
- ***Coordination of Archeological Data Recovery Investigations***. In cases in which the same resource has been or is being affected by another project for which data recovery has been conducted, is in progress, or is planned, the following measures shall be implemented to maximize the scientific and interpretive value of the data recovered from both archeological investigations:
  - In cases where an investigation has not yet begun, project archeologists for each project impacting the same resource and the ERO, as applicable, shall consult on coordinating and collaborating on archeological research design, data recovery methods, analytical methods, reporting, curation and interpretation to ensure consistent data recovery and treatment of the resource.
  - In cases where archeological data recovery investigation is under way or has been completed for a project, the project archeologist for the subsequent project shall consult with the prior project archeologist, if available; review prior treatment plans, findings and reporting; and inspect and assess existing archeological collections/inventories from the site prior to preparation of the archeological treatment plan for the subsequent discovery, and shall incorporate prior findings in the final report for the subsequent investigation. The objectives of this coordination and review of prior methods and findings shall be to identify refined research questions; determine appropriate data recovery methods and analyses; assess new findings relative to prior research findings; and integrate prior findings into subsequent reporting and interpretation.
- ***Treatment of Human Remains and Funerary Objects***. If human remains or suspected human remains are encountered during construction, the contractor and SFPUC shall ensure that ground-disturbing work within 25 feet of the remains is halted immediately and shall arrange for the protection in place of the remains until appropriate treatment and disposition have been agreed upon and implemented in accordance with this measure. The treatment of any human remains and funerary objects discovered during any soil- disturbing activity shall comply with applicable state laws, including Health and Safety Code section 7050.5 and Public Resources Code section 5097.98. Upon determining that the remains are human, the project archeologist shall immediately notify the Medical Examiner of the City and County of San Francisco, the ERO, and the SFPUC of the find.

In the event of the Medical Examiner's determination that the human remains are Native American remains, the Medical Examiner shall notify the California State Native American Heritage Commission, which will appoint a Most Likely Descendant (MLD). The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98(a)).

- The landowner shall then make all reasonable efforts to develop a burial agreement (agreement) with the MLD, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). Per Public Resources Code section 5097.98(c)(1), the agreement shall address, as applicable and to the degree consistent with the wishes of the most likely descendant, the appropriate excavation, removal, recordation, scientific analysis, custodianship prior to reinternment or curation, and final disposition of the human remains and funerary objects. If the most likely descendant agrees to scientific analyses of the remains and/or funerary objects, then the project archeologist shall retain possession of the remains and funerary objects until completion of any such analyses, after which the remains and funerary objects shall be reinterred or curated as specified in the agreement.
- If the landowner or designee and the MLD are not able to reach an agreement on the treatment of the remains and/or funerary objects, then the ERO, in consultation with the SFPUC shall ensure that the remains and/or funerary objects are stored securely and respectfully until they can be reinterred on the project site, with appropriate dignity, in a location not subject to further or future subsurface disturbance, in accordance with the provisions of state law. Treatment of historic-period human remains and/or funerary objects discovered during any soil-disturbing activity shall be in accordance with protocols laid out in the research design in the project archeological monitoring plan, archeological testing plan, archeological data recovery plan, and other relevant agreements established between the SFPUC, medical examiner, and the ERO. The project archeologist shall retain custody of the remains and associated materials while any scientific study scoped in the treatment document is conducted and the remains shall then be curated or respectfully reinterred by arrangement on a case-by case-basis.
- ***Cultural Resources Public Interpretation Plan and Land Acknowledgement***. If a significant archeological resource (i.e., a historical resource or unique archeological resources as defined by CEQA Guidelines section 15064.5) is identified and the ERO determines in consultation with Native American representatives for Native American archeological resources, that public interpretation is warranted, the project archeologist shall prepare a Cultural Resources Public Interpretation Plan. The Cultural Resources Public Interpretation Plan shall describe the interpretive products, locations or distribution of interpretive materials or displays, the proposed content and materials, the producers or artists of the displays or installation, and a long-term maintenance program.
- If the resource to be interpreted is a tribal cultural resource, the department shall notify Native American tribal representatives that public interpretation is being planned. If requested by tribal representatives, the Cultural Resources Public Interpretation Plan shall be prepared in consultation with and developed with the participation of Native American tribal representatives. For public projects or projects that include dedicated public spaces, the interpretive materials may include an acknowledgement that the project is located upon

traditional Ohlone lands. For interpretation of a tribal cultural resource, the interpretive program may include a combination of artwork, preferably by local Native American artists, educational panels or other informational displays, a plaque, or other interpretative elements including digital products that address Native American experience and the layers of history. As feasible, and where landscaping is proposed, the interpretive effort may include the use and the interpretation of native and traditional plants incorporated into the proposed landscaping.

- The project archeologist shall submit the Cultural Resources Public Interpretation Plan and drafts of any interpretive materials that are subsequently prepared to the ERO for review and approval. The SFPUC shall ensure that the Cultural Resources Public Interpretation Plan is implemented prior to occupancy of the project.
- ***Archeological Resources Report***. If significant archeological resources, as defined by CEQA Guidelines section 15064.5, are encountered, then the project archeologist shall submit a confidential draft Archeological Resources Report to the ERO. This report shall evaluate the significance of any discovered archeological resource, describe the archeological and historical research methods employed in the archeological programs undertaken, the results and interpretation of analyses, and discuss curation arrangements. Once approved by the ERO, the project archeologist shall distribute the approved Archeological Resources Report as follows: copies that meet current information center requirements at the time the report is completed to the California Archeological Site Survey Northwest Information Center, and a copy of the transmittal of the approved Archeological Resources Report to the Northwest Information Center to the ERO; one bound hardcopy of the Archeological Resources Report, along with digital files that include an unlocked, searchable PDF version of the Archeological Resources Report, GIS shapefiles of the site and feature locations, any formal site recordation forms (CA DPR 523 series), and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources, via USB or other stable storage device, to the environmental planning division of the planning department; and, if a descendant group was consulted, a digital or hard copy of the Archeological Resources Report to the descendant group, depending on their preference.
- ***Curation***. If archeological data recovery is undertaken, then the project archeologist and the SFPUC shall ensure that any significant archeological collections and paleoenvironmental samples of future research value shall be permanently curated at an established curatorial facility. The facility shall be selected in consultation with the ERO. Upon submittal of the collection for curation the SFPUC or archeologist shall provide a copy of the signed curatorial agreement to the ERO.

Mitigation Measure M-CR-2b: Archeological Testing Program

This measure applies to: Martin Substation Separation; New City Substation (Project Variant)

The project archeologist shall develop and implement an archeological testing program prior to construction at the Martin Substation and New City Substation in Daly City as specified herein, and shall conduct an archeological monitoring and/or data recovery program if required to address archeological discoveries during testing or the assessed potential for archeological discoveries during construction, pursuant to this measure and Mitigation Measure M-CR-2a: Procedures for Discovery of Archeological Resources for Projects Involving Soil Disturbance.

Qualified Archeologist Identification. Prior to construction or as directed by the ERO, the SFPUC shall contact the department archeologist to obtain the names and contact information for qualified archeological consultants on the department's list or as otherwise approved by the ERO and shall retain a qualified archeologist (hereinafter "project archeologist") from this list of three to develop and implement the archeological testing program.

Construction Crew Archeological Awareness. Prior to any soils-disturbing activities being undertaken where monitoring is required, the project archeologist shall conduct a brief on-site archeological awareness training that describes the types of resources that might be encountered and how they might be recognized, and requirements and procedures for work stoppage, resource protection and notification in the event of a potential archeological discovery. The project archeologist also shall distribute an "Alert" wallet card, based on the department's "ALERT" sheet, that summarizes stop work requirements and provides necessary contact information for the project archeologist, SFPUC and the to all field personnel involved in soil disturbing activities, including machine operators, field crew, pile drivers, supervisory personnel, etc., have received. The project archeologist shall repeat the training at intervals during construction, as determined necessary by the project archaeologist or as directed by the ERO, including when new construction personnel start work and prior to periods of soil disturbing work when the project archeologist will not be on site.

Tribal Cultural Resources Sensitivity Training. In addition to and concurrently with the archeological awareness training, for sites at which the ERO has determined that there is the potential for the discovery of Native American archeological resources or if requested by a tribe pursuant to the department's tribal cultural resources notification process, the SFPUC shall ensure that a Native American representative is afforded the opportunity to provide a Native American cultural resources sensitivity training to all construction personnel.

Archeological Testing Program. The project archeologist shall develop and undertake an archeological testing program as specified herein to determine to the extent possible the presence or absence of archeological resources in areas of project soil disturbance and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required to address archeological discoveries during testing or the assessed potential for archeological discoveries during construction, pursuant to this measure. The SFPUC shall make provisions to ensure that the project archeologist can safely undertake the testing program or monitoring/data recovery program in compliance with a site-specific health and safety plan developed for archeological investigations.

Archeological Testing Plan. The project archeologist shall consult with the ERO reasonably prior to the commencement of any project-related soils disturbing activities to determine the appropriate scope of archeological testing. The archeological testing program shall be conducted in accordance with an approved Archeological Testing Plan, prepared by the project archeologist consistent with the approved scope of work. The Archeological Testing Plan shall be submitted first and directly to the ERO for review and comment and shall be considered a draft subject to revision until final approval by the ERO. Project-related soils disturbing activities shall not commence where testing is required until the testing plan has been approved and any testing scope to occur in advance of construction has been completed. The project archeologist shall implement the testing as specified in the approved Archeological Testing Plan prior to and/or during construction.

The Archeological Testing Plan shall include the following:

- *Project Description*: Description of all anticipated soil disturbing activities, with locations and depths of disturbance, including foundation and utility demolition, hazardous soils remediation, site grading, shoring excavations, piles or soil improvements, and foundation, elevator, utility and landscaping excavations, with project plans and profiles, as needed, to illustrate the locations of anticipated soil disturbance.
- *Site Specific Environmental and Cultural Context*: Pre-contact and historic environmental and cultural setting of the project site as pertinent to potential Native American use and historic period development, any available information pertaining to past soil disturbance; soils information, such as stratigraphic and water table data from prior geotechnical testing. As appropriate based on the scale and scope of the project, the Archeological Testing Plan should include historic maps as a basis for predicting resource types that might be encountered and their potential locations. An overlay of the project site on the city's prehistoric sensitivity model mapping should be included, as should the locations of all known archeological sites within 0.25 mile of the project site.
- *Brief Research Design*: Scientific/historical research questions applicable to the expected resource(s), what data classes potential resources may be expected to possess, and how the expected data classes would address the applicable research questions.
- *Anticipated Resources or Resource Types*: Likely resources that might be encountered and at what locations and depths, based on known resources in the vicinity, the site's predevelopment setting and development history, and the anticipated depth and extent of project soil disturbances.
- *Proposed Scope of Archeological Testing and Rationale*: Testing methods to be used (e.g., coring, mechanical trenching, manual excavation, or combination of methods); locations and depths of testing in relation to anticipated project soil disturbance; strata to be investigated; any uncertainties on stratigraphy that would affect locations or depths of tests and might require archeological monitoring of construction excavations subsequent to testing.
- *Resource Documentation and Significance Assessment Procedures*: ERO and Native American consultation requirements upon making a discovery; pre-data recovery assessment process, burial treatment procedures, and reporting and curation requirements, consistent with the specifications of Mitigation Measure M-CR-2a.

Archeological Testing Results Memo. Irrespective of whether archeological resources are discovered, the project archeologist shall submit a written summary of the findings to the ERO at the completion of the archeological testing program. The findings report/memo shall describe each resource, provide an initial assessment of the integrity and significance of encountered archeological deposits encountered during testing, and provide recommendations for subsequent treatment of any resources encountered.

Resource Evaluation and Treatment Determination. Upon discovery of a suspected archeological resource during archeological testing, Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations shall be implemented as specified in that measure.

Additional Applicable Measures. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment

Determination stipulations, the following additional measures identified in the Mitigation Measure M-CR-2a shall be implemented as specified in that measure:

- Archeological Data Recovery Program
- Treatment of Human Remains and Funerary Objects (as applicable)
- Coordination of Archeological Data Recovery Investigations
- Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable)
- Archeological Resources Report
- Curation

Mitigation Measure M-CR-2c: Archeological Monitoring Program

This measure applies to: Distribution Express Feeders (in the locations specified in measure)

The project archeologist shall develop and implement an archeological monitoring program as specified herein and, in the event of a discovery during monitoring, shall conduct an archeological testing and/or data recovery program if required by the ERO to address archeological discoveries or the assessed potential for archeological discoveries, pursuant to this measure and Mitigation Measure M-CR-2a. Archeological monitoring shall be completed for the distribution express feeders at the following locations: 1) Geneva Avenue between Bayshore Boulevard to Talbert Street; 2) Huron Avenue between Geneva Avenue and Mt. Vernon Avenue; 3) Geneva Avenue between Esquina Drive and Parque Drive; 4) Huron Avenue near intersection of Moneta Way; and 5) Sickles Avenue near San Jose Avenue.

Qualified Archeologist Identification. Prior to construction or as directed by the environmental review officer (ERO), the SFPUC shall retain an archeological consultant ("project archeologist") to develop and implement an archeological monitoring program under the direction of the ERO.

Construction Crew Archeological Awareness. Prior to any soil-disturbing activity where monitoring is required, the project archeologist shall conduct a brief on-site archeological awareness training that describes the types of resources that might be encountered and how they might be recognized, and requirements and procedures for work stoppage, resource protection and notification in the event of a potential archeological discovery. The project archeologist also shall distribute an "Alert" wallet card (based on the department's "ALERT" sheet) to all field personnel (e.g., machine operators, field crew, pile drivers, supervisory personnel) involved in soil disturbing activities, which summarizes stop work requirements and provides information on how to contact the project archeologist and ERO. The project archeologist shall repeat the training at intervals during construction, as determined necessary by the project archaeologist or as directed by the ERO, including when new construction personnel start work and prior to periods of soil disturbing work when the project archeologist will not be on site.

Tribal Cultural Resources Sensitivity Training. In addition to the archeological awareness training, for sites at which the ERO has determined that there is the potential for the discovery of Native American archeological resources or if requested by a tribe pursuant to the department's tribal cultural resources notification process, the SFPUC shall ensure that a Native American representative is afforded the opportunity to provide a Native American cultural resources sensitivity training to all construction personnel.

Archeological Monitoring Program. Based on the results of information provided in the preliminary archeological review and additional historical research as needed, the project archeologist shall consult with the ERO prior to the commencement of any project-related soils disturbing activities to determine the appropriate scope of archeological monitoring, allowing for required document preparation and review time. The SFPUC shall make provisions to ensure that the project archeologist can safely monitor and in compliance with a site-specific health and safety plan developed for archeological investigations. The archeological monitoring program shall be set forth in an Archeological Monitoring Plan, as detailed below.

- The project archeologist shall be present on the project site according to a schedule agreed upon by the project archeologist and the ERO until the ERO has, in consultation with the project archeologist, determined that project construction activities could have no effects on significant archeological deposits. The project archeologist shall prepare a daily monitoring log documenting activities and locations monitored, soil disturbance depth, stratigraphy, and findings.
- The project archeologist has the authority to temporarily stop soil disturbing construction activity in the vicinity of a suspected find to document the resource, collect samples as needed, and assess its significance. The SFPUC shall ensure that the find is protected in place in accordance with the archeologist's direction, and that it remains protected until the archeologist, after consultation with the ERO, notifies the SFPUC that assessment and any subsequent mitigation are complete. The SFPUC shall also ensure that the construction foreperson or other on-site delegee, is aware of the stop work and protection requirements.

In the event of a discovery of a potentially significant archeological resources during monitoring or construction, the project archeologist shall conduct preliminary investigation of the discovery, including the collection of soil samples and artifactual/ ecofactual material, as needed to assess potential significance and integrity. Once this initial assessment has been made, the project archeologist shall consult with the ERO on the results of the assessment. If the resource is assessed as potentially significant, the SFPUC shall ensure that soil disturbance remains halted at the discovery location until appropriate treatment has been determined in consultation with the ERO and implemented, as detailed below.

Archeological Monitoring Plan. The archeological monitoring plan shall include the following provisions:

- *Project Description*: Description of all anticipated soil disturbing activities (e.g., foundation and utility demolition, hazardous soils remediation, site grading, shoring excavations, piles or soil improvements, and foundation, elevator, utility, and landscaping excavations), with project plans and profiles, as needed, to illustrate the anticipated soil disturbance.
- *Site Specific Environmental and Cultural Context*: Pre-contact and historic environmental and cultural setting of the project site as pertains to potential Native American use and historic period development; any available information pertaining to subsequent soil disturbance, current knowledge of soil stratigraphy. As appropriate based on the scale and scope of the project, the Archeological Monitoring Plan should include historic maps, as a basis for predicting resource types that might be encountered and their potential locations. An overlay of the project site on the city's prehistoric sensitivity model mapping should be included, as should the locations of all known archeological sites within 0.25 mile of the project site.

- *Anticipated Resources or Resource Types*: Likely resources that might be encountered and at what locations and depths, based on known resources in the vicinity, the site's predevelopment setting and development history, and the anticipated depth and extent of project soil disturbances.
- *Proposed Scope of Archeological Monitoring*: Include soil-disturbing activities/ disturbance depths to be monitored and relevant measures or activities required pursuant to the site-specific health and safety plan developed for archeological investigations.
- *Synopsis of Required Procedures*: For the assessment and treatment of discoveries, ERO and Native American consultation requirements; burial treatment procedures; and reporting and curation requirements, consistent with the specifications of Mitigation Measure M-CR-2a.

Resource Evaluation and Treatment Determination. Upon discovery of a suspected archeological resource during construction or archeological monitoring, Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations shall be implemented as specified in that measure.

Additional Applicable Measures. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in Mitigation Measure M-CR-2a shall be implemented as specified in that measure:

- Archeological Data Recovery Program
- Treatment of Human Remains and Funerary Objects (as applicable)
- Coordination of Archeological Data Recovery Investigations
- Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable)
- Archeological Resources Report
- Curation

Mitigation Measure M-CR-2d: Archeological Treatment Program

This measure applies to: Local Distribution System Separation, System Reinforcements, Operations Control Center, Operation and Maintenance Service Yards

The following mitigation measure shall be implemented for any program-level component located in an area for which the preliminary archeological review conducted by qualified San Francisco Planning Department archeological staff identifies the potential for significant archeological impacts.

The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Planning (EP) Archeologist. All scopes, plans, and reports prepared by the consultant as specified herein shall be submitted first and directly to the EP Archeologist for review and comment and shall be considered draft reports subject to revision until final approval by the EP Archaeologist.

Archeological Treatment Plan. The archeological treatment program shall be conducted in accordance with an approved Archeological Treatment Plan. Once program-level components are developed to a project level the SFPUC shall contract with an archeological consultant to prepare an

Archeological Treatment Plan for these components. The archeological consultant must have experience in historic era and Native American archaeology in the Bay Area and California who meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61). The archeological consultant will be selected by SFPUC in consultation with the Environmental Planning Archeologist (EP Archeologist) in regard to qualifications.

As part of the Archeological Treatment Plan, the archeological consultant shall determine locations that merit archeological monitoring or testing through a screening process. No screening is required for activities that do not entail ground disturbance. Ground disturbance includes, but is not limited to augering, trenching, and demolition of existing infrastructure that extends below the ground surface. If the project has ground disturbance, it will be subject to archeological screening. In conjunction with the submission of the project application, the SFPUC will provide the archeological consultant with a project description, relevant figures, and available geotechnical information.

As part of the Archeological Treatment Plan the archeological consultant shall screen projects with the below criteria to determine if the project could impact potentially significant archeological resources:

- If a records search has not been completed in the past five years, the archeological consultant shall conduct an updated record search at the Northwest Information Center for recorded archeological resources within the programmatic areas that will have ground disturbance. Results of the record search including resource shapefiles shall be shared with the EP Archeologist. The archeological consultant shall use the results to determine if the project would impact recorded archeological sites or within 50 feet of a recorded site.
- Second, the archeological consultant will determine if the project would impact historic-period archeological resources within the public right-or-way dating to the mid-19th century (pre-1870) as identified in the Cultural Resource Review.

If the project does not meet one or both the criteria, then inadvertent discovery procedures would apply to the project (consistent with the procedures laid out in Mitigation Measure M-CR-2a). If the project could impact a known archeological resource and/or a potential historic-period resource, then archeological monitoring, in accordance with Mitigation Measure M-CR-2c, shall be conducted at locations where potentially significant archeological resources could be impacted by the project. If SFPUC and the EP Archeologist determine that testing is preferable or more feasible, then testing would be implemented in accordance with Mitigation Measure M-CR-2b. A Native American monitor will be present for all areas with Native American sensitivity.

The scope of the Archeological Treatment Plan generally shall include the following elements, at minimum:

- Results of the record search
- Historical context for project location including historical maps and photographs
- Discussion of property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project
- Reference applicable scientific/ historical research questions in the Housing Element EIR Volume I (Section 4.2)

- Project activities to be archeologically monitored or tested, intensity of monitoring or testing, and location of monitoring or testing;
- Procedures for the documentation, data recovery, significance and integrity assessment, interpretation and reporting of the types of resources likely to be encountered following provisions in Mitigation Measure M-CR-2a.
- Ground disturbing activities in archeologically sensitive areas, as identified through the above screening, shall not begin until the Archeological Treatment Plan has been finalized.

Additional Applicable Measures. If a significant archeological resource is identified, and data recovery is required under Mitigation Measure M-CR-2a's Resource Evaluation and Treatment Determination stipulations, the following additional measures identified in the Mitigation Measure M-CR-2a shall be implemented as specified in that measure:

- Archeological Data Recovery Program
- Treatment of Human Remains and Funerary Objects (as applicable)
- Cultural Resources Public Interpretation Plan and Land Acknowledgement (as applicable)
- Archeological Resources Report
- Curation
- Consultation with Descendant Communities

Mitigation Measure M-TC-1: Public Interpretation Land Acknowledgement

This measure applies to: All project components

The SFPUC shall, in consultation with local Native American representatives, design and implement public interpretation acknowledging that this project is built on traditional Ohlone land. The public interpretive land acknowledgement program may include a land acknowledgement, information on local Native Americans, or artwork, preferably by local Native American artists, to be included as part of public outreach and education about the project, such as project notifications sent to the public or project websites. Prior to completion of project construction, the SFPUC shall prepare and implement an interpretation plan in consultation with affiliated local Native American representatives and the ERO to guide the acknowledgment program. The plan shall identify, as appropriate, the proposed location or distribution for the acknowledgement program to include project outreach materials such as project webpages or other online project education or notification outreach and the proposed content of the land acknowledgement public interpretation program. The detailed content, media, and other characteristics of such an interpretive program shall be coordinated and approved by the local Native American representatives and the ERO. The final components of the public interpretation program shall be distributed following the agreed upon schedule in the public interpretation land acknowledgement plan. Tribal representatives shall be compensated for their work as identified in the agreed upon scope of work.

Mitigation Measure M-BI-1a: Worker Environmental Awareness Program Training

This measure applies to: Local Distribution System Separation, System Reinforcements, Distribution Express Feeders, New City Substation (Project Variant)

A project-specific Worker Environmental Awareness Program (WEAP) training shall be developed by a qualified biologist and implemented by SFPUC for the project and attended by all construction personnel prior to beginning work onsite for the local distribution system separation and system reinforcements. The training could consist of a recorded presentation that could be reused for new personnel. The WEAP training shall generally include but not be limited to the following:

- Applicable state and federal laws, environmental regulations, project permit conditions, and penalties for non-compliance;
- Special-status animal species with potential to occur on or in the vicinity of the project areas, avoidance measures, and a protocol for encountering such species (or their host plants) including a communication chain;
- Preconstruction surveys and biological monitoring requirements associated with certain work activities (e.g., vegetation, ground disturbance, tree trimming, etc.) or near certain locations (e.g., Impound Lake, San Bruno Mountain);
- Known sensitive resource areas in the project vicinity that are to be avoided and/or protected (e.g., wetlands) as well as approved project work areas; and
- Best Management Practices (e.g., silt fencing/species exclusion fencing, straw wattles) and their location in the project areas for erosion control and/or species exclusion.

Mitigation Measure M-BI-1b: Avoidance and Minimization Measures for Northwestern Pond Turtle

This measure applies to: Local Distribution System Separation, System Reinforcements

The SFPUC shall ensure a biological monitor is present during construction activities requiring vegetation removal or ground disturbance within 50 feet of the Impound Lake shoreline associated with the local distribution system separation and system reinforcements. Also, the following measures shall be implemented:

- Any erosion and sediment control materials used onsite shall be free of plastic monofilament material that could cause animal entanglement.
- A qualified biologist shall survey the project areas within 48 hours before the start of initial ground-disturbing activities and shall be present during all vegetation clearing and ground-disturbing activities within 50 feet of the Impound Lake shoreline.
- If northwestern pond turtles are found during construction, construction activity that poses a threat to the individual shall be halted in the vicinity as determined by the qualified biologist. If possible, the individual shall be allowed to move out of the work area of its own volition. Only a qualified biologist approved by regulatory agencies with authority over this species shall relocate turtles to the nearest suitable habitat should they not leave the work area of their own accord. Construction shall resume after the individual is out of harm's way, as determined by a biologist.

- Excavations deeper than 6 inches that cannot be backfilled or covered at the end of the work day shall have a sloping escape ramp of earth or a wooden plank installed at a 3:1 rise to allow species to escape.
- Openings, such as pipes, where northwestern pond turtles might seek refuge shall be covered when not in use (e.g., if staged overnight).
- All trash that may attract predators or hide northwestern pond turtles shall be properly contained, removed from the worksite, and disposed of at the end of each work day.

Following site construction, the contractor shall remove all trash and construction debris from the work areas and revegetate any disturbed areas to preconstruction conditions, unless otherwise authorized by regulatory permits and authorizations issued for this work.

Mitigation Measure M-BI-1c: Special-Status Butterfly Protection Measures

This measure applies to: Local Distribution System Separation, System Reinforcements

The following measures shall apply to project construction activities for the local distribution system separation and system reinforcements within suitable grassland habitat for special-status butterflies within the Daly City easement adjacent to San Bruno Mountain State and County Park, undeveloped grasslands east of the park, and grasslands associated with Icehouse Hill.

- **Habitat Delineation Survey.** A qualified biologist shall conduct preconstruction surveys of grassland habitat during the period of identification for mission blue butterfly host plants (*Lupinus albifrons* var. *collinus, Lupinus littoralis* var. *variicolor* [April – July]; *Lupinus formosus* [June-October]) and callippe silverspot butterfly host plants (*Viola pedunculata* [February – April]).
    i. Surveys shall occur during the blooming season prior to or overlapping the construction schedule for work at these locations to ensure potential host plants are identified and can be protected. Preconstruction surveys to confirm prior survey results or identify additional plants shall be conducted again within 7 days prior to project construction activities in these locations, as appropriate.
    ii. The surveys shall identify and delineate the boundaries of host plant populations for mission blue butterfly (*Lupinus albifrons* var. *collinus*, *Lupinus formosus* and *Lupinus littoralis* var. *variicolor*), and callippe silverspot butterfly (*Viola pedunculata*) within 100 feet of the disturbance footprint (i.e., access, staging, equipment, excavation, etc.).
- **Avoidance During Construction**. A minimum 20-ft no disturbance buffer shall be established around host plant populations identified during preconstruction surveys, or unless otherwise permitted by applicable regulatory agencies.
- **Habitat Monitoring During Construction**. All work occurring within 100 feet of host plant populations shall be monitored by a qualified biologist.
- **Habitat Occupation Survey**. If the SFPUC determines that ground disturbance must occur within 20 feet or less of habitat identified in the habitat delineation survey, and if habitat delineation survey did not determine habitat occupancy, then a qualified biologist shall conduct habitat occupation surveys of host plant populations to evaluate whether mission blue and callippe silverspot butterflies actively occupy the host plant populations within the project area where work would occur. Surveys shall be appropriately timed (conducted between March 1 and

June 30) to identify the presence of adults, larvae, eggs, and/or feeding damage on host plants which would indicate occupation. Documentation of survey results shall be prepared by the qualified biologist and maintained by the SFPUC.

i. **No Occupied Habitat Present**. If the qualified biologist conclusively determines the absence of rare butterflies within the survey area, host plant removal shall be minimized and area restored to preconstruction conditions, including reseeding with butterfly host plants. SFPUC will confirm successful establishment of the host plants within 1-2 years of restoration.

ii. **Occupied Habitat within 20 feet of Work**. If work would occur within 20 feet of occupied habitat but would not remove habitat, SFPUC shall implement avoidance and minimization measures including but not limited to: dust control during construction activity, scheduling construction to avoid flight season, and clearly demarcating the habitat to be avoided with flags and fencing.

iii. **Occupied Habitat Within Work Area.** If the qualified biologist determines through surveys that the host plant population is occupied and cannot be avoided, or if the qualified biologists determines rare butterflies are otherwise presumed to be present due to known occupation of host plants adjacent to the project area(s), the SFPUC shall implement a Restoration Plan, described in greater detail below, and confer with the U.S. Fish and Wildlife Service if potential "take" of the species[332] cannot be avoided through further project modifications, seasonal construction timing, or pre-planting of host plants nearby prior to ground disturbance. Compensatory mitigation to offset project impacts on the protected butterflies from loss of host plants within an occupied population shall be satisfied through habitat enhancement activities described in a Restoration Plan, which may include seed salvage, host plant relocation, and/or plantings, implemented at a 1:1 ratio for the acreage of habitat impacted to acreage of habitat enhanced, or as determined in any consultation with the U.S. Fish and Wildlife Service. The following elements shall be incorporated into the Restoration Plan:

1) Host plant relocation shall be conducted under the direction of a qualified restoration specialist or botanist, by a contractor experienced in plant salvage and restoration activities. The Restoration Plan shall describe site preparation specifications, a plant palette, planting procedures, development of reasonable success criteria, appropriate monitoring and reporting protocols, implementation timelines, and contingency measures in the event of restoration failure.

2) Host plants within the work area may either be relocated to nearby suitable grassland habitat that would remain undisturbed by project activities or temporarily retained off-site and replanted within the disturbance footprint.

3) Planting areas shall be monitored by a qualified biologist twice a year for a period of five years following planting or seeding to provide recommendations for site improvements such as changes to the watering schedule, reseeding, replanting, or control of weeds. If plantings experience 20 percent mortality or greater in any monitoring year, the SFPUC shall implement habitat enhancement activities, such as invasive species removal and/or seeding host plant species. Monitoring shall be deemed complete when at least

[332] Section 3 of the federal Endangered Species Act defines the term 'take' as "…means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."

75 percent of the plantings or seeding areas show good or better plant vigor without the need for supplemental water or maintenance.

Mitigation Measure M-BI-1d: Control Measures for Spread of Invasive Plants

This measure applies to: Local Distribution System Separation; System Reinforcements

The following measures shall apply to construction of the local distribution system separation and system reinforcements within suitable grassland habitat for special-status butterflies within the Daly City easement adjacent to San Bruno Mountain State and County Park, undeveloped grasslands east of the park, and grasslands associated with Icehouse Hill. Construction best management practices shall be implemented in all construction areas to prevent the spread of invasive plants, seed, propagules, and pathogens through the following actions:

- Avoid driving in or operating equipment in weed-infested areas and restrict travel to established roads and trails whenever possible.
- Avoid leaving piles of exposed soil or construction materials in areas with the potential for invasive plants. Cover inactive earthen stockpiles with plastic or a comparable material.
- Clean tools, equipment, and vehicles before transporting materials and before entering and leaving worksites (e.g., wheel washing stations at SFPUC yards or access points). Inspect vehicles and equipment for weed seeds and/or propagules stuck in tire treads or mud on the vehicle to minimize the risk of carrying them to unaffected areas. Designate areas within active construction sites or the operations and maintenance yards for cleaning and inspections.

Mitigation Measure M-BI-3a: Restoration of Freshwater Emergent Marsh Wetlands

This measure applies to: Local Distribution System Separation; System Reinforcements

Freshwater emergent marsh wetlands within Visitacion Creek Marsh or the two unnamed freshwater emergent wetlands east of Industrial Way that may be temporarily affected during construction to facilitate implementation of local distribution system separation and system reinforcements work shall be restored in-place to pre-project conditions. A Wetland Restoration and Mitigation Monitoring Plan shall be prepared for the affected areas, subject to approval by the appropriate regulatory agencies, and shall include, but not be limited to, the following:

- A final grading plan for the affected freshwater emergent wetlands that would restore the topography of the affected areas to pre-project conditions**.**
- A planting plan, composed of native freshwater emergent wetland plant species, consistent with the surrounding community of the affected area**.**
- A weed control plan that prevents the spread of invasive non-native plant species on the project areas.
- Performance criteria for the revegetated areas that establish success thresholds over a specific amount of time (typically five years) as determined by the regulatory agencies with jurisdiction over the affected areas**.**
- A monitoring and reporting program under which progress of the revegetated areas shall be tracked to ensure survival of the mitigation plantings. The program shall document overall health and vigor of mitigation plantings throughout the monitoring period and provide recommendations for adaptive management as needed to ensure the site is successful,

according to the established performance criteria. An annual report documenting monitoring results and providing recommendations for improvement throughout the year shall be provided to the regulatory agencies**.**

- A best management practices element describing erosion control measures to be installed around the affected areas following mitigation planting in order to avoid sediment runoff into the adjacent waters (as applicable).

Mitigation Measure M-BI-3b: Compensation for Permanent Fill of Wetlands and Waters

This measure applies to: Local Distribution System Separation, System Reinforcements

If impacts on wetlands and waters cannot be avoided, the SFPUC shall obtain the required permits and authorizations from the U.S. Army Corps of Engineers, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Wildlife, and San Francisco Bay Conservation and Development Commission for project impacts on aquatic resources regulated by these entities. The SFPUC shall provide adequate compensatory mitigation for permanent placement of fill associated with installation of new electrical system infrastructure in jurisdictional wetlands and waters. Compensatory mitigation shall achieve at least a 1:1 ratio of acreage impacted to acreage created/restored/enhanced, or greater, and as required by regulatory agencies with jurisdiction over the impacted aquatic resources, to ensure no net loss of wetlands and waters.

Compensatory mitigation obligations from permanent project fill could be satisfied through onsite or offsite creation, restoration, or enhancement of waters, wetlands, and/or riparian habitat, or payment into an approved mitigation bank for in-kind habitat credits, or other compensatory actions that avoid a net loss of these aquatic resources and as determined in consultation with these regulatory agencies.

Mitigation Measure M-BI-4: Nesting Bird Protection Measures

This measure applies to: Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; New City Substation (Project Variant)

Nesting birds and their nests shall be protected during construction of the local distribution system separation, system reinforcements, distribution express feeders, and new City Substation (project variant) through the implementation of the following measures:

a. To the extent feasible as determined by the SFPUC with their contractor, ground disturbance, vegetation removal, tree trimming, and other construction activities that may compromise breeding birds or the success of their nests shall be conducted from September 1 to January 31, which is outside of nesting season.

b. If the SFPUC and their contractor determine construction activities must occur during bird nesting season (i.e., from February 1 to August 31), a qualified wildlife biologist shall conduct preconstruction nesting surveys within seven days prior to the start of construction. Surveys shall be performed for the individual project areas and suitable habitat within 250 feet of where work would occur or an appropriate distance as determined by the qualified biologist under the project or project variant to locate any active nests.

c. If active nests are located during the preconstruction bird nesting surveys, a qualified biologist shall evaluate whether the schedule of construction activities could affect the active nests and shall apply the following measures:

i) If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect and may revise their determination at any time during the nesting season.

ii) If construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines it is no longer in use. Typically, these buffer distances are 250 feet for passerines and 500 feet for raptors; however, nest buffers may be increased or decreased by a qualified biologist based on factors such as the type of work occurring, line of sight from the nest to construction activities, and sensitivity of the bird species, so long as the buffer distance is sufficient to avoid impacts on the nesting bird. Removing or relocating active nests shall be coordinated with the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service, as appropriate, given the nests that are found on the site.

iii) Any work that the SFPUC and their contractor determine must occur within established no-disturbance buffers around active nests and is deemed appropriate by the qualified biologist (e.g., vegetation removal, grading, work with hand tools, etc.) shall be monitored by a qualified biologist. If adverse effects in response to project work within the buffer are observed and could compromise the nest, work shall halt until the nest fledges.

d. Any birds that begin nesting within the project areas and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels, so exclusion zones around nests may be reduced or eliminated in these cases as determined by the qualified biologist. Work may proceed around these active nests as long as they and their occupants are not directly affected. Protective buffers shall be established around such nests at any time if project-related adverse effects on birds, nests, or nestlings are observed.

Mitigation Measure M-BI-5: Avoidance and Minimization Measures for Bat Maternity Roosts

This measure applies to: Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; Operations Control Center

The following measures shall apply to project construction activities related to the distribution express feeders, local distribution system separation, system reinforcements, and the operations control center requiring tree trimming. A qualified biologist experienced in the identification of bats shall conduct a preconstruction survey and assessment of potential bat habitat in advance of any tree trimming to identify signs of an active maternity colony or active roost sites. Identified bat maternity colonies shall be avoided, if feasible, as determined by the SFPUC and their contractor. Should potential maternity colonies or active bat roosts be found in trees but cannot be avoided, the following measures shall be implemented under the supervision of a qualified biologist:

a. Trees shall be trimmed or bat exclusion devices shall be installed when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15; outside of the bat maternity roosting season (approximately April 15 to August 15) if a maternity roost is present; and outside the months of winter torpor (approximately October 15 to February 28, or as determined by a qualified biologist experienced in the identification of special-status bats).

b. If tree trimming is not feasible during the periods when bats are active, and bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of the tree trimming, a qualified biologist shall delineate a no-disturbance buffer around these roost sites

until they are no longer in use as maternity or hibernation roosts or the young are capable of flight.

c. Based on the professional opinion of a qualified biologist, buffer distances may be adjusted around roosts depending on the level of surrounding ambient activity (e.g., if the subject tree is adjacent to a busy road) or if an obstruction, such as a building, is within the line of sight between the roost and construction.

d. A biologist experienced in the identification of special-status bats shall be present during tree trimming (and removal, if needed) if bat roosts are present. Project activities shall disturb trees with roosts only when no rain is occurring or rain is not forecast to occur for three days and when daytime temperatures are at least 50 degrees Fahrenheit.

e. Under the supervision of the qualified biologist, trees containing or suspected to contain roost sites shall be trimmed over two days. On the first day, branches and limbs not containing cavities or fissures in which bats could roost shall be cut using chainsaws. The following day, branches or limbs containing roost sites shall be trimmed with chainsaws, under the supervision of the biologist.

Mitigation Measure M-GE-5: Inadvertent Discovery of Paleontological Resources During Construction

This measure applies to: Martin Substation separation; Distribution Express Feeders; Local Distribution System Separation; System Reinforcements; Operations Control Center (utility connections); and New City Substation (Project Variant)

Worker Awareness Training. Prior to commencing construction, and ongoing throughout ground disturbing activities (e.g., excavation, utility installation), the SFPUC and/or their designee shall engage a qualified professional (paleontologist, archeologist, or cultural resources specialist) to train all project construction workers regarding how to recognize paleontological resources and on the contents of the paleontological resources alert sheet, as provided by the Planning Department. The paleontological resources alert sheet shall be prominently displayed at the construction site during ground-disturbing activities for reference regarding potential paleontological resources. In addition, the qualified professional shall inform the contractor and construction personnel of the immediate stop work procedures and other procedures to be followed if bones or other potential fossils are unearthed at the project areas. Should new workers that will be involved in ground-disturbing construction activities begin employment after the initial training has occurred, the construction supervisor shall ensure that they receive the worker awareness training as described above.

Paleontological Resource Discoveries. In the event of the discovery of an unanticipated paleontological resource during project construction, ground-disturbing activities shall temporarily be halted within 25 feet of the find until the discovery is examined by a qualified paleontologist as recommended by the Society of Vertebrate Paleontology standards (Society of Vertebrate Paleontology 2010) and best practices in mitigation paleontology (Murphey et al. 2019). The paleontologist shall consult the Environmental Review Officer (ERO). Work within the sensitive area shall resume only when deemed appropriate by the qualified paleontologist in consultation with the ERO. The qualified paleontologist shall determine 1) if the discovery is scientifically significant; 2) the necessity for involving other responsible or resource agencies and stakeholders, if required or determined applicable; and 3) methods for resource recovery. If a paleontological resource assessment results in a determination that the resource is not scientifically important, this

conclusion shall be documented in a paleontological evaluation letter to demonstrate compliance with applicable statutory requirements (e.g., Federal Antiquities Act of 1906, CEQA Guidelines section 15064.5, Public Resources Code Chapter 17, section 5097.5, Paleontological Resources Preservation Act 2009). The paleontological evaluation letter shall be submitted to the ERO for review within 30 calendar days of the discovery. If in consultation with the ERO the qualified paleontologist determines that a paleontological resource is of scientific importance, the qualified paleontologist shall make a recommendation as to what action, if any, is warranted and prepare a paleontological mitigation program. The mitigation program shall include measures to fully document the resource of scientific importance. It shall include: 1) procedures for construction monitoring at the project areas; 2) fossil preparation and identification procedures; 3) curation of paleontological resources of scientific importance into an appropriate repository; and 4) preparation of a Paleontological Resources Report (report or paleontology report) at the conclusion of ground-disturbing activities.

The qualified paleontologist shall submit the mitigation program to the ERO for review and approval within ten business days of the discovery. To avoid construction delays, fully exposed fossils will be immediately removed by the paleontologist to the extent feasible. Consistent with the Society of Vertebrate Paleontology 2010 guidelines, samples of the soil matrix where the discovery occurred may need to be removed from the project areas and processed elsewhere. Mitigation required by this measure could suspend construction within an appropriate buffer zone around a discovered paleontological resource or area for up to a maximum of four weeks. At the direction of the ERO and in coordination with the SFPUC, the suspension of construction may be extended beyond four weeks for a reasonable time required to implement appropriate mitigation only if such a suspension is the only feasible means to reduce potential effects on a significant paleontological resource to a less-than-significant level. Upon approval by the ERO, ground-disturbing activities in the project area shall resume and be monitored as determined by the qualified paleontologist for the duration of such activities. The paleontology report shall include dates of field work, results of monitoring, fossil identifications to the lowest possible taxonomic level, analysis of the fossil collection, a discussion of the scientific significance of the fossil collection, conclusions, locality forms, an itemized list of specimens, and a repository receipt from the curation facility. The SFPUC shall be responsible for the preparation and implementation of the mitigation program, in addition to any costs necessary to prepare and identify collected fossils, and for any curation fees charged by the paleontological repository. The paleontology report shall be submitted to the ERO for review within 30 business days from conclusion of ground-disturbing activities, or as negotiated following consultation with the ERO.

G. Public Notice and Comment

Refer to EIR Chapter 1, Introduction and Background, Section 1.5, Environmental Review Process, which discusses the environmental review of the project to date and the future steps of the CEQA process.

H. Determination

On the basis of this Initial Study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

March 19, 2025

DATE

Lisa Gibson
Environmental Review Officer
for Richard Hillis
Director of Planning

I. Initial Study Preparers

Refer to EIR Chapter 6, EIR Preparation.

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