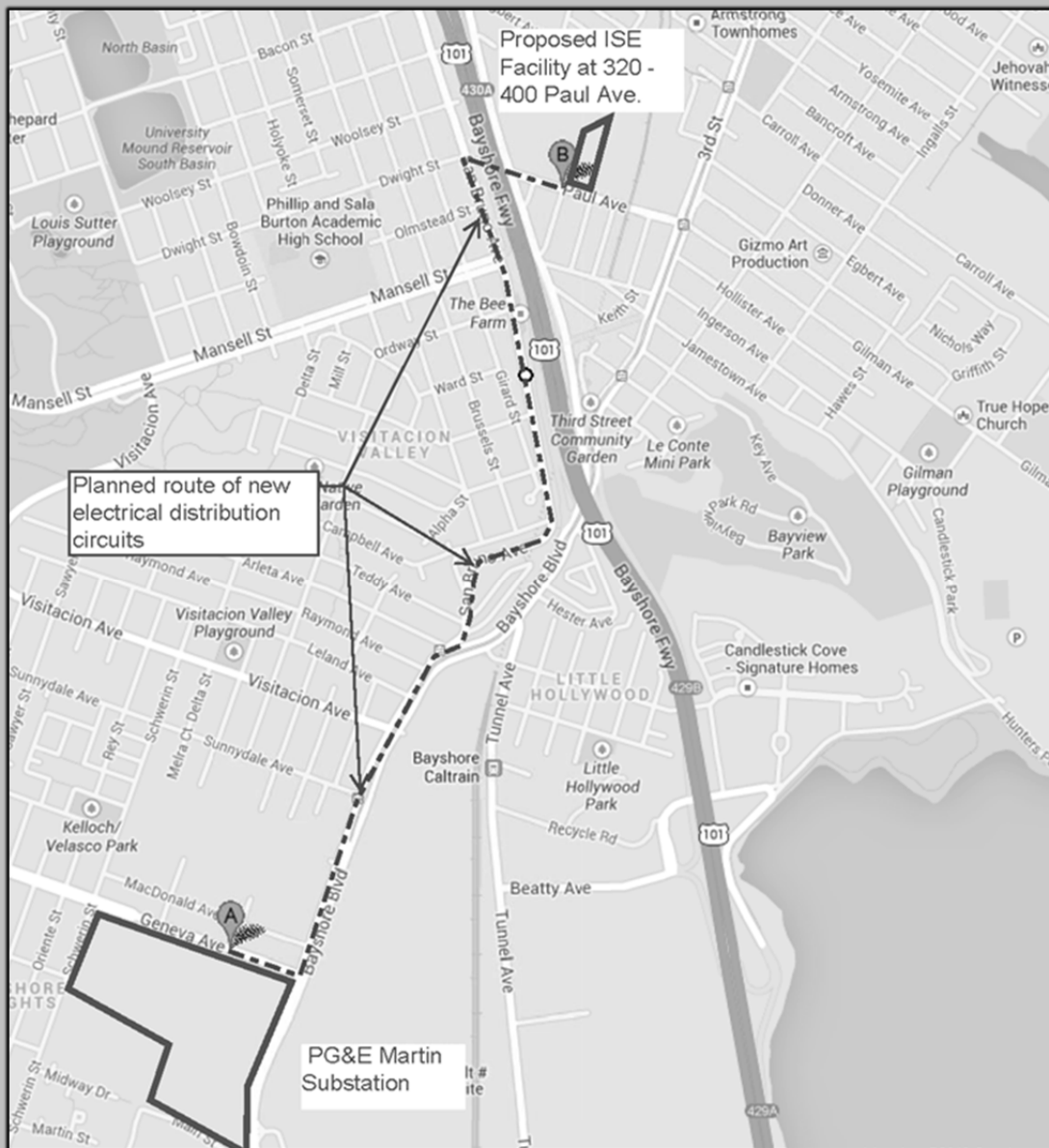




320-400 Paul Avenue Data Center and associated Extension of PG&E 12kV Electrical Distribution Circuits



Preliminary Mitigated Negative Declaration

Published: June 11, 2014

San Francisco Planning Department



SAN FRANCISCO PLANNING DEPARTMENT

Notice of Availability of and Intent to Adopt a Mitigated Negative Declaration

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San Francisco,
CA 94103-2479

Reception:
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Information:
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Date: June 11, 2014
Case No.: **2011.0408E**
Project Title: **320-400 Paul Avenue Internet Services Exchange (ISE)**
Project Location: 320-400 Paul Avenue, San Francisco (*ISE Facility*)
Brisbane, Daly City, and San Francisco (*12kV Electrical Distribution Circuits*)
Zoning: PDR -2 (Core Production, Distribution, and Repair) District
65-J Height and Bulk District
Block/Lot: 5431A/014 and 015
Lot Size: 319,900 square feet (7.34 acres)
Project Sponsor: Keith Dines, The Cambay Group, Inc. (925) 933-1405
Lead Agency: San Francisco Planning Department
Staff Contact: Heidi Kline – (415) 575-9043, Heidi.Kline@sfgov.org

To Whom It May Concern:

This notice is to inform you of the availability of the environmental review document concerning the proposed project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the proposed project. The PMND documents the determination of the Planning Department that the proposed project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the City to carry out or not to carry out the proposed project.

Project Description:

The proposed project includes the construction of an Internet services exchange (ISE) at 320-400 Paul Avenue and the installation of two underground 12kV electrical distribution circuits between the PG&E Martin substation at 3150 Geneva Avenue in Brisbane and the proposed ISE facility to provide 24 MW electrical service for the ISE. The route for the underground electrical distribution circuits would include the portion of Geneva Avenue along the northeast boundary of the PG&E Martin substation, the portion of Bayshore Boulevard between Geneva and San Bruno Avenues, the portion of San Bruno Avenue between Bayshore Boulevard and Paul Avenue, and the portion of Paul Avenue between San Bruno Avenue and 320-400 Paul Avenue.

The proposed ISE site, comprised of two parcels totaling 319,900 square feet, contains three vacant industrial buildings (320, 350, and 400 Paul Avenue) totaling approximately 150,760 square feet in area. The proposed improvements include the renovation of the front two buildings (320 and 350 Paul Avenue) for administrative and office uses, totaling approximately 55,760 square feet, and the demolition and replacement of the 95,000-square-foot rear building with a two-story, 187,000-square-foot data center

building. The approximately 243,000-square-foot three-building facility would be operated as an ISE, also known as a data center. The project would provide approximately 80 vehicle and 14 bicycle parking spaces on-site for employees and visitors. A backup power supply comprised of eighteen 2 megawatt emergency generators would be provided on site at the 320-400 Paul Avenue ISE facility.

The project would require Planning Commission approval of a Conditional Use Authorization to operate the ISE facility, among other approvals. The Conditional Use Authorization would be the project approval action under Chapter 31 of the San Francisco Administrative Code.

The PMND is available to view or download from the Planning Department's Negative Declarations and EIRs web page (<http://tinyurl.com/sfceqadocs>). Paper copies are also available at the Planning Information Center (PIC) counter on the ground floor of 1660 Mission Street, San Francisco.

If you have questions concerning environmental review of the proposed project, contact the Planning Department staff listed above.

Within 30 calendar days following publication of the PMND (i.e., by 5:00 p.m. on July 11, 2014) any person may:

- 1) Review the PMND as an informational item and take no action;
- 2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done **without** the appeal described below; **OR**
- 3) Appeal the determination of no significant effect on the environment to the Planning Commission in a letter that specifies the grounds for such appeal, accompanied by a \$534 check payable to the San Francisco Planning Department.¹ An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. Send the appeal letter to the Planning Department, Attention: Sarah Jones, 1650 Mission Street, Suite 400, San Francisco, CA 94103. **The letter must be accompanied by a check in the amount of \$534.00 payable to the San Francisco Planning Department, and must be received by 5:00 p.m. on July 11, 2014.** The appeal letter and check may also be presented in person at the PIC counter on the first floor of 1660 Mission Street, San Francisco.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND.

Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. 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 Department's website or in other public documents.

¹ Upon review by the Planning Department, the appeal fee may be reimbursed for neighborhood organizations that have been in existence for a minimum of 24 months.



SAN FRANCISCO PLANNING DEPARTMENT

PRELIMINARY MITIGATED NEGATIVE DECLARATION

Date: June 11, 2014
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Project Title: **320-400 Paul Avenue Internet Services Exchange (ISE)**
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Project Description

The proposed project includes the construction of an Internet services exchange (ISE) at 320-400 Paul Avenue (Assessors Block 5431A, Lots 014 and 015) and the installation of two underground 12 kilovolt (12kV) electrical distribution circuits between the Pacific Gas and Electric Martin Service Center (PG&E Martin substation) and the proposed ISE facility to provide 24 megawatt (MW) electrical service for the ISE. The proposed ISE facility at 320-400 Paul Avenue would be located on the north side of Paul Avenue midblock between Highway 101 and Third Street, and opposite Crane and Wheat Streets. The electrical distribution circuits would be installed within 10,000 linear feet of existing roadway between 320-400 Paul Avenue and the PG&E Martin substation located at 3150 Geneva Avenue in Brisbane. The route for the underground electrical distribution circuits would include the portion of Geneva Avenue along the northeast boundary of the PG&E Martin substation, the portion of Bayshore Boulevard between Geneva and San Bruno Avenues, the portion of San Bruno Avenue between Bayshore Boulevard and Paul Avenue, and the portion of Paul Avenue between San Bruno Avenue and 320-400 Paul Avenue.

The proposed ISE site, comprised of two parcels totaling 319,900 square feet, contains three vacant industrial buildings (320, 350, and 400 Paul Avenue) totaling approximately 150,760 square feet in area. The planned improvements include the renovation of the front two buildings (320 and 350 Paul Avenue) for administrative and office uses, totaling approximately 55,760 square feet, and the demolition and replacement of the 95,000-square-foot rear building with a two-story, 187,000-square-foot data center building. The approximately 243,000-square-foot, three-building facility would be operated as an ISE, also known to as a data center. The project would provide approximately 80 vehicle and 14 bicycle parking spaces on-site for employees and visitors.

Electrical power for the ISE facility would be provided by two 12kV electrical distribution circuits that would be constructed in new underground conduits and connected to existing transformers in the PG&E Martin substation in Brisbane. The underground conduits for both circuits would be installed at the time of construction of the proposed ISE facility, though the electric transmission wires for only one of the two circuits would be installed to provide 12 MW load capacity to the facility. The electrical wires for the second circuit, an additional 12 MW of service capacity, would be installed approximately four years after completion of the ISE facility as occupancy of the data center increases. Construction of the 12kV electrical circuits would include the installation of underground conduits, electric transmission wires, and utility vaults within 10,000 linear feet of existing roadways between the PG&E Martin substation and the proposed ISE facility site at 320-400 Paul Avenue. The connection of the electrical distribution circuits to the existing transformers within the PG&E Martin substation would require the installation of approximately 100 linear feet of underground conduit and electrical transmission wires within the northeast area of the substation, as well as the aboveground installation of associated circuit breakers adjacent to the transformers. A backup power supply comprised of eighteen 2MW emergency generators, would be provided on site at the 320-400 Paul Avenue ISE facility for use in the event of an interruption to the PG&E electrical service.

The project sponsor, The Cambay Group, would construct all on-site improvements for the proposed ISE facility at 320-400 Paul Avenue project site, while PG&E would construct the planned electrical distribution circuits extending from the project site to the PG&E Martin substation in Brisbane.

The project would require Planning Commission approval of a Conditional Use Authorization to operate the ISE facility, among other approvals. The Conditional Use Authorization would be the project approval action under Chapter 31 of the San Francisco Administrative Code.

Finding

This project could not have a significant effect on the environment. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to prepare a Negative Declaration), and the following reasons as documented in the Initial Evaluation (Initial Study) for the project, which is attached. Mitigation measures are included in this project to avoid potentially significant effects. See page 205.

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List of Acronyms

µg/m ³	micrograms per cubic meter
AB	Assembly Bill
AC	air conditioning
ACLUP	Airport Compatible Land Use Plan
ACM	asbestos-containing materials
ADRP	Archeological Data Recovery Program
AIA	Airport Influence Area
AMP	Archeological Monitoring Program
AQTR	Air Quality Technical Report
ARB	California Air Resources Board
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASHRAE TC	American Society of Heating, Refrigerating and Air Conditioning Engineers Technical Committee
ATP	Archeological Testing Plan
BAAQMD	Bay Area Air Quality Management District
bgs	below ground surface
bhp	brake-horsepower
BMP	best management practice
BSM	Bureau of Street Use and Mapping
BVHP	Bayview Hunters Point
CA DPR	California Department of Park and Recreation
CA OHP	California Office of Historic Preservation
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CalTrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDC	Center for Disease Control
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CH ₄	methane
CHRSC	California Historic Resources Code
CMP	Congestion Management Plan
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ E	carbon dioxide equivalent
Corps	United States Army Corps of Engineers

CPT	cone penetration test
CRI	Carpet and Rug Institute
CU	Conditional Use Authorization
cy	cubic yard
dB	decibels
dBA	decibel A-weighting
DC	Daly City
DC DPW	Daly City Department of Public Works
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DX	direct expansion
EO	Executive Order
EPA	United States Environmental Protection Agency
ERO	Environmental Review Officer
ESA	environmental site assessment
EVA	emergency vehicle access
F	Fahrenheit
FAR	floor area ratio
FARR	Final Archeological Resources Report
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FIRMS	Flood Insurance Rate Maps
g/bhp-hr	grams per brake-horsepower hour
GHG	greenhouse gas emissions
Gpf	gallons per flush
gpm	gallons per minute
gsf	gross square feet
HEPA	high efficiency particulate air
HMBP	Hazardous Materials Business Plan
hp	horsepower
HRER	Historic Resource Evaluation Response
HVAC	heating, ventilation, and air conditioning
IP	Internet Protocol
ISE	Internet services exchange
IT	information technology
km	kilometer
kV	kilovolt
kW	kilowatt
L ₉₀	noise level exceeded 90 percent of the time
L _{dn}	day-night average sound level
L _{MAX}	highest sound pressure level within the measuring period
lbs	pounds
LEED	Leadership in Energy and Environmental Design
LOS	level of service
LUFT	leaking underground fuel tank
mgd	million gallons per day

MBTA	Migratory Bird Treaty Act
MMR	meet-me-room
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organizations
MRZ	Mineral Resource Zone
MTC	Metropolitan Transportation Commission
MTCO ₂ E	metric tons of carbon dioxide equivalent
MTCO ₂ /MWh	metric tons of carbon dioxide per megawatt hour
MW	megawatt
MWh	megawatt hour
N ₂ O	nitrous oxide
NAHC	National American Heritage Commission
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NIOSH	National Institute of Occupational Safety & Health
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NFPA	National Fire Protection Agency
NRC	noise reduction coefficient
NRC	Nuclear Regulatory Agency
NSR	New Source Review
NWIC	Northwest Information Center
OA	outside air
O&M	Operation and Maintenance Plan
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
OU	Operational Unit
PAHS	polynuclear aromatic hydrocarbons
PCB	polychlorinated biphenyl
PDR	production, distribution, and repair
PDU	power distribution unit
PG&E	Pacific Gas and Electric
PM	particulate matter
PM ₁₀	particulate matter with diameter 10 microns or less
PM _{2.5}	particulate matter with diameter 2.5 microns or less
PRC	Public Resources Code
psf	pounds per square foot
PUD	Planned Unit Development
PUE	power effectiveness ratio
PVC	poly vinyl chloride
QACL	Qualified Archeological Consultants List
RAP	Remedial Action Plan
RCRA-TSD	Resource Conservation and Recovery Act-Treatment, Storage and Disposal
RCRIS	Resource Conservation and Recovery Act Information System

ROG	reactive organic gases
RPS	renewables portfolio standard
SB	Senate Bill
SCS	Sustainable Communities Strategy
SEWPCP	Southeast Water Pollution Control Plan
SF	San Francisco
SF DBI	San Francisco Department of Building Inspection
SF DOE	San Francisco Department of the Environment
SFDPH	San Francisco Department of Public Health
SF DPW	San Francisco Department of Public Works
SFBAAB	San Francisco Bay Area Air Basin
SFCTA	San Francisco County Transportation Authority
SFHA	Special Flood Hazard Area
SFMTA	San Francisco Municipal Transportation Agency
SFO	San Francisco International Airport
SFFD	San Francisco Fire Department
SFPD	San Francisco Police Department
SFPUC	San Francisco Public Utilities Commission
SIS	System Impact Study
SO ₂	sulfur dioxide
SMP	Site Mitigation Plan
SPCC	Spill Prevention, Control and Countermeasures Plan
SSM	Stationary Source Measure
SVOC	semi volatile organic compounds
SWPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
TPH	total petroleum hydrocarbons
UFC	Uniform Fire Code
UL	Underwriters Laboratory
UPS	uninterrupted distribution unit
USA	Underground Service Alert
USC	United States Code
UST	underground storage tank
USEPA	United States Environmental Protection Agency
USGBC	United States Green Building Council
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
V	volt
VDECS	Verified Diesel Emissions Control Strategy
VFD	variable frequency drive
VOC	volatile organic compounds
VOIP	voice over Internet protocol
VRV	variable refrigerant volume
WAS	Water Availability Study

Initial Study
320-400 Paul Avenue Internet Services Exchange
The Cambay Group
Case No. 2011.0408E

This is the Initial Study for the proposed construction of an Internet services exchange (ISE),¹ also commonly referred to as a data center,² at 320-400 Paul Avenue, prepared in accordance with the California Environmental Quality Act (CEQA). The property owner, The Cambay Group (project sponsor), is proposing to renovate two of the three existing buildings (320 and 350 Paul Avenue) on the project site totaling 55,760 square feet of building area, while the third, 95,000-square-foot building (400 Paul Avenue) would be demolished and replaced with a new 187,000-square-foot data center building in the same location. The two renovated buildings would provide office space for the facility's administrative personnel and data center tenants. The new data center building would be divided into special climate-controlled tenant spaces, or data rooms, and would house the temperature-sensitive information technology (IT) equipment. All three buildings within the ISE would be linked by enclosed walkways. The existing driveway along the east side of the project site would be replaced and connect with a new emergency vehicle access (EVA) along the western side of the property. The on-site parking areas would be replaced with smaller landscaped ones distributed along the east side of the three buildings, providing a total of 80 vehicle parking spaces, an increase of 26 parking spaces. A receiving and loading area would be constructed at the rear of the new data center building with two loading bays for deliveries of IT components and another bay for recycling and refuse services.

Power to the ISE would be provided by two new underground 12 kilovolt (kV) electrical distribution circuits, also referred to as electrical feeds, from the Pacific Gas and Electric Martin Service Center (PG&E Martin substation) in Brisbane, California (Brisbane). Conduit for both electrical circuits would be installed, though electrical wires for only one of the two circuits would be installed initially. Installation of the wires for the second circuit would be completed as the demand load for power by the data center approaches 12 MW, currently projected to occur four years after initial occupancy of the ISE. Construction of the underground 12kV electrical distribution circuits would include the installation of six-inch diameter poly vinyl chloride (PVC) conduits,³ concrete utility vaults, and

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- 1 The terms Internet services exchange (ISE) and data center are used interchangeably throughout this document.
 - 2 A data center is a facility used to house computer systems and associated components. It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (e.g., air conditioning, fire suppression) and security devices.
 - 3 A conduit is a smooth-wall poly vinyl chloride (PVC) enclosure for underground communication and electrical power wires and cables. Conduits and fittings are evaluated for impact resistance and strength, joint tightness, pipe stiffness, and extrusion quality. PG&E's specification for underground conduits is outlined in PG&E specification UG-1 – Underground Conduits, revised 6-28-13 and available online at http://www.pge.com/includes/docs/pdfs/mybusiness/customerservice/startstop/newconstruction/greenbook/service_requirements/062288.pdf. Accessed February 3, 2014.

electrical wiring along an approximately 10,000-foot-long route extending from the PG&E Martin substation to the proposed ISE facility site at 320-400 Paul Avenue. The electrical distribution circuits would connect to available transformers within the PG&E Martin substation and related new aboveground circuit breakers installed adjacent to the transformers. Approximately 100 feet of underground PVC conduit would be installed within the PG&E Martin substation to connect the electrical circuits from the new circuit breakers to an existing underground conduit within the substation that would tie into the proposed new conduit in Geneva Avenue.

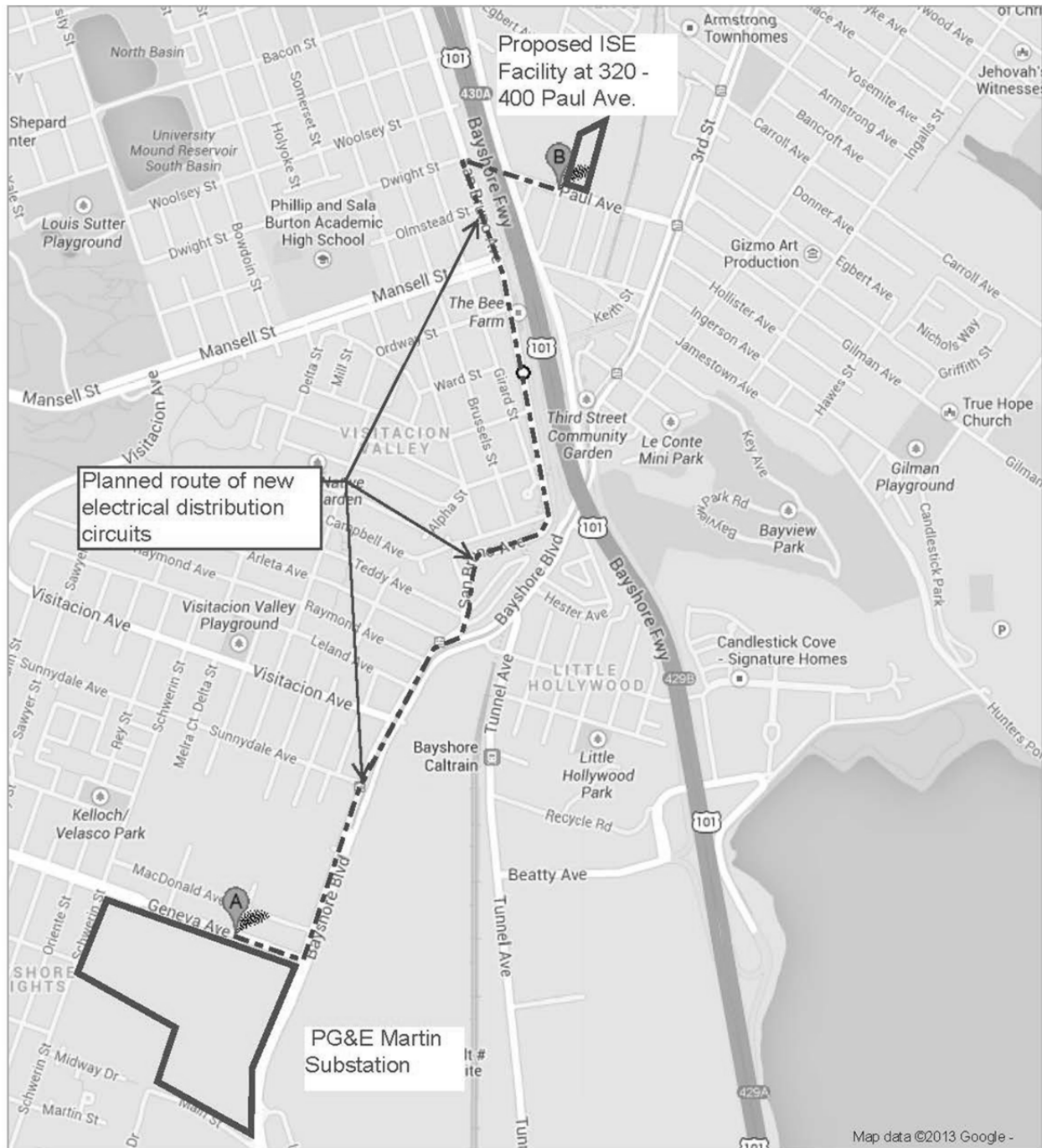
Eighteen 2 megawatt (MW) emergency diesel generators would be installed and maintained in an on-site generator service yard at the 320-400 Paul Avenue ISE facility to provide temporary power in the event of an interruption to the PG&E electrical service.

For purposes of this environmental review, unless specified otherwise, references to the “project site” include both 1) the 7.3-acre site at 320-400 Paul Avenue on which the ISE facility would be built and operated and 2) the PG&E Martin substation at 3150 Geneva Avenue in Brisbane and portions of the following public roadways between the substation and the proposed ISE facility in which the electrical distribution circuits would be installed: Geneva Avenue, Bayshore Boulevard, San Bruno Avenue, and Paul Avenue. Figure 1 shows the project site in its entirety.

The ISE facility site at 320-400 Paul Avenue is located on the north side of Paul Avenue midblock between Bayshore Boulevard/Highway 101 and Third Street in the Bayview/South Bayshore District in the City and County of San Francisco.

The PG&E Martin substation is located at the convergence of the northwest boundary of Brisbane and the northeast boundary of Daly City. Both Brisbane and Daly City are located within the County of San Mateo, located south of San Francisco. The PG&E maintenance yard and Martin substation site are located on a parcel with its western half located within the city limits of Daly City and its eastern half within Brisbane’s city limits. The PG&E Martin substation is located on the eastern half of the site within the City of Brisbane. The public roadways in which the electrical distribution circuits would be constructed include a 1,000-foot-long portion of Geneva Avenue along the eastern end of the northern property line of the substation, then Bayshore Boulevard to San Bruno Avenue, then San Bruno Avenue to Paul Avenue, and then Paul Avenue to the proposed 320-400 Paul Avenue ISE site. A 2,500-foot-long portion of this route (Geneva Avenue along the northeast edge of the substation and Bayshore Boulevard between Geneva Avenue and Sunnysdale Avenue) is located in Daly City. The remainder of the route is in San Francisco: Bayshore Boulevard between Sunnysdale Avenue and San Bruno Avenue, San Bruno Avenue between Bayshore Boulevard and Paul Avenue, and Paul Avenue between San Bruno Avenue and the proposed ISE site.

Figure 1 - Location of Proposed ISE Facility at 320-400 Paul Avenue and Route of Proposed PG&E Electrical Circuits



A. PROJECT DESCRIPTION

Project Location and Site Characteristics

ISE Facility at 320-400 Paul Avenue

The site on which the ISE facility would be located is comprised of two legal lots of record, Assessor's Block 5431A, Lots 14 and 15, and is located on the north side of Paul Avenue midblock between Bayshore Boulevard/Highway 101 to the west and Third Street to the east, as shown on Figure 2. The project site contains three existing buildings addressed 320, 350, and 400 Paul Avenue, as shown on Figure 3. The site is located in an established older industrial area within San Francisco's Bayview/South Bayshore District. Lot 14 is 221,600 square feet in area and Lot 15 is 98,300 square feet for a combined total of 319,900 square feet, or 7.34 acres, for the entire project site. Together, both lots form a rectangular-shaped site. Only one of the lots, Lot 15, has frontage on Paul Avenue. Access to the rear parcel, Lot 14, is provided via the existing driveway on the east side of Lot 15. The topography in project vicinity has a gentle downhill northerly slope. The project site itself slopes downhill to the north, away from Paul Avenue with a total 30-foot grade change between the site's Paul Avenue frontage and the rear lot line with most of the grade change occurring within the front half of the site.

The site is in close proximity to a number of major transit and highway routes. Both the San Francisco Municipal Transportation Agency's (SFMTA) T-Third Street light rail line and the Caltrain regional rail service are located to the east of the project site, 900 and 400 feet respectively. The Gilman/Paul station at the intersection of Paul and Gilman Avenues is the nearest station to the project site on the T-Third light rail line. Caltrain's Bayshore Station is one mile to the southwest of the project site. Highway 101 is located 300 feet to the west of the project site with access via Bayshore Boulevard and San Bruno Avenue. The project site is within the *Bayview Hunters Point Area Plan* (BVHP Area Plan), formerly the South Bayshore Area Plan, and was amended in 2006 by the Bayview Hunters Point Redevelopment Projects and Rezoning amendment.⁴ The program-level *Bayview Hunters Point Redevelopment Projects and Rezoning Final Environmental Impact Report* (BVHP FEIR)⁵ was certified on March 2, 2006, and analyzed proposed rezoning and other changes to the BVHP Area Plan.

At present, there are three vacant buildings on the project site as shown on Figure 4. These buildings were constructed as part of the Link Belt manufacturing facility in the 1930s and used for manufacturing activities until 1973 when it ceased operation. The facility was then sold to Tubes and Cores, a manufacturer of compostable food containers that used the buildings for its operations. Upon cessation of the Tubes and Cores business at the facility, the site was occupied by a number of small commercial uses up until the mid-2000s. Information on the buildings is shown on Table 1.

4 *Bayview Hunters Point Area Plan*. Available online at: http://www.sf-planning.org/ftp/general_plan/Bayview_Hunters_Point.htm. Accessed on June 25, 2013.

5 *Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR* (Case No. 1996.546E; State Clearinghouse No. 2003062094), certified by the San Francisco Planning Commission on March 2, 2006. This document is available for review at 1650 Mission Street, Suite 400, San Francisco, CA. (Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006)

Figure 2 - Location Map of 320-400 Paul Avenue

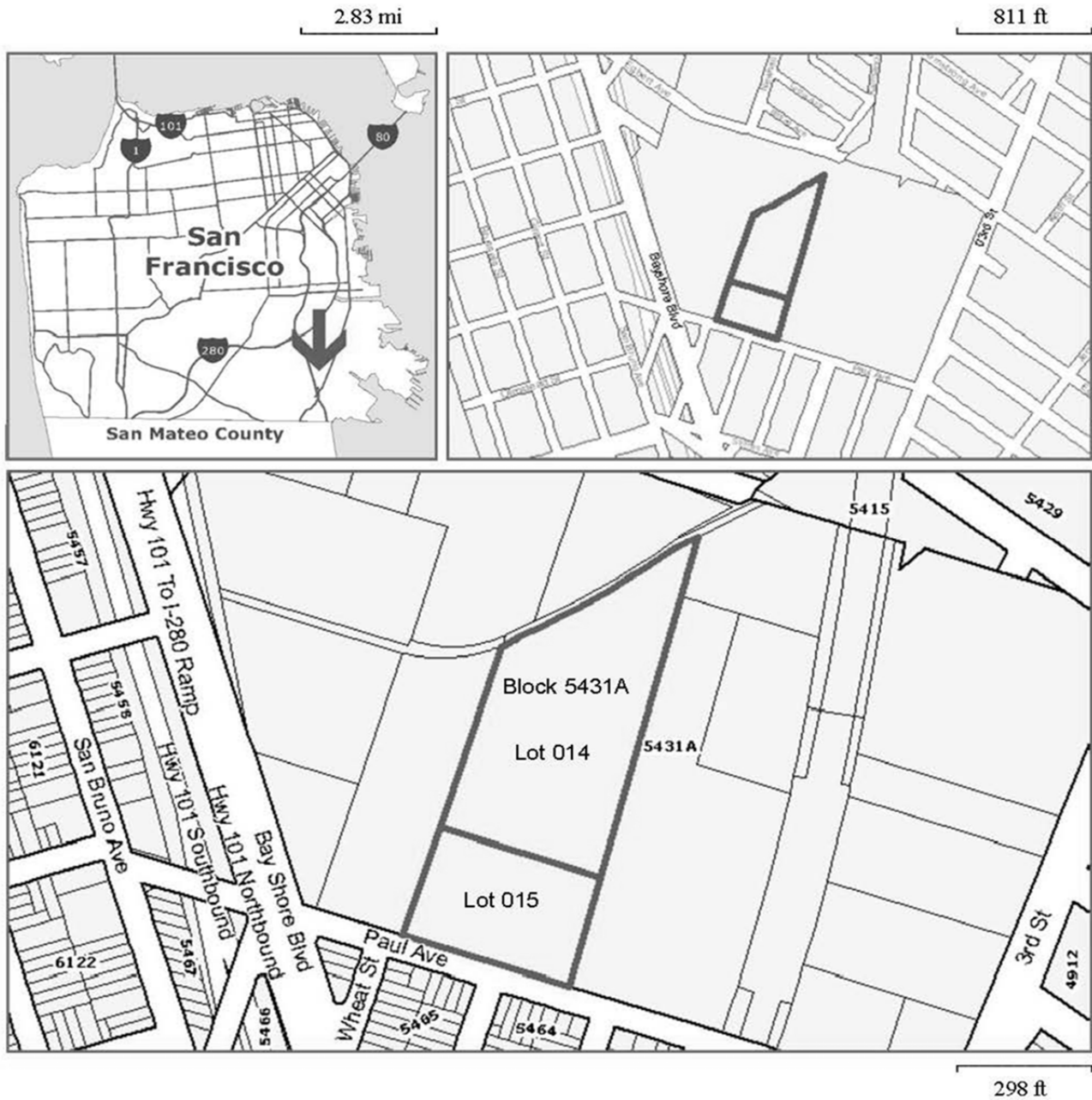


Figure 3 - Aerial Photo of 320-400 Paul Avenue Project Site



320 - 400 Paul Avenue (Block 5431A/ Lots 014 and 015)



Figure 4 - Existing Site Plan – 320-400 Paul Avenue

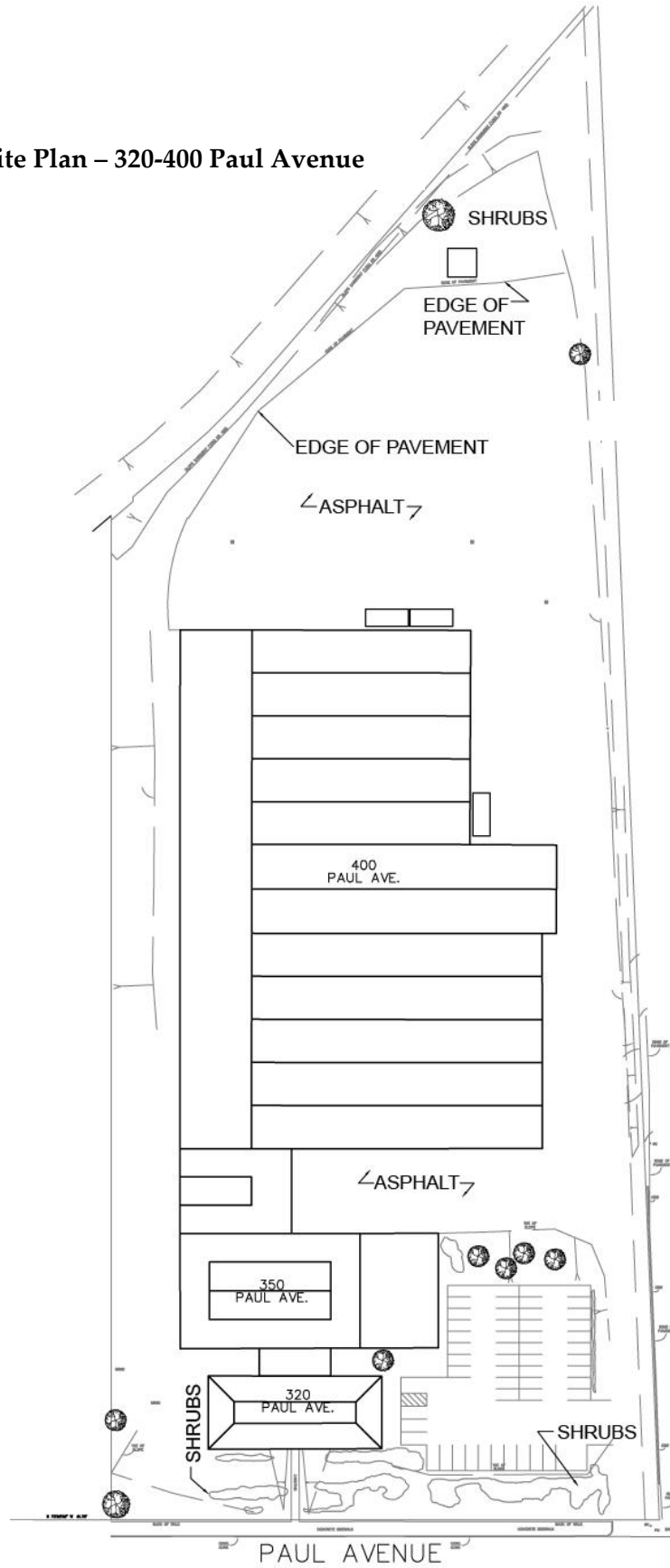


Table 1 - Description of Existing Buildings at 320-400 Paul Avenue

Address	Former Use	Year Constructed	Number of Stories	Height (feet)	Building Area (square feet)
320 Paul Avenue	office	1930	2	33	12,560
350 Paul Avenue	office/design studio	1930, with a 1954 three-story addition on the east side	3	48	43,200
400 Paul Avenue	manufacturing	1930, with 1935 & 1948 additions	1	41	95,000
Total Existing Building Area:					150,760

The site is located within the PDR-2 (Production, Distribution, and Repair) zoning district that allows a maximum floor area ratio (FAR)⁶ of 5.0 to 1. The two buildings at 320 and 350 Paul Avenue, totaling 55,760 square feet in area, are located on the 98,300-square-foot parcel (Lot 15) fronting Paul Avenue resulting in a FAR of 0.57 to 1 and a 21 percent lot coverage.⁷ The 95,000-square-foot building at 400 Paul Avenue is located on the 219,600-square-foot rear parcel (Lot 14) and has a FAR of 0.47 to 1 and a 43 percent lot coverage. The existing FAR for the entire project site (both Lots 14 and 15) is 0.47 to 1 with a 36 percent lot coverage.

Currently, there are 54 parking spaces demarcated on the site in a small lot at the front of the project site (southeastern corner), adjacent to the 320 Paul Avenue office building. There are no designated or demarcated loading spaces anywhere on the site, though loading activities have historically been conducted at various points along the driveway on the east side of the site, as well as in a large paved area behind the rear building (400 Paul Avenue). Pedestrian access to the buildings is provided by a sidewalk extending from the Paul Avenue public sidewalk to the front entry of the 320 Paul Avenue building. There is one vehicular driveway to the site from Paul Avenue, on the east side of the property. This existing driveway terminates at a large asphalt-paved area at the rear of the property.

6 Floor area ratio is defined in the San Francisco Planning Code as the ratio of the gross floor area of all the buildings on a lot to the area of the lot.

7 Lot coverage is the percentage of the lot area covered by buildings.

12kV Electrical Distribution Circuits

A system impact study (SIS) was prepared by PG&E⁸ to determine the availability of a permanent electrical supply for the proposed ISE facility. It was determined that the anticipated 24 MW demand load⁹ for the ISE facility would require the installation of two new 12kV electrical distribution circuits. The two electrical distribution circuits would be installed in new underground conduit within the existing roadway between the PG&E Martin substation located at 3501 Geneva Avenue in Brisbane and the proposed ISE facility at 320-400 Paul Avenue. The proposed route is shown on Figure 5 and includes the following streets:

- Geneva Avenue, along the northeastern edge of the PG&E Martin substation to Bayshore Boulevard (1,000 feet)
- Bayshore Boulevard, from Geneva Avenue to the San Mateo/San Francisco County line (1,500 linear feet)
- Bayshore Boulevard, from the San Mateo/San Francisco County line to San Bruno Avenue (1,500 linear feet)
- San Bruno Avenue, from Bayshore Boulevard to Paul Avenue (5,000 linear feet)
- Paul Avenue, from San Bruno Avenue to 320-400 Paul Avenue (1,000 linear feet)

The installation of the planned electrical distribution circuits from the PG&E Martin substation would span three cities: originating in Brisbane at the PG&E Martin substation, then constructed within existing roadways in Daly City, and finally, continuing in roadways within San Francisco.

The PG&E Martin substation is a 46-acre site within both Daly City and Brisbane. The proposed 12kV electrical distribution circuits would be connected to new circuit breakers and then, to existing transformers, both within the eastern portion (Brisbane) of the PG&E parcel as shown on Figure 6. A 1,000-foot-long portion of the route along Geneva Avenue and then a 1,500-foot-long portion along Bayshore Boulevard (from Geneva Avenue to the San Mateo/San Francisco county line) are located within Daly City. The Brisbane/Daly City limit line is located along the eastern edge of Bayshore Boulevard on the portion of the route within San Mateo County. The remaining 7,500-foot-long portion of the electrical distribution circuits (Bayshore Boulevard north of the San Mateo/San Francisco county line, San Bruno Avenue, and Paul Avenue) would be installed in underground conduits within roadways in, and bordered by parcels within, San Francisco.

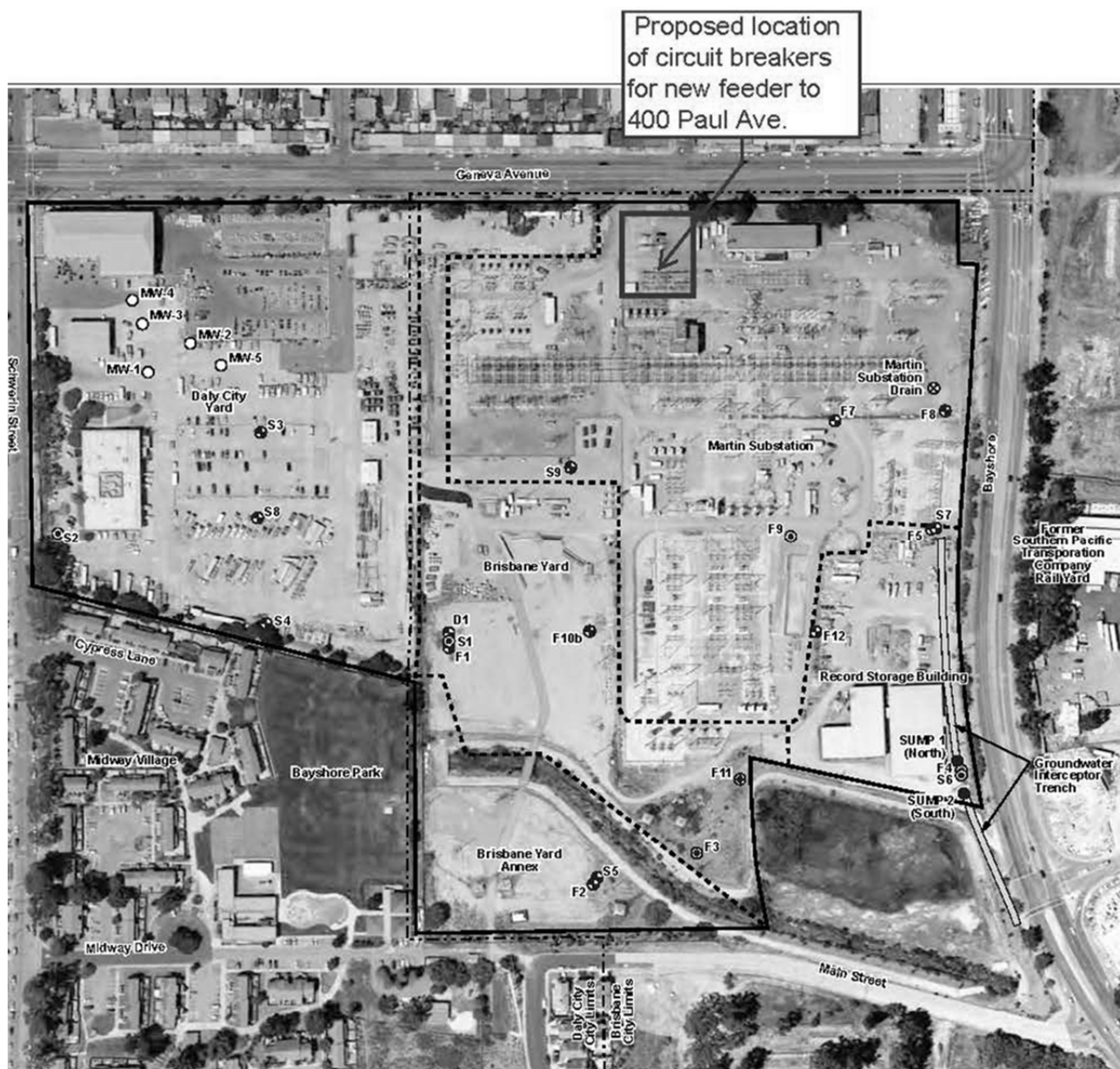
8 PG&E, *Distribution System Impact Study, The Cambay Group 24 MW Data Center Facility 400 Paul Avenue, San Francisco*, June 11, 2013. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E. (PG&E, 2013)

9 Demand load is the total power required by an ISE facility and is determined by applying the proper demand factor to each of the connected loads and a diversity factor to the sum total. Demand factor is the fractional amount of energy being used relative to the maximum amount that could be used by the facility. The diversified load is the total expected load (power) to be drawn during a peak period by a facility.

Figure 5 - Location of Proposed Underground 12kV Electrical Circuits



Figure 6 - Location of Circuit Breakers at Existing Transformers within PG&E Martin Substation



Project Characteristics

The project sponsor is proposing to construct and operate an approximately 243,000-square-foot ISE facility on the 320–400 Paul Avenue site, as shown on Figure 7. Two vacant buildings (320 and 350 Paul Avenue) would be renovated and used to house administrative services and provide office space for the data center tenants. The third building (400 Paul Avenue) would be demolished and replaced with an 187,000-square-foot climate-controlled data center building. The demolition plan for the project is shown on Figure 8 on p. 21.

320 Paul Avenue

As discussed in Topic E.4, Cultural and Paleontological Resources on p.69, the existing Spanish Colonial Revival-style office building at 320 Paul Avenue has been identified as a California Register of Historic Resources (California Register) eligible building, whereas the other two buildings (350 and 400 Paul Avenue) are not eligible. The proposed project includes renovation of both the interior and exterior of the 320 Paul Avenue building consistent with the Secretary of the Interior's Standards for Rehabilitation. The two-story, 12,560-square-foot brick and concrete building would be used to house the administrative functions for the ISE facility, including the leasing and property management personnel.

The existing 320 Paul Avenue building is built into a slope with only the second story visible from Paul Avenue, while both the first and second floors are exposed on the other three sides of the building. The building fronts onto Paul Avenue and a concrete sidewalk connects the building entry to the public sidewalk. The 54-space vehicle parking lot on the east side of the building would be reconfigured into a smaller 35-space parking lot with a landscaped center island. The 320 Paul Avenue building has two existing enclosed pedestrian connections to the 350 Paul Avenue building. One of them (a single-story connector) would be removed and the other (a two-story connector) would be renovated. The renovated pedestrian passageway would provide an internal connection between the two floors at 320 Paul Avenue and the top two floors of the three-story 350 Paul Avenue building. The project sponsor proposes to make the following improvements, illustrated on Figure 9, to the 320 Paul Avenue building as part of its renovation:

1. The mortar on the brick façade at the main floor (second level) of the building would be repointed as needed and paint used in the past to cover graffiti would be removed. Both the cast-concrete medallions at the front entrance and the brick façade would be cleaned using water. The brick would then be sealed with a transparent water-resistant coating to preserve the brick.
2. The existing steel security bars on the windows and doorways would be removed and the remaining holes, as well as some minor cracking around the window openings, would be repaired and patched.
3. The rusticated concrete base on the bottom portion of the building façade, typical of the Spanish Colonial Revival style, was originally coated with a cement-based finish resembling the color of limestone. The base would be repainted with a masonry coating similar to the original coating and with the same color.

Figure 8 - Demolition Plan

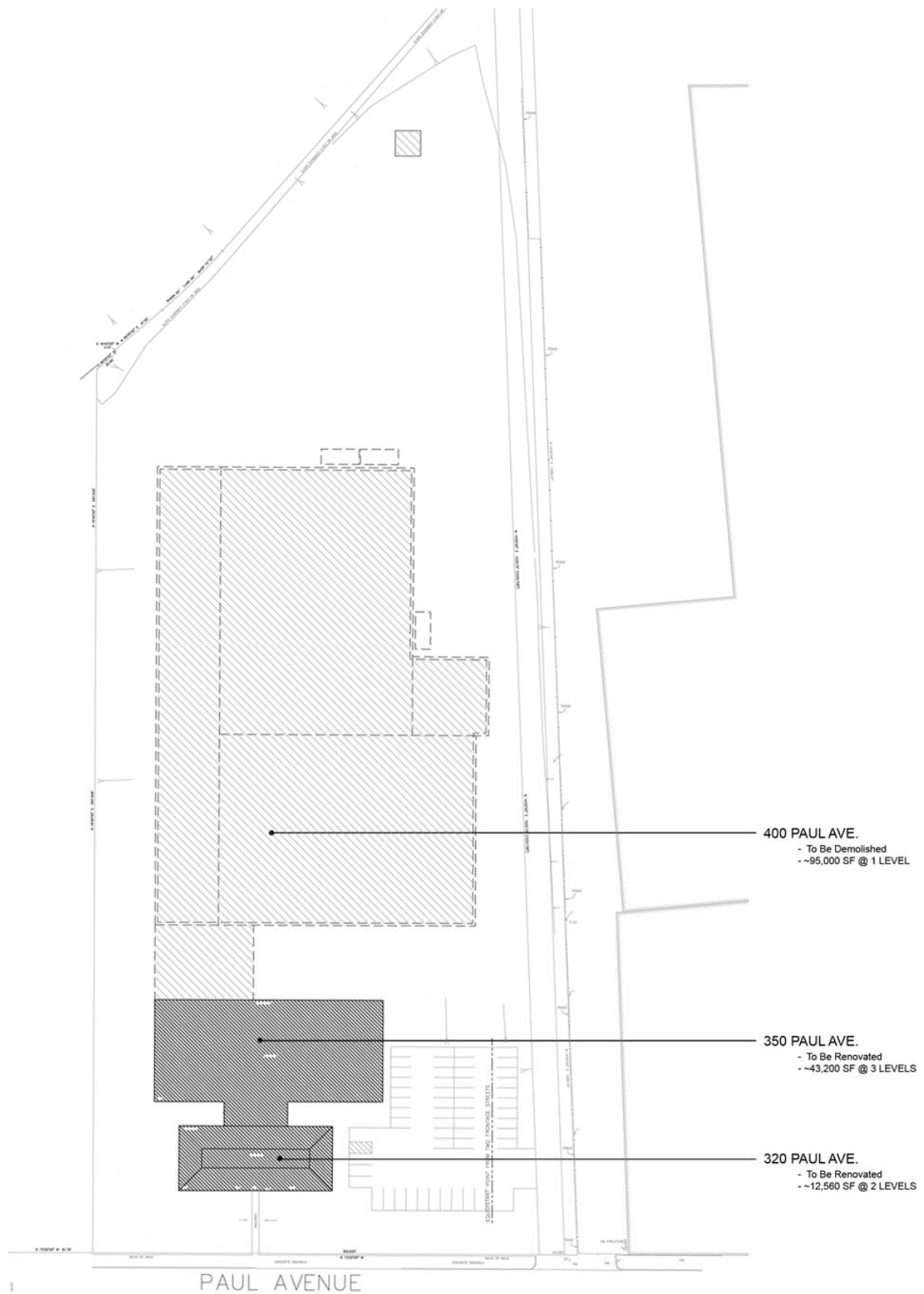


Figure 9 - 320 Paul Avenue Exterior Building Renovations

① FACE BRICK ON THE MAIN FLOOR (SECOND LEVEL):

- Minor re-pointing in isolated locations.
- Clean the brick and the pre-cast concrete medallions to remove stains and paint.
- Seal brick and concrete with transparent water resistant coating.

② “RUSTICATED” CONCRETE BASE ON THE (LOWER LEVEL):

- Repair and patch cracks at window openings.
- Remove steel security bars and grates covering windows and patch the holes.
- Clean the wall surface to remove graffiti, mold and stains.
- Paint the concrete with a masonry coating similar to the original coating.

③ MISSION STYLE RED CLAY TILE ROOF:

- Remove all of the tile and structurally upgrade the roof framing and deck.
- Install plywood sheathing to create structural diaphragm.
- Install new insulation boards to improve the building's energy efficiency.
- Install new Mission style cement tile; with color, profile and dimensions similar to the original.
- Install new gutters and downspouts of a profile, dimensions to the original.

④ EXISTING WINDOWS:

- Existing windows are painted steel sash frames with operable panes. All existing steel casement windows will remain in place. The steel frames will be restored to original condition, including the hardware on the operable panes. Re-glaze the windows with insulated glass where the existing frames permit.
- The existing Juliet Balconies will be removed to allow the brick to be cleaned and sealed then re-installed. Clean and repair the steel “balconies” and restore with new exterior coating prior to installation.

⑤ SOUTH ELEVATION: BUILDING ENTRANCE:

- Restore the existing entrance doors and hardware. Replace existing glass with insulated safety glass.
- Clean and repair the medallion and flag pole above the entrance doors.
- Install new exterior light fixtures (compatible with the Spanish Colonial Revival style) with energy saving lamps.
- Replace the concrete entrance sidewalk with new stamped concrete pavers in a color and brick pattern consistent with the Spanish Colonial Revival exterior.

⑥ INFILL CONCRETE WALLS W/ NEW CONCRETE FOR REQUIRED SEISMIC RETROFIT:

- Four window openings on the ground level of the east and west elevations will be filled in with concrete to create the shear walls. Restore existing window frames and glaze with opaque single pane glass.

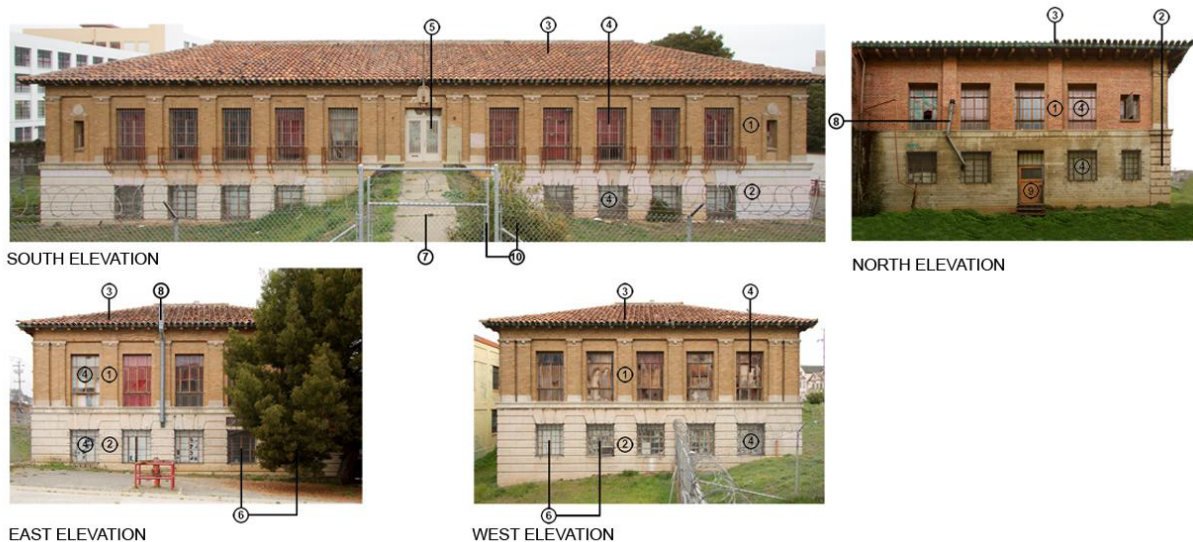
⑦ ENTRY PATHWAY:

- Replace the concrete entrance sidewalk with new precast concrete pavers in a color and pattern consistent with the Spanish Colonial Revival exterior. and Install new ornamental steel handrails in a color and pattern consistent with the building design along the sides of the sidewalk in accordance with code.

⑧ REMOVE FLUE PIPE AND PATCH OPEN-

⑨ RESTORE EXTERIOR DOOR.

⑩ REMOVE EXISTING CHAIN LINK FENCE



4. The Mission-style red clay tile roof is in fair condition. The wood roof framing and deck have rotted and would be replaced in kind. Prior to reinstalling the roof tiles, rigid insulation boards would be added to improve the building's energy efficiency. The roof tiles would be reused to the greatest extent feasible, with similar replacement tiles used on the less visible portions, if needed.
5. All steel-sash window frames would be repaired and repainted, as feasible. The Juliet balconies on the front elevation, typical of the Spanish Colonial Revival style, would be removed to allow the brick to be cleaned and sealed and then reinstalled and finishes restored. Any window frames that are unable to be repaired would be replaced with windows manufactured to the same specifications as the original frames.
6. Seismic upgrades to the building would be made by adding concrete shear walls on the lower level adjacent to the exterior walls. Up to four window openings on the east and west side elevations would be filled-in with concrete to create required seismic shear walls. The windows at these filled-in openings would be fitted with opaque single-pane glazing to obscure the concrete shear-wall as viewed from outside the structure.
7. The building entrance doors on the upper level would be repaired if feasible, or replaced with similar solid wood doors and hardware. The medallion and flag pole above the door would be cleaned and repaired. New exterior light fixtures (Spanish Colonial Revival style) would be installed to replace the missing original fixtures.
8. The concrete entrance sidewalk would be replaced with new precast concrete pavers in a color and pattern consistent with the Spanish Colonial Revival exterior. Handrails would be installed along the sides of the new ramp in accordance with building code regulations.

350 Paul Avenue

The existing three-story, 43,200-square-foot concrete building at 350 Paul Avenue would be renovated for use as office and support space, such as conference rooms and storage. The 350 Paul Avenue building would have an internal pedestrian connection to both the 320 Paul Avenue building and the new data center building. Upon removal of the single-story pedestrian connector between the two front buildings (320 and 350 Paul Avenue), the openings in the exterior walls of both buildings would be filled-in and painted to match the surrounding wall surfaces.

Proposed building renovations at 350 Paul Avenue, shown on Figure 10, include the repair and repainting of the exterior walls and the installation of new energy-efficient windows and roof. The existing steel security bars would be removed and the building exterior would be cleaned and repainted a limestone color to match the rusticated concrete base of 320 Paul Avenue. Seismic upgrades to the building would be made by adding concrete shear walls on the first and second levels.

The existing overhead coiling door and corrugated metal "rain shed" on the eastern building elevation would be replaced with new storefront glazing, entrance doors, and a steel roof over the entranceway designed to complement the architectural style of the industrial building. All public access to the ISE facility, including visitors, sales vendors, and other non-data center employees, would be through this new entrance on the east side of the 350 Paul Avenue building.

Figure 10 - 350 Paul Avenue Exterior Building Renovations

① EXTERIOR WALLS:

- Remove steel security bars and grates covering all of the windows and patch the holes and cracks.
- Exterior wall are painted structural concrete. Clean the wall surface to remove graffiti, mold and stains.
- Repair and patch the cracks and chips to match the surface texture.
- Paint the concrete with a masonry coating in a color selected to be compatible to the new color of the "rusticated concrete base" of 320 Paul Ave.

Schematic Design Package

REVISED 02.11.14 08.20.12

② ROOF:

- Remove the existing roof membrane and damaged or rotted decking.
- Install plywood sheathing to create structural diaphragm.
- Install new roof insulation boards to increase energy efficiency.
- Install a new LEED compliant single-ply "cool roof."
- Repair and/or replace the existing parapet coping to match the existing and paint in a color selected to be compatible to the new color.

③ EXISTING WINDOWS AND DOORS:

- The existing windows are painted industrial steel sash frames with multiple panes. Remove and replace with new window framing in a style and pattern similar to the original.
- The framing will be factory-painted in a manufacturer's standard finish. Color will be compatible with the new exterior wall color.
- Provide operational awning-style horizontal panes to match existing.
- Install insulated glass with low-e coating for energy efficiency.

④ BUILDING ENTRANCE:

- Remove the roll-up door on the east elevation and replace with new storefront glazing in a style and pattern in keeping with the industrial style buildings of the era.
- Install new storefront type entrance doors.
- The framing will be anodized or factory-painted in a manufacturer's standard finish. Select the color to be compatible with the new exterior wall color.
- Install new insulated glass with low-e coating for energy efficiency.

⑤ ENTRY CANOPY:

- Remove the corrugated steel "rain shed" above the overhead door.
- Install a new steel canopy above the new storefront entrance in a size and style in keeping with the industrial style of the era.
- The canopy will be factory-painted in a manufacturer's standard finish. the color will be compatible with the new storefront framing and the exterior wall color.

⑥ THE "CONNECTORS" BETWEEN 320 PAUL AND 350 PAUL:

- The connector in the center of the two buildings is two levels; cast-in-place concrete walls on the ground level and brick on the second level. The concrete walls, the brick and the windows will be renovated.
- The connector at the eastern wall of 320 Paul is a single level "bridge" connecting to the upper level of 350 Paul. Demolish and remove this connector. Repair and fill-in the openings in 320 Paul and 350 Paul to match the adjacent wall surfaces.

⑦ INFILL CONCRETE WALLS W/ NEW CONCRETE FOR REQUIRED SEISMIC RETROFIT:

- Six openings on the east and west elevations will be filled in to create shear walls. Window frames will be removed and the concrete will be coated with masonry coating as described above.

⑧ REMOVE EXISTING WINDOWS AND INFILL OPENINGS WITH NEW CONCRETE FOR FIRE RATING ADJACENT TO NEW BUILDING:

⑨ REMOVE EXISTING PIPES AND CONDUITS. PATCH WALL OPENINGS AS REQUIRED:

⑩ REPLACE EXISTING DOOR WITH NEW HOLLOW METAL AND NEW DOOR HARDWARE:

⑪ REPLACE EXISTING ROLL-UP DOOR WITH NEW DOUBLE HOLLOW METAL DOOR:



NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION



WEST ELEVATION



WEST BRIDGE ELEVATION

400 Paul Avenue

The project includes the demolition of the existing 95,000-square-foot former manufacturing building at 400 Paul Avenue and the construction of a new two-story, 187,000-square-foot data center building in the same location. This new building would be a steel framed structure with a concrete or stucco building exterior and would measure 43 feet in height with an additional 12 foot-tall stucco roof screen to shield the view of, and provide noise attenuation for, the rooftop mechanical equipment.

Architectural elevations of the new data center building are shown on Figure 11. A cross-section through all three buildings illustrating their height and relationship to Paul Avenue is shown on Figure 12.

The data center building would be divided into data rooms, also referred to as data halls or pods, with corresponding electrical/battery rooms, leased to a variety of data center tenants, along with a meet-me-room (MMR)¹⁰ with its corresponding electrical/battery room. The project sponsor estimates that up to 13 data center tenants would lease their own data room in the facility. The individual data rooms would be climate-controlled by the tenants at a temperature and humidity level dependent on their operating preferences. Two loading bays would be located in a common receiving and loading area at the northernmost end of the data center building for the tenants to use to receive deliveries of IT equipment. The allocation of the building area to the different uses within the data center building would be as shown on Table 2.

All new window glazing used throughout the facility would be consistent with the City's Bird-Safe Building Ordinance (Section 139 of the San Francisco Planning Code). The floor plans for the three buildings are shown on Figures 13, 14, and 15 on pp. 30 through 32. All three buildings would have internal pedestrian connections with public access provided at the new 350 Paul Avenue entrance. Security clearance would be required to access all three buildings, as well as the rear parking and loading facilities.

The proposed ISE facility would include a total of approximately 243,000 square feet of building area. The resultant lot coverage for the entire project (all three buildings on both parcels) would be 47 percent and the FAR would be 0.76 to 1. The lot coverage and FAR of the two existing buildings on the front parcel would remain unchanged at 21 percent and 0.57 to 1. The resultant lot coverage and FAR for the new data center building on the rear parcel would be 41 percent and 0.84 to 1. The height and setbacks of the three buildings are shown on Table 3.

ISE Facility Employees

Data centers require round-the-clock staffing (24-hours a day) seven days a week to ensure continued access, or 100 percent uptime, to the services and websites hosted on the IT components in the data

10 Meet-me room is the room in a data center where telecommunications companies and data center tenants can physically connect to one another and exchange data.

Figure 11 - Architectural Building Elevations

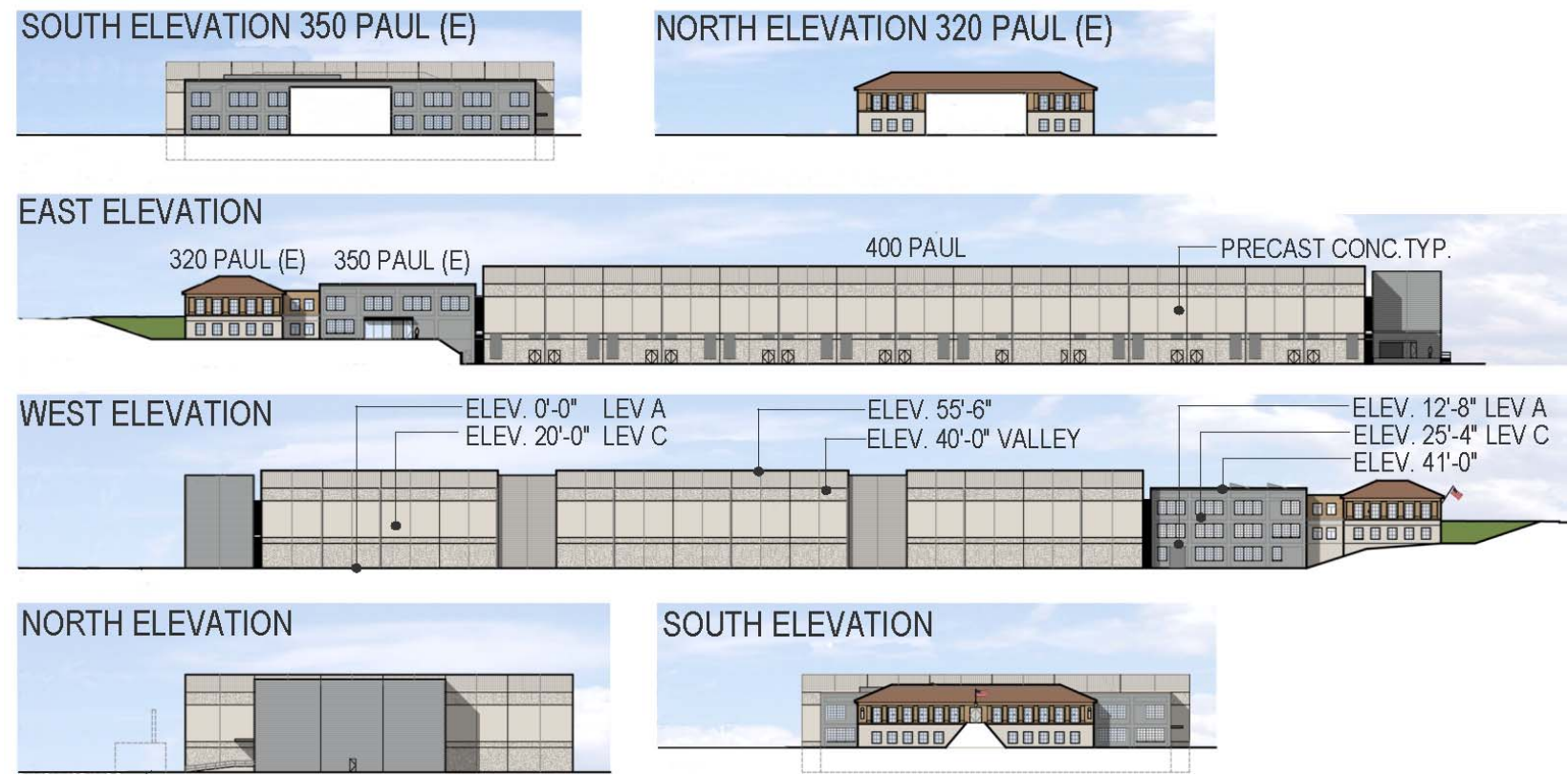


Figure 12 – Site Section

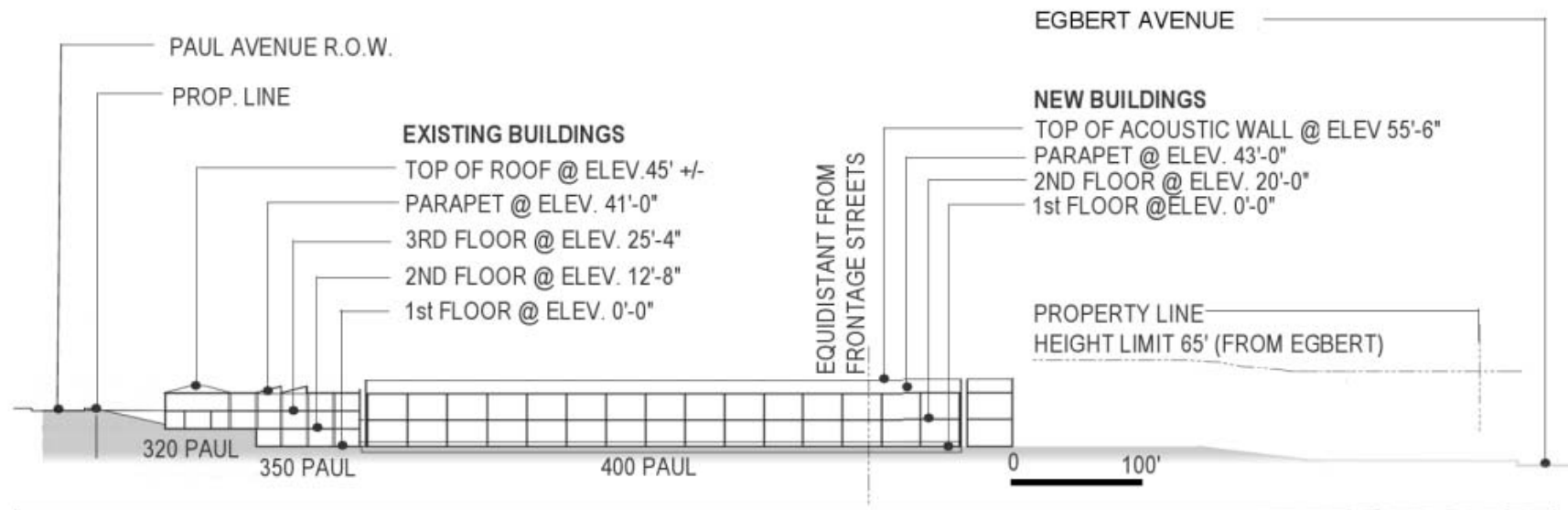


Table 2 – 400 Paul Avenue Data Center Building Area Allocation (Square Feet)

Area	Data Hall	Electric/Battery Rooms	Receiving and Loading Area	Common Areas
First Floor				
Data Rooms	45,015			2,585
Meet-Me-Room	12,894			650
Battery rooms		18,528		
House Electric Room				1,126
POE Rooms				459
Corridor				4,698
Secure Staging			1,463	
Receiving			1,032	
Security Office			77	
Rest Rooms			152	
Elevator/Stair				526
Available Room				1,601
Subtotal 1st Floor	57,909	18,528	2,724	11,645
Second Floor				
Data Rooms	77,919			4,773
Corridor			331	5,031
Operations Storage			2,241	
Rest Rooms			112	
Elevator/Stair/Corridor				523
Subtotal 2nd Floor	77,919		2,684	10,327
400 Paul Total Useable Area*		181,736		

**Note – Useable Area is the area within the interior building walls and excludes the area between the exterior building face and interior finished walls.*

Table 3 – Approximate Building Setbacks and Heights

<i>Building</i>	<i>Property Line Setbacks</i>				<i>Height</i>
	<i>Front (South)</i>	<i>Left Side (West)</i>	<i>Right Side (East)</i>	<i>Rear (North)</i>	
320 Paul Avenue Renovated Building – <i>Administrative Services</i>	50 feet (No Change)	70 feet (No Change)	202 feet (No Change)	599 feet (No Change)	33 feet from the first floor to the top of the mansard roof (first floor elevation is 12 feet higher than the first floor of 350 Paul Avenue)
350 Paul Avenue Renovated Building – <i>Office and Ancillary Services</i>	119 feet (No Change)	50 feet (No Change)	155 feet (No Change)	500 feet	41 feet to top of the parapet wall; 48 feet to highest point of sawtooth roof
New 400 Paul Avenue Building – <i>Data Center Halls</i>	203 feet	46 feet	120 feet	43 feet	43 feet to top of parapet wall; 55½ feet to top of mechanical screen

Figure 13 - First Floor Plan

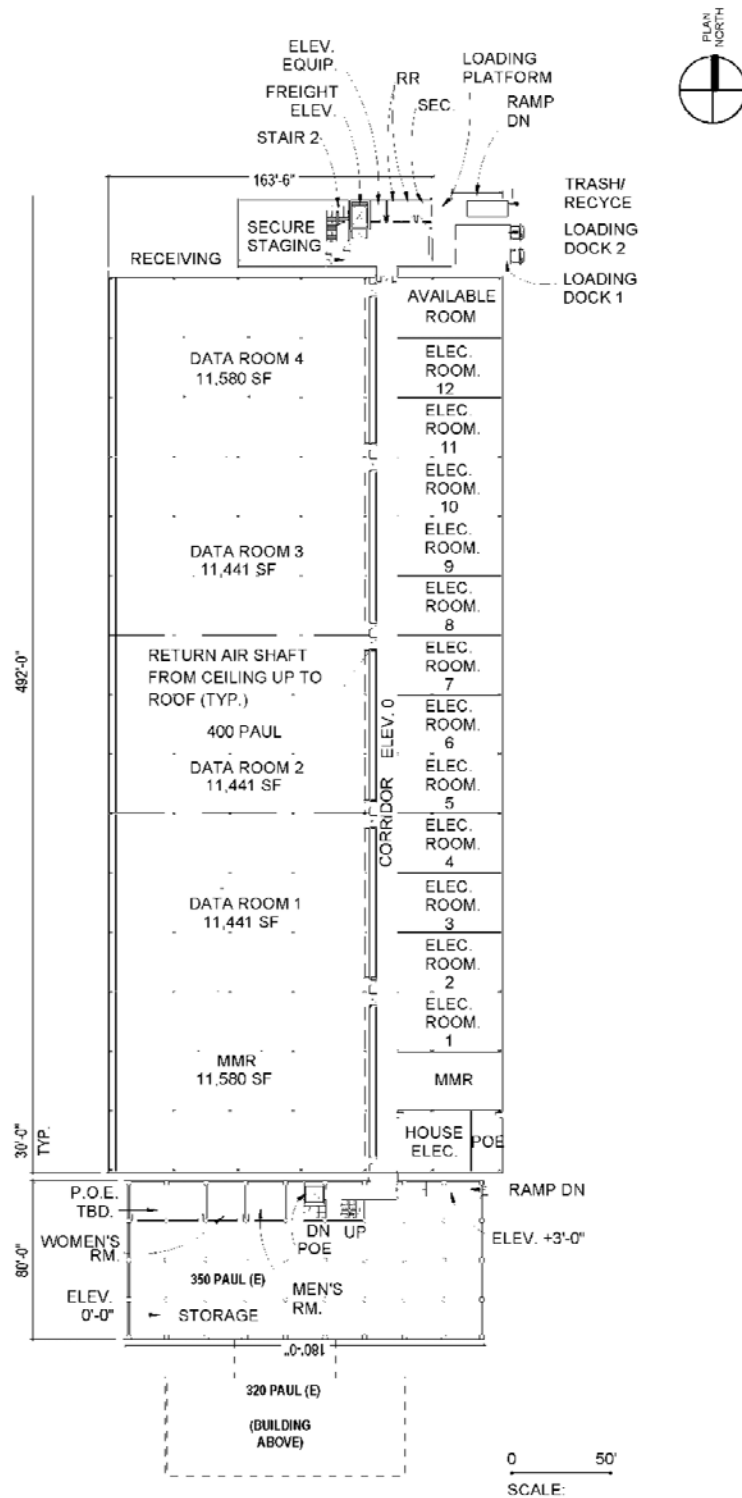


Figure 14 - Second Floor Plan

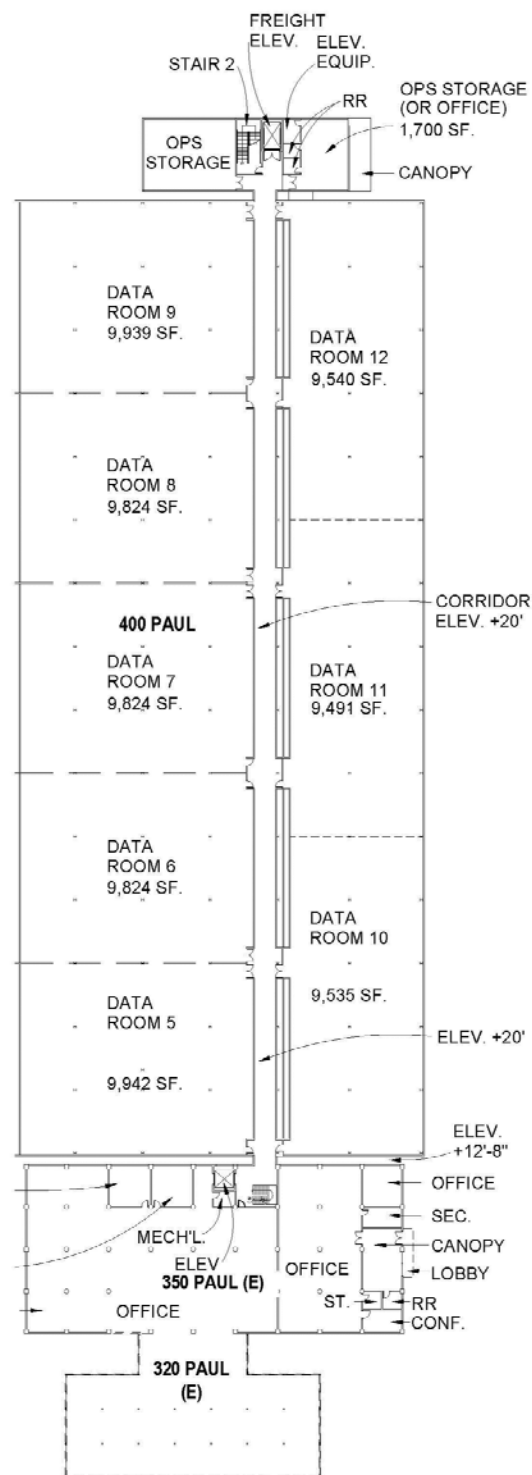
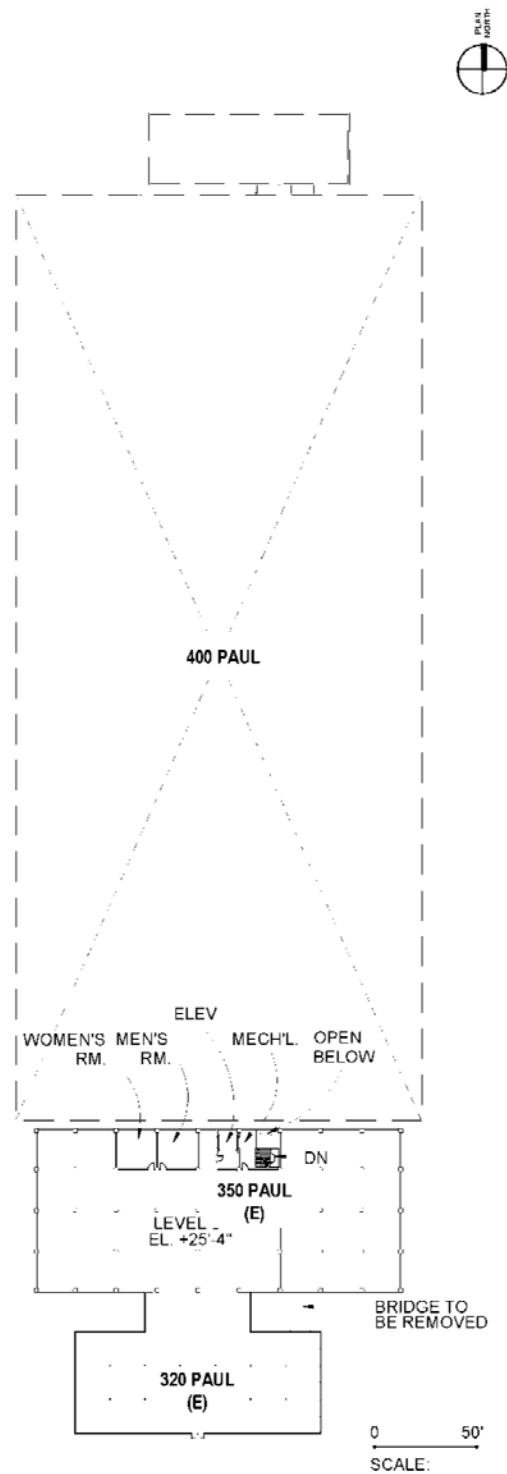


Figure 15 - Third Floor Plan



rooms. The ISE facility would be staffed with three daily shifts: day, evening, and night. The shift change times would vary among the data center tenants, rather than occur simultaneously. The total number of employees at the facility would depend on the number of data rooms that the data center is ultimately divided into which would be based on the amount of area each tenant leases. The project sponsor has estimated that the minimum data room size would be 10,000 square feet, which would result in a maximum of 13 data center tenants. Based on experience operating and leasing other data centers, the project sponsor estimates the projected employment would be approximately 240 employees for all three daily shifts, or an average of 80 employees per shift, based on the data center being sublet into 13 data rooms. Although the number of employees would not vary greatly between shifts, the day shift may have a slightly greater number of workers including vendors, delivery personnel, and sales representatives that transact business during normal business hours as shown on Table 4. If the data center tenants lease more space than the anticipated minimum 10,000 square feet, the total number of employees at the facility would be expected to decrease because generally the same number of employees are required to staff a larger data room as are needed for a smaller data room. The maximum number of workers during any shift is anticipated to be 87 and would occur during the daytime shift.

Site Improvements

The existing 54-space vehicle parking lot adjacent to the site's Paul Avenue frontage would be reduced to 35 parking spaces for use by visitors and building operations personnel. The existing asphalt paving would be removed and replaced with permeable paving and a landscaped center island. A secure entry gate would be located behind the visitor parking lot to prevent unauthorized entry to the 400 Paul Avenue building and the rear area of the facility. Another 45 parking spaces would be located behind this secured entry gate, split between the eastern and northern sides of the data center building for use by the data center employees. A minimum of 10 parking spaces would be allocated for use by low-emitting and carpool vehicles. These spaces would be distributed throughout the site. Ten "Class 1" and four "Class 2" bicycle parking spaces would be installed adjacent to the main 350 Paul Avenue building entrance and visitor parking lot. A receiving and loading area with space for three loading bays would be created at the rear of the data center building (two loading bays for large delivery trucks and one loading bay reserved for trash and recycling storage and pick up.) Smaller office deliveries, such as UPS, FedEx, and USPS, would occur at the security desk at the main visitor entrance on the east side of 350 Paul Avenue.

Pedestrian access to the site would be provided by a new sidewalk and stairs connecting the Paul Avenue public sidewalk to the entrance at the 350 Paul Avenue building. Decorative metal fencing and gates would be installed along the ISE facility's Paul Avenue frontage, while black vinyl clad chain link fencing would be installed along the side and rear lot lines. An emergency vehicle access, constructed with both permeable asphalt and concrete paving, would be built along the western edge of the property to provide access in the event of an emergency. Security lighting would be added to the facility consisting of maximum 25-foot-high light poles with full cutoff light fixtures to reduce light

Table 4 - Projected Daily ISE Facility Employees

	Day Shift	Evening Shift	Night Shift
<u>Building Operations</u>			
Security	2	2	2
Engineering	2	1	1
Sales/Admin	1	0	0
Cleaning	1	1	0
Vendors/Deliveries & Repair	3	1	0
<i>Subtotal</i>	9	5	3
<u>Data Center Operations</u>			
Employee Count/10,000-square-foot data halls			
Sever operations	1	1	1
Network Operations	1	1	2
Customers/Sales	3	2	1
<u>Technicians</u>			
Voice/Data	1	0	0
Power	0	0	1
Mechanical	0	1	1
<i>Subtotal</i>	6	5	6
Total Number of Datacenter Employees in 13 Data Center Halls	78	65	78
Maximum Employees per 8-hour Shift	87	70	81

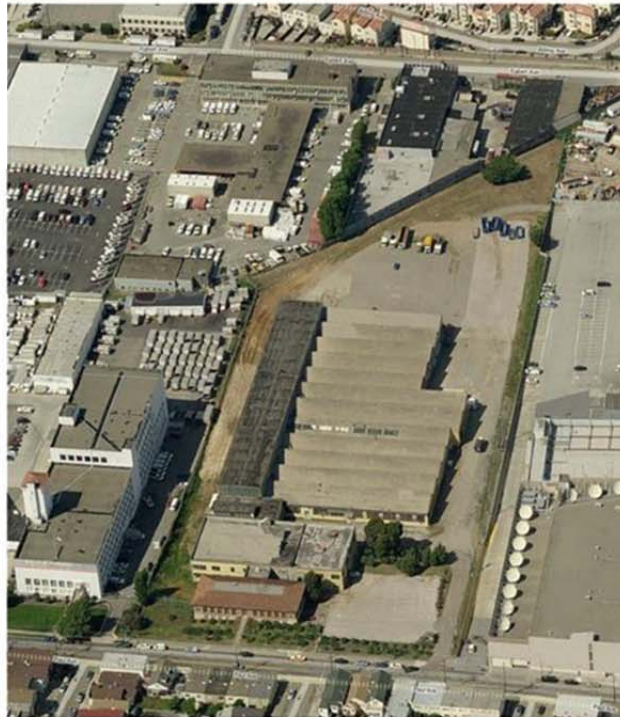
Source: The Cambay Group

trespass and glare onto adjacent properties. A total of 25 of the existing 35 on-site trees would be retained based on their health and suitability for retention. Approximately 19 additional trees would be planted along the site's Paul Avenue frontage and in the parking lot adjacent to 320 Paul Avenue. A photosimulation of the proposed ISE facility is shown on Figure 16.

Excavation up to 5 feet below ground surface (bgs) would be necessary on the 320-400 Paul Avenue project site to construct building foundation improvements for the proposed ISE facility. A total of 1,000 cubic yards of soil would be excavated during site preparation for the proposed project. The site currently has 227,800 square feet of impervious surface (building and paved areas) which would be reduced to 145,500 square feet due to the conversion of the rear portion of the lot from an asphalt paved area to a landscape or hydroseeded landscape area. The existing and proposed impervious surface areas are shown on Figure 17.

Figure 16 - Photosimulation

Existing



Proposed



re 17 - Impervious Surfaces

The site plan illustrates the layout of a property with various impervious surfaces and parking areas. The plan includes a north arrow, dimensions, and labels for different features. The existing impervious surface area is shown in solid yellow, while the proposed impervious surface area is indicated by diagonal hatching. The net reduction in impervious area is noted as 82,300 SF +/-.

Legend:

- TOTAL IMPERVIOUS SURFACE AREA (EXISTING) 227,800 SF +/-
- TOTAL IMPERVIOUS SURFACE AREA (PROPOSED) 145,500 SF +/-
- NET REDUCTION OF IMPERVIOUS AREA 82,300 SF +/-

Key Features and Labels:

- GREEN AREA, HYDROSEED TYPICAL
- NORTH PARKING LOT SPACES TOTAL = 15
- PERMEABLE PAVING
- BRIDGE OVER SEWER
- PAVED
- TOE OF SLOPE
- SOUTH PARKING LOT SPACES TOTAL = 30
- PERVIOUS PAVING, TYP.
- PARKING LANDSCAPE SCREEN
- SERVICE YARD SCREEN WALL
- SLIDING GATE, TYP.
- 8'-0" HT. SITE PERIMETER FENCING, TYP.
- GRAVEL AT SERVICE YARD, TYP.
- 8'-0" HT. FENCING, TYP.
- LOT 15
- PERMEABLE PAVING DRIVEWAY (EMERGENCY AND SERVICE USE ONLY)
- ASPHALT PAVING FOR SLOPED DRIVE
- PAUL AVENUE
- PERSONEL GATE
- EMERGENCY EXIT ONLY

Electric Power Supply

The proposed ISE facility would be a power-intensive use due to the energy needed for the continual operation of large rooftop cooling units necessary to maintain an acceptable temperature and humidity range in the data rooms, as well as for powering the IT computer equipment. The project sponsor estimates that the proposed ISE facility would require a 12 MW demand load to begin operation, with a likely ramp-up in the demand load to 24 MW within four years as the data center becomes fully occupied.

PG&E currently owns the electrical distribution system within San Francisco and has determined through a project-specific SIS that its current distribution system is not able to provide an adequate power supply to the proposed ISE facility. PG&E would need to install two 12kV electrical distribution circuits extending from its Martin substation in Brisbane to the planned 320–400 Paul Avenue ISE facility. The circuits would be installed underground, thereby providing superior reliability over that which would be provided using overhead wires and poles that are more vulnerable to outages from accidents and natural disasters. Providing underground electrical service to the ISE facility would minimize power disruptions from overhead power service, thereby minimizing the need to use an on-site backup power supply, typically diesel generators, during power outages.

The proposed route for the underground electrical distribution circuits would be approximately 10,000 feet in length and include Geneva Avenue along a portion at the northeastern boundary of the substation, then Bayshore Boulevard to San Bruno Avenue, then San Bruno Avenue to Paul Avenue, and then Paul Avenue to the project site. The electrical circuits would be installed in existing roadways, though their actual location within the roadway has not been determined and would be dependent on the location of other existing utilities within those streets. PG&E has not completed final design plans for its undergrounding work and believes that some limited amount of existing conduit may be available along the planned route alignment in which the wires for the new circuits could be installed, thereby reducing the overall amount of excavation needed for the project. In this case, the potential environmental impacts would be less than the current scope of this environmental analysis that assumes excavation to install conduit would be needed along the entire route.

Power effectiveness ratio (PUE) is a measure of a data center's energy efficiency. The project sponsor has calculated that the PUE for its facility would be between 1.22 and 1.28, dependent on the data center tenants desired IT equipment operating temperature which then dictates the type of rooftop cooling equipment needed to maintain that temperature. Computer server manufacturers typically specify a recommended operating temperature and humidity range of 60° to 75° Fahrenheit (F) with a humidity range between 20 to 60 percent maintained in the data room. However, operating temperatures between 55° to 80° F with a humidity range of 20 to 70 percent may be used by data center tenants for energy and cost savings and without any subsequent damage to the servers.

Psychrometric charts¹¹ prepared for the project show that at the San Francisco International Airport (SFO), approximately six miles from the proposed ISE facility at 320–400 Paul Avenue, the average temperature per year was less than 75°F on all but 148 hours, or 7 days. Thus, the use of outdoor air can provide sufficient cooling for all but 148 hours to maintain a 75°F temperature, and 61 hours to maintain an 80°F temperature. Tenants that would operate using an 80°F temperature would be able to utilize a more energy-efficient adiabatic, or evaporative, cooling system with an outdoor air (OA) economizer. Tenants desiring to operate using the more conservative 75°F temperature in their data rooms would need to use a direct expansion (DX) chiller,¹² along with an OA economizer. Due to the relatively low outdoor ambient temperature the difference in the PUE between 100% of the data center tenants using the more energy-efficient evaporative coolers versus all tenants using the DX chillers would be anticipated to be 0.06 (PUE of 1.22 with the use of all evaporative cooling units versus PUE of 1.28 with the use of all DX chillers).

The cooling equipment for the data center building, both the DX chillers with OA economizers and the evaporative coolers with OA economizers, would be roof-mounted and screened by a 12½-foot-tall masonry parapet wall. The evaporative cooling units would require on-site water storage of sufficient water for 24 hours of cooling. Plastic water storage tanks would be located on a concrete slab at the north end of the data center building, directly behind the receiving and loading area. The tanks would be 14 feet in diameter and approximately 17 feet in height. Up to eight tanks would be required, each holding 20,000 gallons of water. The evaporative cooling units are anticipated to be used an average of 61 hours per year and would require up to 105 gallons per minute. Therefore, the 150,000 gallons in the on-site water tanks would provide sufficient water for 24 hours of cooling. The proposed data center would be constructed to the United States Green Building Council (USGBC) LEED for New Buildings Gold certification level and would include the following energy efficiency features that are intended to reduce the proposed project's energy usage. These energy efficiency measures would result in the proposed ISE facility achieving an average annualized PUE of between 1.22 and 1.28 and reduce the amount of energy necessary to operate the facility.

Electrical Distribution

1. *Transformers*

- a. High-efficiency 480 Volt (V)/120-208V transformers would be specified for uninterrupted power supply (UPS) output circuits.

2. *Uninterrupted Power Supply (UPS)* converts the power supply to clean energy while trickle-charging the back-up batteries

11 Alfa Tech, Inc., Psychrometric Charts for 75°F and 80°F Max Operating Ranges. These documents are available for review at 1650 Mission Street, Suite 400, San Francisco, CA as part of Case file No. 2011.0408E.

12 DX chillers are cooling units where the refrigerant expands (produces the cooling effect) in a coil that is in direct contact with the conditioned air that will be delivered to the space.

- a. High Efficiency Toshiba G9000 IGBT- based UPS modules would be used. These modules have the highest efficiency (up to 97 percent) of all double-conversion UPS systems with a wide range of load levels as compared to traditional transformer based UPS modules (70 percent efficient at low load levels up to 94 percent at full load).¹³
 - b. UPS modules would be installed in an N+1 configuration which would increase the load levels on the UPS modules (67–90 percent load per module) as compared to a standard 2N configuration (maximum 50 percent load per module) as increased loads on the modules improve their efficiency.¹⁴
- 3. **Power Distribution Unit (PDU)** distributes power from the UPS to the equipment within the data pods.
 - a. PDUs with high-efficiency low-loss 480V/120-208V transformers would be used.
 - b. PDUs would be installed with two different UPS output feeds for redundancy and configured to maximize load levels and higher efficiency operation.

HVAC Systems

- 1. **Roof-Top Packaged Air-Conditioning Units** are generally package-type, or self-contained, systems with direct-expansion refrigerant (DX) based chillers/compressors and refrigerant coils.
 - a. Roof-top units installed directly above the data halls distribute air directly into the rooms with a minimum amount of ductwork. Reducing ductwork reduces back-pressure and friction loss which in-turn reduces the energy needed to run the fan and generate motor horsepower.
 - b. Outside air economization is the most cost effective method of cooling data rooms. When the outside air temperature falls below the tenant's supply air set point, rooftop units open dampers to draw cool outside air into the data hall and the compressors shut down, saving electrical energy.
 - c. The fans inside the rooftop units run continuously. Variable Frequency Drive controllers (VFD) are specified on all motors as they reduce motor speed and horsepower that save energy during non-peak periods.
- 2. **Hot Aisle/Cold Aisle containment** is a data center energy-saving technique to separate the cool supply air from the hot return air inside the data hall. Separating cool air from hot air prevents the two from mixing. Warm air is inefficient – it wastes the energy already consumed to cool the air.

13 Toshiba, G9000 Uninterruptible Power Supply Multi-Level PWM IGBT Technology White Paper, 2008. This document is available for review at 1650 Mission Street, Suite 400, San Francisco, CA.

14 In data centers, N represents the exact number of equipment needed. An N+1 configuration provides an extra piece of equipment as a backup to the regular equipment, while a 2N configuration provides twice the amount of regular equipment. For example, a business needing two UPS modules would have three modules in an N+1 configuration and four modules in a 2N configuration.

Proper containment permits raising system supply air temperature to the maximum allowed by server manufacturers that reduces the amount of required cooling.

3. The **HVAC Control system** would be set to maintain the optimum operating temperatures and relative humidity to minimize energy consumption. The system would compare the outside climate with the set points inside the data halls and control the fan motors, dampers and DX components accordingly. The system supply air set-point is 75°F, a temperature 20 degrees higher than traditional systems. The set-point takes maximum advantage of the cool San Francisco climate and allows the outside air economizer mode to operate approximately 8,300 hours per year (95 percent of the annual hours based on National Oceanic Atmospheric Administration (NOAA) climate data for the last 10 years).
4. **Electrical Room cooling** maintains the electrical distribution system components within the operating temperature ranges specified by the manufacturers. These components are robust and can operate at higher temperatures than servers and network equipment. These higher temperatures are a result of new advances in component design.
 - a. According to the NOAA 10 year climate data, ambient air in San Francisco is within the operating range for transformers, UPS units and PDUs all year long. As a result, mechanical cooling (e.g. DX refrigerant based system) is not required, which saves a substantial amount of electrical energy.
 - b. Large fans in the electrical rooms would draw outside air into the rooms and exhaust the hot air directly outside.
5. **Adiabatic Cooling** (direct evaporative cooling) would enable the supply air temperature setting to be raised to 80°F and eliminate the need for DX compressors saving approximately 2,400 kW of electricity demand per data hall per year. Adiabatic Cooling would use water evaporating inside the rooftop unit to cool the airflow without a need for refrigerant and compressors. The peak water demand for evaporative cooling only occurs on the hottest days of the year. The NOAA Climate data predicts approximately 105 gallons of water per minute (gpm) for only 61 hours a year would be required.

IT Equipment

1. Energy Star compliant equipment would be specified for all building systems and tenants would be encouraged to install Energy Star compliant equipment in their IT deployment.
2. All tenants would be encouraged to install virtualization software to consolidate server workload and reduce power through optimal use of servers performing processing for any given application.
3. All tenants would be encouraged to utilize power management software to idle servers that are not processing at any given time.
4. All tenants would be encouraged to install blanking plates and gaskets in the contained aisles between rows of cabinets to reduce air leakage and maximize the efficiency of hot aisle/cold aisle separation.

Backup Power Supply

The data center industry strives to meet 100 percent uptime as any interruption to the facility's power supply can take the IT components off-line. Therefore, a backup power supply is maintained on site to be used in the event of an outage of, or interruption to, the operating power supply. During an outage, the stored energy in the batteries in the battery rooms would provide power to the IT and building cooling equipment for several minutes, allowing time for on-site backup diesel generators to be started. The ISE facility at 320-400 Paul Avenue would have eighteen 2MW diesel generators to provide backup power in the event of an interruption to the two 12kV electrical circuits served by PG&E. The diesel generators would be located within a generator service yard on the east side of the data center building. The proposed diesel generators would be the 2MW Cummins 2000 DQKAB model with integrated 4,000-gallon fuel tank (UL2085-rated, double-containment) that conforms with United States Environmental Protection Agency/California Air Resources Board (EPA/ARB) Tier 2 engine specifications and is placed within a 70 dBA-rated acoustical noise enclosure. The proposed exhaust stack height of each generator is 34 feet.

Generally, backup power supplies for data centers are designed with an N+1 redundancy, or a duplicate back-up piece of equipment for each back-up piece of equipment. However, to reduce the total number of on-site backup diesel generators there would be an allowance for sharing backup generators between tenants. Therefore, rather than two diesel generators per tenant (N+1), the use of shared redundant generators (the "+1") would reduce the overall number of diesel generators that would be maintained on site, reducing both the upfront capital cost and the amount of on-site generators requiring monthly testing. The project sponsor would limit testing of each diesel generator to a maximum of 28 hours annually. In addition, all testing would be completed during normal business hours, Monday through Friday. Only one generator would be tested at any given time. The proposed testing schedule is shown on Table 5.

Construction

ISE Facility at 320-400 Paul Avenue

The building demolition, renovation, and construction for the new ISE facility and related site improvements at 320-400 Paul Avenue would involve excavation of up to 5 feet below ground surface (bgs). The foundation of the new data center building would utilize either a stiffened continuous strip footing with interior slab-on-grade or structural reinforced mat and would require excavation of up to 3 feet bgs. The foundations for the two buildings that would be renovated (320 and 350 Paul Avenue) would require excavation of up to 5 feet in depth for soil preparation and construction of the foundation upgrades. No piles or pile-driving are anticipated as part of construction.

No specific start date has been targeted for construction of the project, though improvements are anticipated to commence in 2014. Construction would occur in four phases:

1. Demolition of the 400 Paul Avenue manufacturing building and hazardous material remediation;

Table 5 - Proposed Generator Testing Schedule

400 PAUL AVE. - PROPOSED ISE and DATA CENTER

GENERATOR TESTING SCHEDULE

		Hours per Month												Hrs/Year/Gen.
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Gen. 1	House & MMR	2	2	6	2	2	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 2	Mod #1	2	2	6	2	2	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 3	Mod #1	2	2	6	2	2	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 4	Mod #1	2	2	2	6	2	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 5	Mod #2	2	2	2	6	2	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 6	Mod #2	2	2	2	6	2	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 7	Mod #2	2	2	2	2	6	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 8	Mod #3	2	2	2	2	6	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 9	Mod #3	2	2	2	2	6	2	2	2	2	2	2	2	28 Hours/Yr.
Gen. 10	Mod #3	2	2	2	2	2	6	2	2	2	2	2	2	28 Hours/Yr.
Gen. 11	Mod #4	2	2	2	2	2	6	2	2	2	2	2	2	28 Hours/Yr.
Gen. 12	Mod #4	2	2	2	2	2	6	2	2	2	2	2	2	28 Hours/Yr.
Gen. 13	Mod #4	2	2	2	2	2	2	6	2	2	2	2	2	28 Hours/Yr.
Gen. 14	Back-Up House	2	2	2	2	2	2	6	2	2	2	2	2	28 Hours/Yr.
Gen. 15	Back-Up Mod 1	2	2	2	2	2	2	6	2	2	2	2	2	28 Hours/Yr.
Gen. 16	Back-Up Mod 2	2	2	2	2	2	2	2	6	2	2	2	2	28 Hours/Yr.
Gen. 17	Back-Up Mod 3	2	2	2	2	2	2	2	6	2	2	2	2	28 Hours/Yr.
Gen. 18	Back-Up Mod 4	2	2	2	2	2	2	2	6	2	2	2	2	28 Hours/Yr.
Hours per Month		36	36	48	48	48	48	48	48	36	36	36	36	504 Hours/Yr.
														9.7 Hours/Week

TESTING PROCEDURE

TESTING PROCEDURE		Generators Tested per Day - ONE at a time												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
		Spare The Air Days		OK	OK	OK	OK	OK	OK	Spare The Air Days				
		Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	Gen. #	
Day 1	1 hr. Test	1 - 9	1 - 9	4 - 9	1 - 3, 7 - 9	1 - 6	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	
Day 2	1 hr. Test	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	13 - 18	10 - 12, 16 - 18	10 - 15	10 - 18	10 - 18	10 - 18	10 - 18	
Day 15	1 hr. Test	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	1 - 9	
Day 16	1 hr. Test	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	10 - 18	
Day 3	5 hr. Test	0	0	1	4	7	10	13	16	0	0	0	0	
Day 4	5 hr. Test	0	0	2	5	8	11	14	17	0	0	0	0	
Day 5	5 hr. Test	0	0	3	6	9	12	15	18	0	0	0	0	
Hours per Month		36	36	48	48	48	48	48	48	36	36	36	36	
												504	Hours/Yr.	
												9.7	Hours/Week	

Source: The Cambay Group

2. Excavation and site utility work;
3. Renovation of the front two existing buildings and construction of the new data center; and
4. Parking lot, driveways, and other site improvements.

In total, the anticipated construction duration is twelve months.

Construction would occur Monday through Friday, 7:00 a.m. to 6:00 p.m. The average construction-related truck trips would be seven trips per day, with a maximum of 24 trips during the peak construction period. Construction workers would average 48 workers per day, with a maximum of 110 during peak construction stages. All construction workers would be required to park on site in a designated area. Additionally, all construction equipment and materials would be accommodated on the project site, rather than on-street temporary construction zones whenever possible.

12kV Electrical Distribution Circuits

Construction of the two 12kV electrical distribution circuits is anticipated to begin after construction has begun for the proposed ISE facility as the first circuit would need to be available for the facility to begin operation. Installation of the conduit for the two electrical circuits would be performed by PG&E or a PG&E-approved contractor. Construction of the electrical distribution lines would be completed at a rate of 100 linear feet per day and would take a total of 145 days, or approximately six months. The excavation and installation of the conduit along the entire route would be completed first and then the electrical wire would be pulled through the new conduits.

The underground electrical distribution circuits would be constructed using cut-and-cover construction methods. Prior to the start of construction, the locations of all underground utilities would be identified either through field survey (potholing) or the use of the Underground Service Alert (USA). The soil and pavement within the alignment would then be removed to the required depth, and the bottom of the trench would be compacted. The walls of the open trenches would be shored to prevent cave-ins, as required by federal Occupational Safety and Health Administration Title 8 regulations pertaining to excavations, using soldier beams or sheet piles depending on soil conditions. Construction of the conduits would be as follows:¹⁵ (1) A smooth bedding layer of sand or native soil would be placed at the base of the trench and (2) after placement of the bedding layer, the new conduits would be installed and the trench would be backfilled with a minimum 12 inches of sand or native soil around the conduits and a total cover of at least 36 inches below the road surface. In cases where a minimum 36-inch cover cannot be achieved, a minimum six-inch-thick concrete cap would be poured over the conduits to protect them from accidental damage. The concrete cap would be made with a concrete-slurry mix with red dye to alert future excavators working within the roadway of the underlying electrical circuits. The concrete cap must be a minimum eight inches below grade.

15 PG&E, *Pacific Gas and Electric Company (PG&E) Electric and Gas Service Requirements*, 2013 Edition, (PG&E Green Book) revised June 2013. Available online at: <http://www.pge.com/greenbook/>. p. 3-10. Also, commonly referred to as the PG&E Green Book. Accessed February 3, 2014. (PG&E, 2013)

In all cases, the backfill over the electrical circuits, and concrete cap if needed, would be compacted and the disturbed roadway surface over the trench would be restored to its pre-construction condition as required by the city in which the work is completed. In some instances, San Francisco Department of Public Works (SF DPW) requires a portion of the roadway larger than the trench width be resurfaced to provide satisfactory restoration of the roadway surface upon completion of utility work

within the roadway.¹⁶ Any excavation in San Francisco within a street used by SFMTA bus routes is required to be resurfaced to the centerline of the street, unless determined otherwise. The entire alignment of the electrical circuits in San Francisco includes streets with SFMTA bus routes and thus, PG&E may be required to resurface up to the centerline of the roadway.

The construction trenches would be approximately five feet wide and up to six feet deep for installation of the conduit and underground concrete utility vaults, measuring 4½ feet wide by 8½ feet long. Each 12kV circuit would be a three-phase service and the wire for each phase would be in its own conduit. Thus, three conduits would be required for each circuit, or a total of six conduits for the project. The six-inch-diameter PVC conduits would be installed using Snap and Stack spacers in a six-way configuration as shown on the standard specifications in the PG&E Green Book, excerpted on Figure 18.

The maximum width of the construction work area along the route would be approximately 15 feet. PG&E generally opens and works in trenches up to 100 feet in length at a time, before backfilling and excavating the next area. The trench would be covered at the end of each day during construction with metal plates to allow full use of the roadway during non-construction hours. The conduits for both circuits (six total conduits) would be installed during the initial construction phase. Electrical wires would be pulled through three of the conduits for the first 12 MW service. The remaining three empty conduits would be available for future installation of the electrical wires for the second 12kV electrical distribution circuit as the demand load at the ISE facility increases. No excavation would be needed to install the second 12 MW service in the future. Where groundwater is encountered during construction, the excavation trench would be dewatered as needed to install the conduit and utility vaults and compact the soil. If groundwater were to enter the trench during excavation, the water would be pumped from the excavation area and contained and treated in accordance with federal, state, and/or local laws and regulations, prior to discharge into the local combined sewer system.

The electrical distribution circuits would connect to existing transformers within the PG&E Martin substation and new aboveground circuit breakers would be installed inline and adjacent to the transformers. The electrical wires from the load side of the circuit breaker would be installed in new underground conduit, approximately 100 feet in length, which would connect to existing underground conduit within the substation. This existing conduit would then tie into the proposed new conduit in Geneva Avenue as shown on Figure 19.

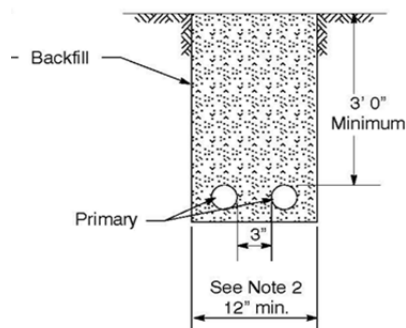
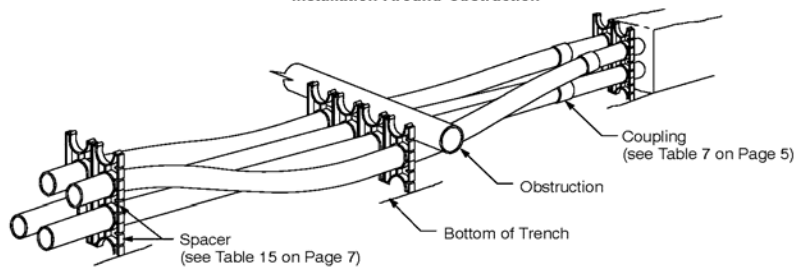
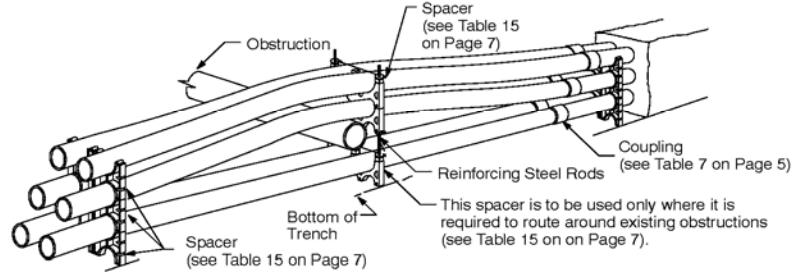
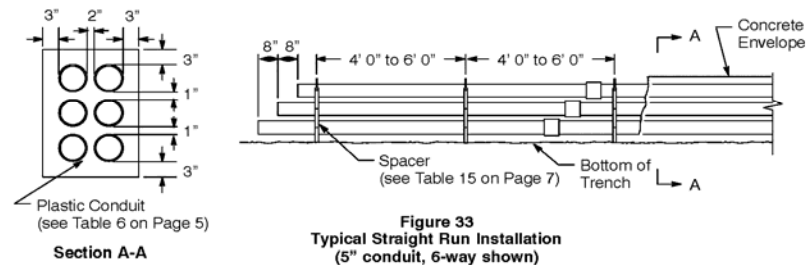
16 SFDPW, *Restoration Requirements, Street Excavation Rules and Regulations*, Available online at: <http://sfdpw.org/Modules/ShowDocument.aspx?documentid=1207>. Accessed January 21, 2014.

Figure 18 - Planned Conduit Configuration

UG-1: Conduits
Greenbook

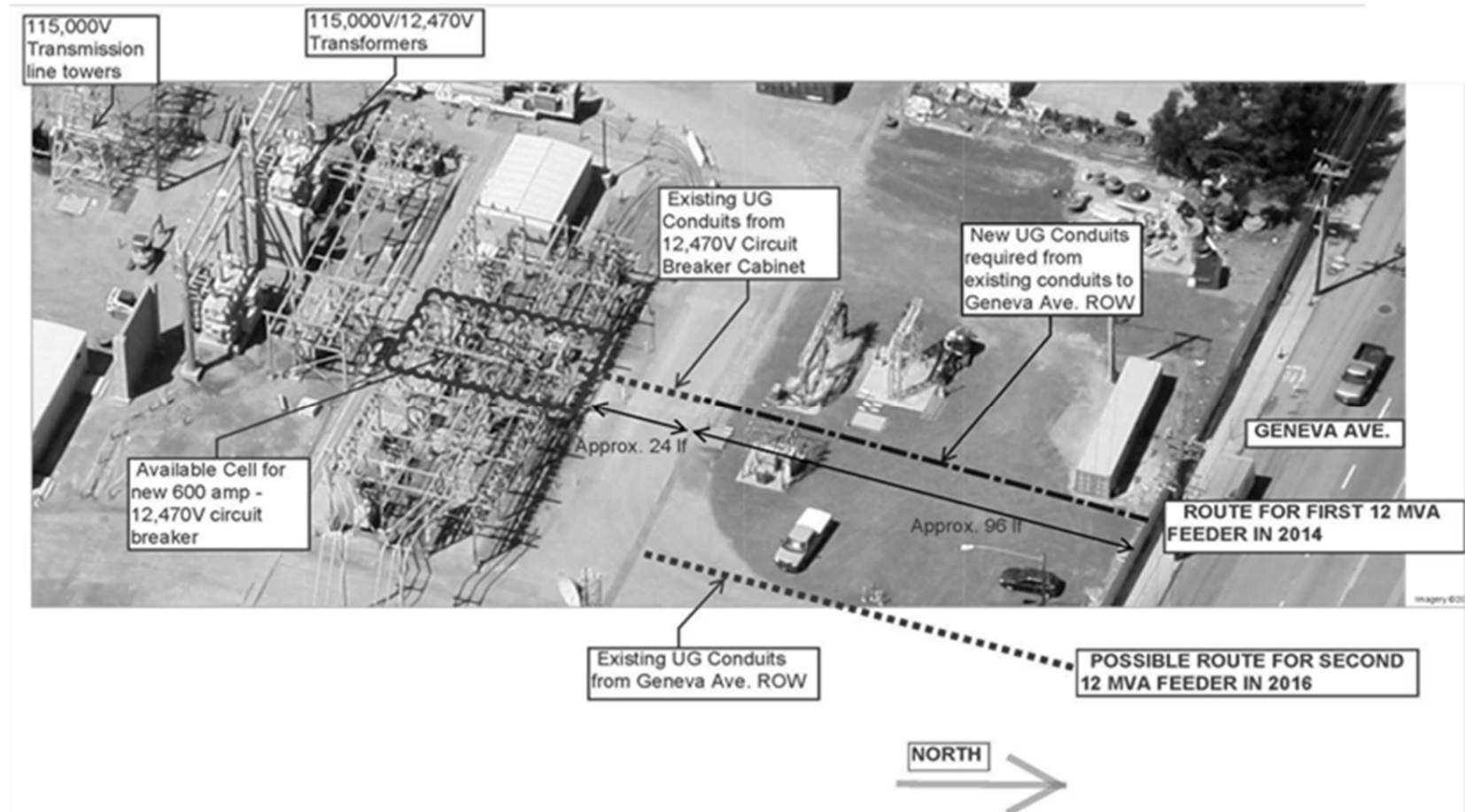
Underground Conduits

Conduit Construction, Built-up Method



Source: PG&E Green Book

Figure 19 - Location of Proposed Conduit and Circuit Connection with PG&E Martin Substation



Construction would occur Monday through Friday, 7:00 a.m. to 6:00 p.m., for portions of the work within San Francisco. For work in Daly City, work would be limited to Monday through Friday, 8:00 a.m. to 5:00 p.m. with construction noise prohibited before 7:30 a.m. and after 6:00 p.m. in accordance with the conditions of the excavation permit. The average daily construction-related truck trips would be 13 trips, with a maximum of 17 trips during the peak construction period. A crew of six construction workers is anticipated on site during the installation of the conduits and subsequent wire pulling. Construction workers would gather at the PG&E or other contractor service yard at the beginning of the work day and would drive the construction vehicles to the jobsite, rather than use personal automobiles. Additionally, all construction equipment and materials would be accommodated adjacent to that day's jobsite in a manner specified by the excavation permit requirements for the pertinent jurisdiction, either San Francisco or Daly City.

The total cost of the construction of the proposed ISE facility and related improvements at 320-400 Paul Avenue is estimated at \$20,500,000.

Project Approvals

The proposed project would require the following approvals with approval of the Conditional Use Authorization by the Planning Commission as the Approval Action per Chapter 31 of the San Francisco Administrative Code.

San Francisco Planning Commission

- **Conditional Use Authorization (CU Authorization)** for the establishment of an Internet Service Exchange use in the PDR-2 District (Planning Code Sections 303(h)(3) and 227(r)). The proposed project would also require San Francisco General Plan and Proposition M consistency findings per Planning Code Section 101.1.
- **Planned Unit Development (PUD)** approval to authorize 80 on-site parking spaces as the required parking for the proposed ISE facility.

San Francisco Department of Building Inspection

- **Building permits** for the renovation of the buildings at 320 and 350 Paul Avenue, the demolition of the 400 Paul Avenue building, the construction of the new data center building, the installation of the concrete generator pads and backup diesel generators, and the construction of other related miscellaneous building and site improvements.

San Francisco Department of Public Health

- **Approval of a Site Management Plan** would be required for cleanup of hazardous soils and contaminated sump water found on the project site, as well as for excavation for the electrical circuits within the roadways in San Francisco, in compliance with Article 22A of the San Francisco Health Code (SF Health Code), Maher Ordinance.
- **Approval of a Hazardous Materials Business Plan** would be required for the on-site storage of diesel fuel within the concrete-encased tanks attached to the diesel backup generators.

San Francisco Department of Public Works

- **Street Improvement permit** for the proposed curb cut at the EVA, new street trees, and alterations to the existing driveway and sidewalk would require approval by the Bureau of Street Use and Mapping (BSM).
- **Excavation permit** would be required from the BSM for the excavation and installation of the conduits and other necessary improvements for the installation of the two underground electrical distribution circuits within the right-of-way in San Francisco.

San Francisco Municipal Transportation Agency

- **Special Traffic Permit** is required for any street or sidewalk alterations or temporary construction closures within the public right-of-way that would not comply with the *Regulations for Working in San Francisco Streets* (Blue Book).¹⁷

San Francisco Public Utilities Commission

- **Approval** of a Tier 2 Landscape Documentation Package.

Daly City Department of Public Works

- **Excavation permit** for the excavation and installation of the conduits and other necessary improvements required for the installation of the two 12kV underground electrical distribution circuits within the right-of-way within Daly City.

Bay Area Air Quality Management District

- **Permit** for the installation, operation, and testing of the diesel back-up generators.

B. PROJECT SETTING

ISE Facility at 320-400 Paul Avenue

The proposed ISE facility is located on the north side of Paul Avenue midblock between Highway 101/Bayshore Boulevard and Third Street in the Bayview/South Bayshore neighborhood. The area topography is generally flat with a gentle downward northerly slope. The project site itself slopes northerly from Paul Avenue with an approximately 30-foot difference between the elevation of the project site's Paul Avenue frontage and the rear property line. Most of the grade change occurs within the front half of the site. The buildings are constructed at lower elevations than Paul Avenue (320 Paul Avenue is 10 feet lower and the 350 and 400 Paul Avenue buildings are approximately 20 to 25 feet lower).

The surrounding neighborhood is characterized as mixed-use with a single-family residential neighborhood to the south, major transportation routes (Highway 101 and Bayshore Boulevard) to the

17 SFMTA, *Regulations for Working in San Francisco Streets*, 8th edition, January 2012. Also, commonly referred to as the SFMTA Blue Book. Available online at http://www.sfmta.com/sites/default/files/pdfs/BlueBook8thEd_Accessible.pdf. Accessed January 23, 2014. (SFMTA, 2012.)

west, the recently revitalized mixed-use Third Street corridor to the east, and various older industrial properties to the north. The project site is comprised of two parcels that are part of a larger industrial block, bounded by Paul Avenue, Bayshore Boulevard, Phelps Street, Williams Avenue, and Third Street. This larger industrial block is surrounded by older residential neighborhoods, though several new residential development projects in the vicinity have either been built or are approved for construction. The properties immediately adjoining the proposed ISE facility and their respective uses are shown on Figure 20.

The development on the south side of Paul Avenue is an older established residential neighborhood with predominantly two-story residences. This residential neighborhood is a mix of single- and multi-family residences generally built in the early 1900s in the Victorian style with some in-fill and replacement units built in the mid-1900s with a mix of architectural styles. The north side of Paul Avenue is a mix of one- to five-story commercial and industrial buildings. The concrete-frame self-storage facility at 500 Paul Avenue (the U-Haul facility) to the west of the project site was constructed in 1952 in the Industrial-style architectural vernacular and embellished with Colonial Revival detailing on the roof. This property operated as the Planter Peanut processing facility until it was converted to the U-Haul truck rental and self-storage facility. Immediately abutting the east side of the project site is the ISE located at 200 Paul Avenue with buildings initially added in the 1950s and modified in the early 2000s at the time the ISE commenced operation. An approved expansion to the generator service yard and other improvements at the 200 Paul Avenue ISE facility was approved in 2013. To its east are several two-story buildings fronting onto Third Street. These buildings along the west side of Third Street, immediately east of the project site, include a 1950s church, a 1950s utilitarian telephone switching center, a 1960s fish sauce commercial facility, and a 1930s multi-tenant light industrial building complex. Along the northern edge of the project site is a 20-foot-wide abandoned railroad spur and associated right-of-way, bordered to the north by a small cluster of older post-War one- and two-story industrial buildings.

Approximately 200 feet to the north is a 1998 housing development on the north side of Egbert Avenue with the closest residence approximately 200 feet from the rear property line of the project site. This residential development contains 259 units with a mix of two- and three-story residences. Another residential development, part of a larger planned development, is located approximately 450 feet northeast of the project's rear property line and across the Caltrain rail tracks. Upon completion, this mixed-use development at 5800 Third Street will include four buildings with 408 residential units, 21,000 square feet of ground-floor retail space, and a senior center. In 2010, the first phase of that project, which included two four- and five-story stucco buildings, was completed and contains 137 residential units and a currently vacant 21,000-square-foot ground-floor retail space.

The Caltrain regional rail line is located approximately 400 feet to the east of the project site and the SFMTA's T-Third Street light rail line is located 900 feet to the east. The closest transit stop on the

Figure 20 - Adjacent Land Uses



SFMTA's T-Third Street light rail line is the Gilman/Paul stop at the intersection of Paul Avenue and Gilman Street. The nearest Caltrain station, Bayshore, is one mile to the southwest of the project site. The SFMTA's Route 29 Sunset provides bus service along Paul Avenue. Other SFMTA routes near the project site include two on San Bruno Avenue, the Route 8X Bayshore and the Route 9 San Bruno. The Route 91 Owl on Third Street provides nighttime bus service. Major vehicular access to this area is provided by Highway 101, Bayshore Boulevard and San Bruno Avenue, all located approximately 300 feet to the west of the project site, and Third Street, located approximately 900 feet to the east.

The residential neighborhood to the south of the project site, on the south side of Paul Avenue, is zoned RH-1 (House, One-family) and is in the 40-X height and bulk district. The properties immediately to the east and west of the site are in the same PDR-2 zoning district and 65-J height and bulk district as the project site. To the north of the site, the narrow 20-foot wide former railroad spur is zoned M-1 (Light Industrial) and is in the 65-J height and bulk district. On the north side of the railroad spur and south of Egbert Avenue, most of the properties are zoned PDR-2, with the exception of the San Francisco Housing Authority office building at 1815 Egbert Avenue which is zoned P (Public). All of these properties are within the 65-J height and bulk district. The residential neighborhood on the north side of Egbert Avenue is zoned RH-1 and is in the 65-J height and bulk district. The new mixed-use project at 5800 Third Avenue, on the east side of the Caltrain tracks, is designated M-1 and is in the 40-X height and bulk district.

12kV Electrical Distribution Circuits

The proposed 12kV electrical distribution lines would be constructed within existing roadways between the PG&E Martin substation in Brisbane and the proposed ISE facility at 320-400 Paul Avenue. Both Paul Avenue and San Bruno Avenue are 2- to 4-lane arterial streets with residential and limited commercial development along their alignment. Bayshore Boulevard and Geneva Avenue are wider arterial streets with predominantly commercial development along both sides of the roadway. The SFMTA's T-Third Street light rail is located in the center of Bayshore Boulevard south of Third Street to just south of the San Francisco/San Mateo county line. The underground installation of the electrical distribution circuits within the existing roadways would occur within and alongside property in the following zoning classifications through Brisbane, Daly City, and San Francisco:

City of Brisbane: C-1 (Commercial Mixed Use) and M-1 (Manufacturing);

City of Daly City: C-1 (Light - Commercial) and M (Industrial);

City of San Francisco: PDR -2 (Core Production, Distribution, and Repair), RH-1 (Residential House, One-Family), P (Public), NC-2 (Neighborhood Commercial, Small-Scale), RM-1 (Residential Mixed, Low Density), NC-1 (Neighborhood Commercial, Cluster), M-1 (Light Industrial), NC-3 (Neighborhood Commercial, Moderate Scale)

The installation of the related circuit breakers and new conduits and wires connecting the two 12kV electrical distribution circuits to the existing transformers at the PG&E Martin substation would be completed on property with a M-1 (Manufacturing District) zoning designation.

C. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	<i>Applicable</i>	<i>Not Applicable</i>
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.	☒	☐

San Francisco Planning Code

ISE Facility at 320-400 Paul Avenue

The San Francisco Planning Code (SF Planning Code), which incorporates by reference the San Francisco Zoning Maps, governs permitted uses, densities, and configuration of buildings within San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless the proposed project conforms to the SF Planning Code, an exception is granted pursuant to provisions of the SF Planning Code, or a reclassification of the site occurs.

Use. The proposed project includes the demolition of an approximately 95,000-square-foot manufacturing building, the renovation of two existing office buildings, and the construction of a two-story 187,000-square-foot data center building on the project site in order to establish and operate a 243,000-square-foot data center use on the site. The SF Planning Code categorizes data centers as an ISE use. The project site is in the PDR-2 (Production, Distribution, and Repair) zoning district that requires the project sponsor to apply for and receive CU Authorization in order to operate an ISE use. The ISE use was established as a conditional use in part to address citywide energy consumption by these facilities and compatibility with the surrounding land uses (SF Planning Code Section 227(r)).

Parking Requirements. Due to the unique operating characteristics of ISE facilities, the project sponsor has applied for PUD approval to establish the required parking spaces for the ISE on the project site at 80 spaces, which is approximately one parking space per 3,000 square feet of total building area.

12kV Electrical Distribution Circuits

No variances, special authorizations, or changes are proposed to the Brisbane, Daly City, or San Francisco Planning Codes or Zoning Maps in order to construct the new underground electrical distribution circuits.

San Francisco Plans and Policies

San Francisco General Plan Priority Planning Policies. The SF General Plan, which provides general policies and objectives to guide land use decisions, contains some policies that relate to physical environmental issues. The compatibility of the project with SF General Plan policies that do not relate

to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project and any potential conflicts identified as part of that process would not alter the physical environmental effects of the proposed project.

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. These policies, and the sections of this Environmental Evaluation addressing the environmental issues associated with the policies, are: (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character (Question 1c, Land Use); (3) preservation and enhancement of affordable housing (Question 3b, Population and Housing, with regard to housing supply and displacement issues); (4) discouragement of commuter automobiles (Questions 5a, b, f, and g, Transportation and Circulation); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership (Question 1c, Land Use); (6) maximization of earthquake preparedness (Questions 13a-d, Geology, Soils, and Seismicity); (7) landmark and historic building preservation (Question 4a, Cultural Resources); and (8) protection of open space (Questions 8a and b, Wind and Shadow, and Questions 9a and c, Recreation and Public Space). Prior to issuing a permit for any project which requires an Initial Study under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action which requires a finding of consistency with the SF General Plan, the City is required to find that the proposed project or legislation is consistent with the Priority Policies. As noted above, the consistency of the proposed project with the environmental topics associated with the Priority Policies is discussed in Section E, Evaluation of Environmental Effects, of this Initial Study.

Bayview Hunters Point Area Plan. The proposed ISE facility is within the Bayview Hunters Point Area Plan in the South Basin activity node in an area designated for core PDR activities. The proposed ISE facility would not conflict with this Plan.

Regional Plans and Policies

The five principal regional planning agencies and their policy documents that guide planning in the nine-county Bay Area are the Plan Bay Area, the Bay Area Air Quality Management District's (BAAQMD's) 2010 Clean Air Plan, the Metropolitan Transportation Commission's (MTC's) Regional Transportation Plan – Transportation 2035, the San Francisco Bay Regional Water Quality Control Board's San Francisco Basin Plan, and the San Francisco Bay Conservation and Development Commission's San Francisco Bay Plan. For an analysis of the project's consistency with the 2010 Clean Air Plan, see the analysis provided in Impacts LU-2 and AQ-5. Due to the scope and nature of the proposed project, there would be no anticipated conflicts with regional plans.

Approvals and Permits from Other Agencies

Proposed ISE facility at 320-400 Paul Avenue

Bay Area Air Quality Management District. The project sponsor would need to obtain the necessary permits for the testing and operation of the proposed diesel backup generators.

San Francisco Department of Building Inspection. The project sponsor would be required to apply for and receive building permits for the renovation of the buildings at 320 and 350 Paul Avenue, the demolition of the 400 Paul Avenue building, the construction of the new data center building, the installation of the concrete generator pads and backup diesel generators, and the construction of other related miscellaneous building and site improvements.

San Francisco Department of Public Health. Approval of a Site Management Plan would be required for cleanup of the hazardous soils and groundwater on the project site in compliance with Article 22A of the San Francisco (SF) Health Code, Maher Ordinance. Approval of a Hazardous Materials Business Plan would be required for the on-site storage of diesel fuel within the concrete-encased tanks attached to the diesel backup generators.

San Francisco Department of Public Works. Street Improvement permit for the proposed curb cut for the western driveway, new street trees, and alterations to the existing driveway and sidewalk would require approval by the BSM.

San Francisco Municipal Transportation Agency. A Special Traffic Permit is required for any street or sidewalk alterations or temporary construction closures within the public right-of-way that would not comply with the *Regulations for Working in San Francisco Streets* (Blue Book).¹⁸

San Francisco Public Utilities Commission. Approval of a Tier 2 Landscape Documentation Package.

12kV Electrical Distribution Circuits

Daly City Department of Public Works. An excavation permit would be required for the installation of the conduits and other necessary improvements required for the installation of the two 12kV underground electrical distribution circuits within the right-of-way in Daly City.

San Francisco Department of Public Health. Approval of a Site Management Plan would be required for the cleanup of any hazardous soils that may be encountered during excavation for the electrical circuits within San Francisco roadways in compliance with Article 22A of the SF Health Code, Maher Ordinance.

San Francisco Department of Public Works. An excavation permit would be required for the installation of the conduits and other necessary improvements required for the installation of the underground electrical distribution circuits within the right-of-way in San Francisco.

¹⁸ SFMTA, 2012.

D. SUMMARY OF ENVIRONMENTAL EFFECTS

The proposed project could potentially affect the environmental factor(s) checked below. The topic areas that are checked are those in which impacts that could potentially be significant unless mitigated are identified in Section E, Evaluation of Environmental Effects. The following pages present a more detailed checklist and discussion of each environmental factor.

☒ Land Use	☒ Air Quality	☒ Biological Resources
☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Geology and Soils
☐ Population and Housing	☐ Wind and Shadow	☐ Hydrology and Water Quality
☒ Cultural and Paleo. Resources	☐ Recreation	☒ Hazards/Hazardous Materials
☐ Transportation and Circulation	☐ Utilities and Service Systems	☐ Mineral/Energy Resources
☐ Noise	☐ Public Services	☐ Agricultural and Forest Resources
		☒ Mandatory Findings of Significance

All items on the Initial Study Checklist that have been checked "Less Than Significant Impact," "No Impact," or "Not Applicable" indicate that, upon evaluation, staff has determined that the proposed project could not have a significant adverse environmental effect relating to that issue. For items that have been checked "Less Than Significant with Mitigation Incorporated," staff has determined that the proposed project would not have a significant adverse environmental effect provided that the project sponsor implements mitigation measures presented in Section F of this document. A discussion is included for most issues checked "Less Than Significant with Mitigation Incorporated," "Less Than Significant Impact," "No Impact," or "Not Applicable." For all of the items without discussion, the conclusions regarding potential significant adverse environmental effects are based upon field observation, staff experience and expertise on similar projects, and/or standard reference material available within the Department, such as the Department's Transportation Impact Analysis Guidelines for Environmental Review, or the California Natural Diversity Data Base and maps, published by the California Department of Fish and Wildlife. For each checklist item, the evaluation has considered the impacts of the project both individually and cumulatively.

Cumulative Projects

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines Section 15130(b)(1). The analysis can be based on: (a) a list of past, present, and probable future projects producing related impacts that could combine with those of a proposed project, or (b) a summary of projections contained in a general plan or related planning document. The analysis in this Initial Study employs both list-based and projections approaches, depending on which approach best suits the individual resource topic being analyzed. For instance, the aesthetics analysis considers individual projects in the vicinity of the project site that may alter the visual character and views in and surrounding the project area, while the transportation and circulation analysis relies on the larger BVHP Area Plan growth projections and projects within the buildout timeframe of that Area Plan, which is the typical methodology that the San Francisco Planning Department (SF Planning Department) applies to analysis of transportation impacts. Table 6 presents a list of projects approved

or anticipated to be approved in the near future within one quarter-mile of the proposed ISE facility site. These reasonably foreseeable probable future projects are considered in the cumulative analysis, as applicable. The location of these projects in relationship to the project site is shown on Figure 21.

The cumulative impact analysis for the construction of the new 12kV electrical distribution circuits uses the geographic context of the public right-of-way and its immediate vicinity. Other projects occurring in the public right-of-way in San Francisco and Daly City along the planned route of the electrical distribution circuit that may combine with the effects of the project installation would include projects implemented and regulated by the San Francisco Public Utilities Commission (SFPUC), SF DPW, the SFMTA, and the Daly City Department of Public Works (DC DPW). The SFPUC implements and oversees projects to address water infrastructure including sewer and storm water management throughout San Francisco. The SF DPW is responsible for the maintenance of San Francisco's streets, notably the infrastructure itself, excavations by utility providers, and improvements associated with private development within the public right-of-way. Currently, two of these roadways, San Bruno Avenue and Paul Avenue, are listed on the SF DPW's 5-year repaving plan.¹⁹ The SFMTA operates Muni, regulates parking and loading facilities, plans bicycle and pedestrian improvements for the public right-of-way, and oversees traffic operations within the transportation network of the City. The DC DPW is responsible for maintenance of streets and public utility infrastructure within Daly City. Additionally, other private utilities, such as phone and cable operators, complete periodic maintenance and upgrades to their existing facilities, as well as installing new service lines within the roadways in both jurisdictions.

19 SF DPW, Five-Year Plan for Street Repaving. Available online at <http://38.106.4.205/index.aspx?page=370>. Accessed January 14, 2014.

Table 6 - Cumulative Projects within a Quarter-mile of the Project Site

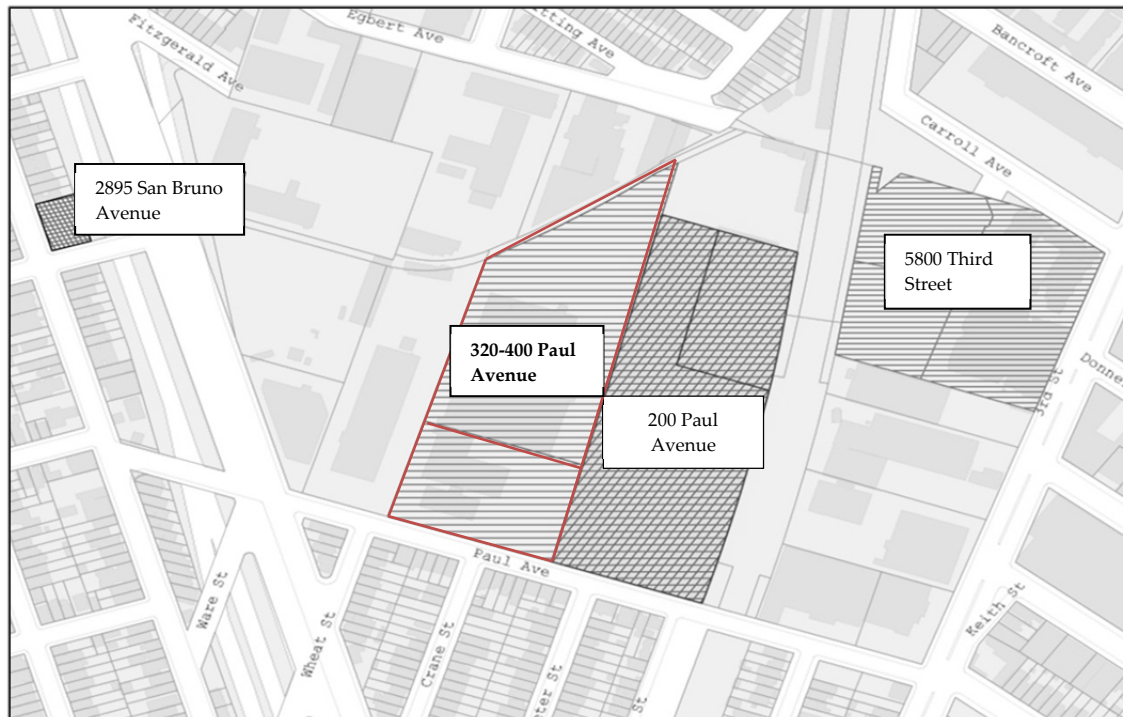
Project Name	Timeframe/Description
5800 Third Street	Construction of a second phase to an existing mixed-use project that would include an additional 271 multi-family dwelling units in two buildings, along with a 15,000-square-foot senior center. ²⁰ Construction is anticipated for an 18-month duration. The site is in the Light Industrial (M-1) Zoning District and 65-J Height and Bulk District. The project is located a minimum of 450 feet from the project site.
2895 San Bruno Avenue	Construction of a mixed-use development consisting of five four-story buildings, totaling 14,500 square feet in area. ²¹ The buildings would contain ten dwelling units, ground-floor retail space, and second floor business or professional service uses in the Small-Scale Neighborhood Commercial (NC-2) Zoning District and a 40-X Height and Bulk District. This project is located in a residential neighborhood in the Excelsior District, separated from the project site by Highway 101 and Bayshore Boulevard. The project is located a minimum of 1,200 feet from the project site.
200 Paul Avenue	Expansion of an existing ISE facility to provide 18 additional diesel backup generators. ²² Approximately 16,000 square feet of the southernmost warehouse would be demolished in order to expand the existing generator service yard for the new generators planned for installation over a six-year period for use by ISE tenants. The environmental review analyzed occupancy of an additional 60,000 square feet within the existing ISE facility.

20 San Francisco Planning Department Case No. 2003.0672E.

21 San Francisco Planning Department Case No. 2010.0627E.

22 San Francisco Planning Department Case No. 2012.0153E.

Figure 21 - Cumulative Projects



E. EVALUATION OF ENVIRONMENTAL EFFECTS

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.1. Land Use and Land Use Planning					
Would the project:					
a) Physically divide an established community?	☐	☐	☐	☒	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐	☐
c) Have a substantial impact upon the existing character of the vicinity?	☐	☐	☒	☐	☐

Impact LU-1: The proposed project would not physically divide an established community. (No Impact)

Land use impacts are considered significant if they disrupt or divide the physical arrangement of an established community. The proposed physical improvements for the proposed ISE facility at 320-400 Paul Avenue would occur within the existing lot configuration. Two existing buildings on the property would be renovated and a third building, a vacant manufacturing building, would be demolished and replaced with a new data center building. Improvements would be made within the boundaries of the project site and would not alter the surrounding street network, therefore the proposed project would not impede the passage of persons or vehicles or substantially interfere with traffic and pedestrian circulation in the area around the site. As a result, the proposed project would not interfere with the physical arrangement of the existing uses and activities that surround the project site.

The new underground electrical circuits would be installed within existing roadways in San Francisco and Daly City. Upon completion of construction, there would not be any aboveground structures within the roadway and the roadways and sidewalks would remain unchanged. The only aboveground improvements associated with the new 12kV electrical circuits would be the connections to the existing transformers and installation of related circuit breakers within the confines of the existing PG&E Martin substation. These structures would be consistent with the other existing structures within the substation and would not alter the existing use of the facility. The proposed improvements associated with the 12kV electrical circuits would not alter the alignment of existing roadways or impede traffic, bicycles, or pedestrian movement within the surrounding area.

Therefore, the proposed project would not physically divide the established community.

Impact LU-2: The proposed project would conflict with applicable land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant with Mitigation)

Land use impacts are considered to be significant if the proposed project would conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Environmental plans and policies are those, like the Bay Area Air Quality Management District's (BAAQMD) 2010 Clean Air Plan and California Fish and Game Code that directly address environmental issues and/or contain targets or standards that must be met in order to preserve or improve characteristics of the physical environment.

As discussed in Topic E.7 - Air Quality, specifically Impact AQ-5, the proposed project's operation of diesel backup generators would result in significant emissions of oxides of nitrogen (NO_x) and diesel particulate matter (DPM) that would result in a violation of air quality standards and result in emissions of DPM that would significantly affect sensitive populations. As discussed in Impacts AQ-3 and AQ-4, the proposed project would be required to implement **Mitigation Measure M-AQ-3 – Diesel Backup Generator Specifications** and would voluntarily implement **Improvement Measures IM-AQ-3a – Load Bank Testing** and **IM-AQ-3b – Trees for Improving Air Quality**. With

implementation of **M-AQ-3**, the proposed project would reduce NO_x emissions and DPM emissions to a less-than-significant level and would support the primary goals of the 2010 CAP to reduce criteria air pollutants and emissions of other harmful air pollutants.

The three existing buildings on the planned ISE site are currently vacant, and as such, provide potential habitat for bat species to use for roosting. All bat species are protected under California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as otherwise provided in the code or in accordance with regulations adopted by the California Fish and Wildlife Commission. Therefore, demolition of the building at 400 Paul Avenue may result in a significant impact if bat roosts are present. However, implementation of **Mitigation Measure M-BI-1 – Pre-Construction Special-Status Bat Survey** would require that a pre-construction bat survey of the vacant buildings and any tree over 12-inch diameter proposed for removal be completed to determine whether any bat roosts are present and if so, to identify the appropriate action to be undertaken to ensure that impacts to bats would be less than significant.

Therefore, with implementation of **M-AQ-3** and **M-BI-1** the proposed project would not obviously or substantially conflict with any such adopted environmental plan or policy that relates to physical environmental issues and the proposed project would have a less-than-significant impact in regard to the project's potential to conflict with existing plans, policies, and regulations adopted for the purpose of mitigating an environmental effect.

Impact LU-3: The proposed project would not have a substantial impact upon the existing character of the vicinity. (Less than Significant)

Land uses in the vicinity of the proposed ISE facility at 320-400 Paul Avenue are dominated by single-family residential uses on the south side of Paul Avenue and commercial and industrial uses on the north side of Paul Avenue, immediately surrounding the project site. This block is designated for light industrial uses in both the BVHP Area Plan and the San Francisco zoning map. The project site is part of a larger block, bounded by Highway 101, Paul Avenue, Third Street, and Egbert Street, developed in the 1920s as an industrial area with a variety of manufacturing uses. Different manufacturing and light industrial uses have occupied the site since its initial construction as the Link Belt manufacturing facility. The residential neighborhood to the south of the property was established at about the same time, the early 1900s, as the first manufacturing facility on the project site.

Two multi-story structures located along the project site's Paul Avenue frontage would be renovated and reused for administrative and office use, similar to the buildings' historic use as the plant office and design building for the Link Belt manufacturing facility. The rear manufacturing building would be demolished and replaced with a data center building with rooms housing IT equipment for website, e-commerce, and business database hosting. Approximately 80 employees would work at the facility during each of three daily 8-hour shifts to support the 24-hour operation of the data center. Apart from an anticipated 46 employee vehicles travelling to the facility for each shift, all operations would be conducted within the on-site buildings, similar to historic manufacturing and warehouse

uses that operated at the site. Therefore, surrounding uses would be expected to continue in operation and to relate to each other as they do presently, without disruption from the proposed project.

The new underground electrical distribution lines would be installed within existing roadways in San Francisco and Daly City. Upon completion of construction, there would not be any aboveground structures within the roadway and the roadway and sidewalk facilities would not change. The connection of the underground circuits to the transformers and installation of the related circuit breakers would be completed within the confines of the PG&E Martin substation in Brisbane and would be consistent with the existing use of that facility. Therefore, the proposed improvements associated with the electrical distribution circuits would not alter the land use or existing character of the existing roadways and substation.

For the reasons discussed above, the proposed project would not have a significant impact on the existing character of the surrounding area and the proposed project's impact on the character of the project's vicinity would be less than significant.

Impact C-LU-1: The proposed project, in combination with past, present and reasonably foreseeable future projects in the vicinity of the site, could result in a cumulatively considerable contribution to a significant cumulative land use impact. (Less than Significant with Mitigation)

Table 6 on p. 57 shows projects and reasonably foreseeable future projects within a quarter-mile radius of the proposed ISE facility at 320-400 Paul Avenue. These projects would be regulated by, and are anticipated to be consistent with, adopted policies, regulations, and land use plans. With implementation of **Mitigation Measure M-AQ-3 – Diesel Backup Generator Specifications** and **Mitigation Measure M-BI-1 – Pre-Construction Special-Status Bat Survey** the project would also comply with adopted policies, regulations, and land use plans, including the BVHP Area Plan and SF Planning Code provisions. Compliance with implementation of **M-AQ-3** and **M-BI-1** would ensure that the project would not result in a cumulatively considerable contribution to any cumulative land use impact.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.2. Aesthetics					
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 other features of the built or natural environment which contribute to a scenic public setting?	☐	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	☐

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties?	☐	☐	☒	☐	☐

A visual quality/aesthetics analysis is somewhat subjective and considers the design of the project in relation to the surrounding visual character, heights and building types of surrounding uses, its potential to obstruct scenic views or vistas, and its potential for light and glare. The proposed changes to the existing 320-400 Paul Avenue site and the existing roadways and PG&E Martin substation in which the underground 12kV electrical distribution circuits would be located would be considered to have a significant adverse environmental effect on visual quality only if it would cause a substantial and demonstrable negative change. A photosimulation of the proposed ISE facility at 320-400 Paul Avenue is shown on Figure 16 on p. 35.

Impact AE-1: The proposed project would not have a substantial adverse effect on a scenic vista. (Less than Significant)

A project would have a significant effect on scenic vistas if it would substantially degrade important public view corridors or obstruct scenic views from public areas viewable by a substantial number of people. View corridors are defined by physical elements such as buildings and structures that direct lines of sight and control view directions available to the public.

The Urban Design Element of the SF General Plan contains policies focused on the preservation of major views throughout San Francisco. Policy 1.1 of the Urban Design Element is intended to recognize and protect major views in San Francisco, with particular attention to those of open space and water. Significant views are broadly identified in the Urban Design Element as those of open space, the Bay, the Bay Bridge and Golden Gate Bridge, and architecturally and historically important buildings. Scenic views and vistas are limited in the project vicinity due to surrounding urban development and intervening buildings.

The proposed ISE site at 320-400 Paul Avenue is in a low-lying area of San Francisco characterized by mid-rise buildings. There are no public scenic vistas in the area that would be substantially affected by the proposed project. Views from surrounding sidewalks and street corridors consist primarily of surrounding urban development. The existing building along the project's Paul Avenue frontage would be retained with the greatest changes made in the center of the site. The rear warehouse building at 400 Paul Avenue would be demolished and replaced with a new data center building with approximately the same size footprint. Although the new structure would be approximately 14½ feet taller (measured to the top of the proposed mechanical screen, rather than the lower parapet wall) than the building it would replace, the new data center building would be located at the center of the

site and behind the two existing buildings. Also, the elevation of the building pad for the new data center building would be approximately 25 feet lower than the grade of Paul Avenue.

The only public park or open space near the project site is the Bayview Playground at the northeast corner of Third Street and Carroll Avenue, approximately two blocks northeast of the project site. The project site has limited visibility from outdoor areas in the park due to intervening buildings. As such, the proposed project would not degrade or obstruct any scenic views or vistas now observed from a public park or open space area.

Impacts on private views generally are not considered a significant impact pursuant to CEQA. Given the location of the changes at the center of the site and the downhill slope from the street, the proposed project would have limited visibility from the residential development on the south side of Paul Avenue and therefore would not be substantial.

The installation of the planned underground electrical distribution circuits would not include any aboveground structures within the public right-of-way. All physical improvements for the new electrical circuits and construction would occur within the existing roadway and would not require the removal of any street trees. The connection of the circuits to the transformers and installation of the associated circuit breakers would occur within the PG&E Martin substation that has an approximately 6-foot-high metal chain link fence with vinyl slats along its Geneva Avenue frontage that would allow only limited visibility of the proposed aboveground circuit breakers from off-site vantage points.

For the above reasons, the proposed project would have a less-than-significant impact on any publicly accessible scenic vistas in the vicinity of the planned ISE site at 320-400 Paul Avenue and along the route of the new 12kV electrical distribution circuits.

Impact AE-2: The proposed project would not substantially damage any scenic resources. (Less than Significant)

Scenic resources are the visible physical features of a landscape (e.g., land, water, vegetation, animals, structures, or other features). Scenic resources of the built environment may include landmarks that would be identified along a tour route, including, but not limited to, Coit Tower and the Golden Gate Bridge.

The proposed improvements would include the removal of ten on-site trees in the center and in the northeast corner of the site that have been determined to either be in poor health or are adjacent to existing building foundations and causing potential damage to those structures. A total of 25 existing trees would be retained, ranging in height from 12 to 45 feet. A dominant cluster of trees located on the sloped area adjacent to the 350 Paul Avenue building would be retained and would screen a portion of the view of the new data center building and adjacent generator service yard from Paul Avenue.

San Francisco Public Works Code Section 808 protects street trees, significant trees, and landmark trees²³ from removal without a permit from the SF DPW. Significant trees are those meeting certain size requirements and located within 10 feet of the adjacent street right-of-way. Landmark trees are those that meet criteria for age, size, shape, species, location, historical association, visual quality, or other contribution to the character of San Francisco and have been found worthy of Landmark status after public hearings at both the Urban Forestry Council and the San Francisco Board of Supervisors (SF Board of Supervisors). None of the existing trees on the proposed ISE site at 320-400 Paul Avenue meet the criteria to be designated significant or landmark trees, nor are there any existing street trees along the site's Paul Avenue frontage. Rather, approximately 19 new street trees would be planted along the frontage of the proposed ISE facility, as well as within the front parking area as part of the proposed improvements. There are no other rock outcrops or other natural or built scenic resources on the site.

The new electrical distribution circuits would be constructed within the existing roadway. Therefore, no trees, rock outcrops or other natural or built scenic resources would be affected as a result of their construction.

In light of the above, the impact on scenic resources, either natural or manmade on the site of the proposed ISE facility or along the route of the proposed electrical distribution circuits would be less than significant.

Impact AE-3: The proposed project would not degrade the visual character or quality of the site and its surroundings. (Less than Significant)

The visual character of the project site and vicinity is urban with a diversity of building types, sizes, and ages. Land uses in the surrounding neighborhood are mixed, and include residential, commercial, and industrial. Properties on the north side of Paul Avenue are commercial and industrial facilities with larger building sizes and utilitarian architectural styles creating an industrial character on the north side of Paul Avenue. The properties on the south side of Paul Avenue are residential structures in a variety of residential styles with street orientation characteristic of an urban residential neighborhood. Design and aesthetics are by definition subjective and open to interpretation by decision-makers and members of the public. A proposed project would have a significant adverse effect on visual quality under CEQA only if it would cause a substantial and demonstrable negative change.

The proposed improvements to the existing buildings and site at 320-400 Paul Avenue would be visible from off-site locations. The project includes the renovation of the front two buildings, as well as an existing visitor parking lot visible from Paul Avenue. The rear building would be demolished and replaced with a new data center building, approximately 14½ feet taller (measured to the top of the proposed mechanical screen, rather than the lower parapet wall) than the existing building and with a

23 Ordinance 0017-06 Public Works Code-Landmark Trees, Significant Trees, and penalties for Violations. Available online at <http://www.sfdpw.org/index.aspx?page=663>. Accessed November 12, 2013.

similar footprint and property line setbacks. Overall, the massing of the new data center building would be similar to the building it replaces. Proposed changes to the existing buildings and other on-site improvements would be minimally distinguishable from mid- and long-range vantage points. Due to the location of the improvements at the center of the site and the retention of the front two existing buildings, changes to street-level views from vantage points along Paul Avenue and Egbert Street would be minor. The proposed physical changes would be consistent with the surrounding urban character of the project vicinity and would not degrade existing views.

The proposed electrical distribution circuits would be constructed within existing roadways and would not result in any aboveground structures. The only visible portion of the proposed improvements would be the lids on the underground concrete vaults and associated roadway resurfacing within the roadway alignment, as well as the connection of the circuits to the transformers and installation of the related circuit breakers within the PG&E Martin substation. The visual character of the new electrical vaults and trench roadway repaving would be consistent with other existing vaults and trench repairs within the roadways. The aboveground circuit connections to the transformers and associated circuit breakers would be partially screened from view from off-site vantage point by an existing 6-foot-high metal chain link fence with vinyl slats. Therefore, the proposed electrical distribution circuits would be consistent with the existing urban streetscape character.

In light of the above, the proposed ISE facility at 320-400 Paul Avenue and the proposed electrical distribution circuits would not result in a substantial and demonstrable negative change to the visual character or quality of the surrounding area.

Impact AE-4: The proposed project would create a new source of light and glare, but not to an extent that would adversely affect day or nighttime views in the area or that would substantially impact other people or properties. (Less than Significant)

The proposed ISE facility at 320-400 Paul Avenue would comply with San Francisco Planning Commission Resolution 9212, which prohibits the use of mirrored or reflective glass. The proposed project would include outdoor security lighting comprised of full-cutoff building-mounted and maximum 25-foot-high pole lights. Full cut-off fixtures would minimize any trespass of light onto adjoining properties and would eliminate glare caused by exposed light sources (bulbs). The resultant increase in minimal additional nighttime lighting beyond what currently exists on the project site would not be a significant source of light or glare.

The new electrical distribution circuits would be installed within existing roadways and at the PG&E Martin substation and would not include any new reflective surfaces or lighting sources.

Based on the above analysis, the proposed ISE facility at 320-400 Paul Avenue and the proposed electrical distribution circuits would have a less-than-significant impact associated with light and glare.

Impact C-AE-1: The proposed project, in combination with past, present, and reasonably foreseeable future development in the vicinity, would not result in a significant cumulative impact on aesthetic resources. (Less than Significant)

Approved projects and reasonably foreseeable future projects within the vicinity of the proposed ISE facility, are identified in Table 6 on p. 57. Similar to the proposed project, the approved and reasonable foreseeable projects would be designed to conform to the applicable land use designations, urban design requirements, and Height and Bulk District requirements as outlined in the SF Planning Code.

The planned changes to the 320-400 Paul Avenue project site would be part of the transformation of the older early 20th-century industrial buildings and uses in the vicinity to contemporary structures similar to the 200 Paul Avenue ISE facility and the U-Haul facility, on both sides of the project site. The project would contribute in the cumulative evolution of this industrial block to an area of renovated structures and new businesses. Though the older buildings may change incrementally to more contemporary structures, the area would maintain its mixed-use urban character and these changes would not substantially degrade views, damage scenic resources, or degrade the existing visual character of the area.

The vicinity of the proposed ISE facility at 320-400 Paul Avenue is urbanized and lacks unique scenic resources. Therefore, cumulative development in the project vicinity would not adversely affect visual resources to such a degree that a significant cumulative impact would occur in combination with the proposed project's less-than-significant aesthetic impacts. The proposed project's improvements would be virtually indistinguishable from public viewpoints and would not contribute in a cumulatively considerable way to the degradation of views or visual character, or damage to scenic resources.

The improvements for the new electrical distribution circuits would be constructed within existing roadways and within the existing PG&E Martin substation. There would not be any aboveground structures created within or adjacent to any public roadways. The circuit connections and associated circuit breakers within the PG&E Martin substation would be consistent with the other physical structures within the substation and would be partially screened from view from adjacent roadways by an existing fence along the substation's Geneva Avenue frontage. Therefore, these improvements, when combined with other utility projects and other past, present, and reasonably foreseeable projects, as well as other substation and roadway utility improvements would be consistent with the existing urban character.

For the reasons discussed above, the proposed project's impacts related to aesthetics, both individually and cumulatively, would be less than significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.3. Population and Housing					
Would the project:					
a) Induce substantial 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 housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐

Impact PH-1: The proposed project would not induce substantial population growth in San Francisco, either directly or indirectly. (Less than Significant)

The construction and operation of the proposed ISE facility at 320-400 Paul Avenue would not be expected to trigger a demand for a substantial increase in residential dwelling units. There would be an anticipated 80 employees per shift (three daily shifts), or a total of 240 additional workers, employed at the ISE facility. This could result in the potential demand of up to 240 new dwelling units. However, this is unlikely as many new workers at the site are expected to already reside in the greater San Francisco Bay Area and would remain at their current place of residence and commute to the project site. An increase in construction-related employment would also create intermittent and/or short-term construction jobs during construction of both the proposed ISE facility and the proposed electrical circuits. It is difficult to quantify the long-term growth in population and the demand for new housing generated by construction workers given the limited duration of employment. These workers typically move from one construction site to the next and are anticipated to already live within the greater San Francisco Bay Area. An increase of 240 permanent jobs at the proposed ISE facility would be consistent with the population and housing growth anticipated in the BVHP Area Plan, and evaluated in the BVHP FEIR,²⁴ that assumed existing sites would be altered by new or expanded uses. The potential additional demand of up to 240 housing units generated by the project would be a small portion of the additional 3,700 new housing units projected to be constructed within the BVHP Area Plan and evaluated in the BVHP FEIR.

²⁴ Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

The project does not include the construction or addition of any housing units. The 320-400 Paul Avenue project site and route for the planned electrical distribution circuits are located in an urbanized area and the proposed improvements would not substantially alter existing development patterns in the Bayview/South Bayshore neighborhood, nor would the proposed ISE facility be expected to induce a substantial amount of growth. The planned electrical distribution circuits would also not be anticipated to generate growth as the electrical service provided by the new circuits would be allocated for use by the ISE facility and is in an area already served by existing utilities, including electricity. Residential growth could occur without the proposed increase in electrical service.

In view of the above, the proposed project would not induce substantial growth or displace substantial numbers of people or housing units and would therefore not have a significant adverse effect on population and housing. Therefore, the proposed project would have a less-than-significant impact on inducing substantial population growth, either directly or indirectly.

Impact PH-2: The proposed project would not displace substantial numbers of people or existing housing units, necessitating the construction of replacement housing. (No Impact)

The project site at 320-400 Paul Avenue does not contain any housing. The planned electrical distribution circuits would be constructed within existing public roadways and an existing substation, neither containing any residential uses. The PG&E Martin substation is an existing business and does not have any housing. Therefore, the proposed project would have no impact with respect to the displacement of existing people, housing, or necessitating the construction of replacement housing elsewhere.

Impact C-PH-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative impact on population and housing. (Less than Significant)

The BVHP FEIR found that there would be a cumulative increase in population and the demand for housing within the BVHP Area Plan. An additional 5,523 employees were anticipated to be added to the Bayview Hunters Point Redevelopment Area through 2025.²⁵ The BVHP FEIR found that while the housing demand generated by the future jobs may exceed the affordable housing provided in the Plan Area, it would not result in a significant adverse impact and the project included an Affordable Housing Program to address this housing need. The BVHP FEIR found that the number of non-affordable housing units provided in the Plan Area would exceed the demand for residential units generated by the additional jobs in the Plan Area.

The proposed project would result in an insignificant increase in population at the site and cumulative population growth from the aforementioned projects would be within anticipated growth in the BVHP Area Plan. Therefore, there would be no significant cumulative impact to population and housing.

²⁵ Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.4. Cultural and Paleontological Resources					
Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco <i>Planning Code</i> ?	☐	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	☐

Impact CP-1: The proposed project would not result in a substantial adverse change in the significance of historic architectural resources. (Less than Significant)

Historical resources are those properties that meet the terms of the definitions in Public Resources Section 21084.1 and Section 15064.5 of the CEQA Guidelines. “Historical Resources” include properties listed in, or formally determined eligible for listing in, the California Register of Historical Resources (California Register), or listed in an adopted local historic register. The term “local historic register” or “local register of historical resources” refers to a list of resources that are officially designated or recognized as historically significant by a local government pursuant to resolution or ordinance. Historical resources also include resources identified as significant in a historical resource survey meeting certain criteria. Additionally, properties that are not listed, but are otherwise determined to be historically significant based on substantial evidence, would also be considered a historical resource.

A historic resource evaluation response (HRER)²⁶ was prepared for the proposed project by the SF Planning Department Preservation staff in response to an historic resource evaluation prepared by

26 Surce, Rich, *Historic Resource Evaluation Response*, October 17, 2012. This document is available for public review at the Planning Department at 1650 Mission Street, Suite 400, San Francisco, CA 94103, as part of Case No. 2011.0408E.

Page & Turnbull²⁷ to determine whether the existing buildings are historic resources or whether the project site is in, or adjacent to, an existing or eligible historic district or historic resource. An evaluation was also completed to determine whether the proposed project would have any adverse effect on historic resources on the project site, or within the project vicinity. The following is a summary of the HRER prepared for the proposed project.

320–400 Paul Avenue Site History

Originally constructed in 1930 for the Link-Belt Company, 320-400 Paul Avenue is comprised of three interconnected buildings: a two-story office building designed in the Spanish Colonial Revival architectural style (320 Paul Avenue); a three-story office and design studio building (350 Paul Avenue); and, a single-story industrial manufacturing building (400 Paul Avenue).

320 Paul Avenue is a former office building with a concrete foundation, a rusticated concrete base, tan brick cladding, multi-lite steel-sash windows, and a terracotta tile hip roof. Of the three buildings, 320 Paul Avenue is the most ornate with cast concrete capitals, medallions, and bases, along with herringbone-patterned brick panels and cast concrete ornamentation with the Link-Belt logo. The 320 Paul Avenue building is connected to the 350 Paul Avenue building at two locations. The first is a single-story steel frame with wood enclosed walkway and the second is a two-story enclosed walkway.

350 Paul Avenue is a three-story, concrete-frame, industrial building designed in a simple 20th Century Industrial style. This property features a concrete foundation, steel-sash industrial windows, a simple concrete roofline, and a flat roof. The 350 Paul Avenue building is connected to the 400 Paul Avenue building by a small one-story enclosed walkway.

400 Paul Avenue is a single-story industrial warehouse with a concrete foundation, steel-frame structural system and saw-tooth roof. The building features a brick base and corrugated metal cladding. The building's massing is divided into three distinct areas, as distinguished by the varied building heights and roofline: an elongated high bay with a heavy amount of glazing and a shallow pitched roof; a shorter corrugated metal manufacturing area with a saw-tooth roof; and a slightly taller corrugated metal shop with a saw-tooth roof.

In May 1993, 320-400 Paul Avenue was assigned a California Historical Resource Status Code (CHRSC) of "3S," which classifies this property as "appears eligible for the National Register as an individual property through survey evaluation." Currently, the subject property is classified as "Category A.2" (Adopted Local Registers and Properties that have been determined to appear eligible, or which may become eligible for the California Register for the purposes of the SF Planning Department's CEQA review procedures because of its CHRSC of "3S").

27 Page & Turnbull, Inc., *Historic Resource Study, 320-400 Paul Avenue, San Francisco, CA*, March 12, 2008. This document is available for public review at the Planning Department at 1650 Mission Street, Suite 400, San Francisco, CA 94103, as part of Case No. 2011.0408E.

Historic Resource Eligibility

The determination of whether a building may be a historical resource is based on California Register criteria, which include events (Criterion 1), persons (Criterion 2), architecture (Criterion 3), and information potential (Criterion 4), or if the resource is determined to contribute to a historic district.

The HRER found that the three buildings were not associated with events or people that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States (Criteria 1 and 2), nor were they found to yield important history or prehistory information (Criterion 4). However, Preservation staff determined that the subject property at 320 Paul Avenue is individually eligible for inclusion in the California Register due to its architectural style (Criterion 3). The building's architecture was found to be significant as an embodiment of the distinctive characteristics of a type and period, and for its high artistic values. The properties at 350 and 400 Paul Avenue were determined not to be eligible under Criterion 3 as these properties do not embody any notable characteristics which distinguish the building as historically significant either individually or as part of a historic district. Therefore, the buildings at 350 and 400 Paul Avenue were determined to be ineligible for listing in the California Register, nor are they part of a historic district, and therefore, are not a historic resources for CEQA purposes. Therefore, demolition of the existing structure at 400 Paul Avenue would not result in an adverse effect on a historic architectural resource or district.

The 320 Paul Avenue building was determined to be a historic resource for CEQA purposes under Criterion 3 due to its architectural features. The Beaux Arts-style building is a two-story office building with rusticated base, terracotta ornamentation, clay tile roof, steel-sash windows, wood-sash windows, and other Spanish Colonial Revival details. The improvements to this structure would include the repair of the brick and rusticated concrete building exterior, the removal of the security grills, the repair of the terracotta roof, and either repair of the steel-sash windows, or if necessary, replacement with new energy-efficient windows with a style and pattern similar to the original. The exterior of the building would be cleaned using a dry or wet method (heat/pressure) in order to avoid the use of chemical strippers.²⁸

The Secretary of the Interior's Standards offer four sets of standards to guide the treatment of historic properties: Preservation, Rehabilitation, Restoration, and Reconstruction. Typically, one set of standards is chosen for a project. The project sponsor has selected the Standards for Rehabilitation that "acknowledge the need to alter or add to a historic building to meet continuing new uses while retaining the building's historic character." In its March 7, 2014 HRER, Preservation staff determined that the project substantially complies with the Secretary of the Interior's Standards for Rehabilitation. Additionally, since the 350 Paul Avenue building would be retained and the 400 Paul Avenue building replaced with a building with the same approximate form and massing of the building it

28 Wong, Kelly, Email to Heidi Kline, *Hazardous Materials evaluation of chemical wash procedure for 320 Paul Avenue*, February 10, 2014. This document is available for public review at the Planning Department at 1650 Mission Street, Suite 400, San Francisco, CA 94103, as part of Case No. 2011.0408E.

would replace, the changes to 350 and 400 Paul Avenue buildings would not have an adverse impact on the site's historic resource (320 Paul Avenue building). Therefore, the proposed project at 320 Paul Avenue would comply with the Secretary's Standards and would not result in a significant adverse impact under CEQA and the impact on historic resources would be less-than-significant. The proposed electrical distribution circuits would be installed within existing streets between the PG&E Martin substation and the proposed ISE facility at 320-400 Paul Avenue. The only visible improvements would include the vault covers installed flush with the road surface and the aboveground connection of the circuits to the existing transformer banks and associated new circuit breakers within the substation itself. A portion of the route (Bayshore Boulevard) would be located adjacent to the potential Little Hollywood Historic District, though the project would not have an adverse impact on this potential historic resource due to the absence of any aboveground structures. No pile-driving or other construction activities with sufficient vibration to damage any historic resource along the route of the planned circuits would be used during construction.

Therefore, the construction and operation of the proposed ISE facility and new electrical distribution circuits would have a less-than-significant impact on a historic architectural resource or district.

Impact CP-2: The proposed project could result in damage to, or destruction of, as-yet unknown archaeological remains should such remains exist beneath the project site. (Less than Significant with Mitigation)

CEQA requires that the effects of a project on an archeological resource shall be taken into consideration and that if a project may affect an archeological resource, that it shall first be determined if the archeological resource is an "historical resource," that is, if the archeological resource meets the criteria for listing in the California Register. To be eligible for listing to the California Register under Criteria 1, 2, or 3, an archeological site must contain artifact assemblages, features, or stratigraphic relationships associated with important events, or important persons, or be exemplary of a type, period, or method of construction (CEQA Guidelines Sections 15064.5(a)(1) and (3) and (c)(1) and (2)). To be eligible under Criterion 4, an archeological site need only show the *potential* to yield important information.²⁹ An archeological resource that qualifies as a "historical resource" under CEQA, generally, qualifies for listing under Criterion 4 of the California Register (CEQA Guidelines §15064.5 (a)(3)(D)). An archeological resource may qualify for listing under Criterion 4 when it can be demonstrated that the resource has the potential to significantly contribute to questions of scientific/historical importance. The research value of an archeological resource can only be evaluated within the context of the historical background of the site of the resource and within the context of prior archeological research related to the property type represented by the archeological resource.³⁰

29 United States Department of the Interior, National Park Service. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Washington, D.C.: National Park Service, revised 1998. Available online at <http://www.nps.gov/nr/publications/bulletins/nrb15/>. Accessed on July 17, 2013.

30 California Office of Historic Preservation, *Preservation Planning Bulletin No. 5*. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

Factors considered in determining the potential for encountering archaeological resources include the location, depth, and amount of excavation proposed, as well as any existing information about known resources in the area. The proposed project would involve an anticipated excavation depth of up to five feet for the building foundations at the planned ISE site and up to a six-foot excavation depth within the public streets for the off-site electrical circuits.

The SF Planning Department staff completed a preliminary archeological assessment, summarized as follows:³¹

ISE Facility at 320-400 Paul Avenue

There is an indication that a limited area of the project site is covered with up to several feet of imported fill material. It is unclear how much of the project site has been altered during the historic period and the existing grade is likely near the historic site surface. The historic land surface below the fill is a composite of sandy silt or clayey sand. The presence of sandy silt, clayey sand and clay deposits within shallow depths below the surface indicate that this area may have at one time been within tidal wetlands at a time that the South Basin extended further inland. The dense sand deposits extend up to 15 feet bgs at some locations on the site, indicative of the Colma Formation, a Pleistocene alluvial deposit that forms a cultural basement for archeologists who do not expect prehistoric deposits deeper than 3 to 5 feet within this formation. Although the Colma Formation formed long before human presence has been documented in the San Francisco Bay Area and the Americas, it provided a stable land surface available for human occupation for thousands of years even until the Early Holocene when human communities are well documented.

The area from Hunter's Point to Candlestick Point and extending inland to wetlands within Visitación Valley is one of San Francisco's areas of high prehistoric sensitivity. These prehistoric deposits are shell middens but it is highly probable that other types of prehistoric deposits are also present. Compared to prehistoric sites in the South of Market area, these prehistoric sites, some of which are documented from the mid-1850s, have been the subject of far less field study, particularly using modern methodologies. Most of these shell midden sites are located near the former shoreline, lagoons, or marshlands. The project site is located between two former streams that run into the embayment that today is only residually represented by South Basin. The two locations for CA-SFR-10 and the Thomas-Hawes mound are the documented prehistoric midden sites nearest to the project site. The preliminary archeological assessment determined that the proposed ISE facility is within an area that has a high degree of archeological sensitivity for prehistoric deposits and that archeological resources may be present.

The excavation for the proposed ISE facility would have the potential to encounter prehistoric cultural resources. Effects to CRHR-eligible archeological resources would be a significant impact.

31 Memorandum from Randall Dean, *Environmental Planning Preliminary Archeological Review: Checklist*, February 12, 2013, revised January 21, 2014. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

Implementation of an archeological testing plan prior to excavation would avoid potential adverse impacts on archeological cultural resources.

12kV Electrical Distribution Circuits

The route for the planned electrical distribution circuits would include an area with known prehistoric resources. The greater portion of the project alignment from Paul Avenue to Geneva Avenue follows what was known as the San Bruno Turnpike road in the 1850s and was the principal southward bound route from San Francisco for many years. There were few improvements along this route until the 1870s. The Twelve Mile House was just north of the county boundary and Paul's House and Corral were located north of the intersection with today's Paul Avenue. Prehistorically the southern end of the proposed alignment, near the San Francisco and San Mateo County line, was comparatively densely occupied by prehistoric settlements (CA-SFR-34, CA-SMA-356, the Ralston Mound complex of three shell middens and so-called "Deans' Mound). Archeological investigations are currently ongoing at the Schlage Locke property but to date two shell midden deposits have been documented one of which may be part of Ralston Mound – a large shell mound first investigated and documented in the 1870s. The Ralston Mound complex of three shell middens was first reported and mapped in the 1850s and the proposed project alignment transects a location where one of these shell middens has been georeferenced. Although other prehistoric sites have been recorded in the area of the southern portion of the proposed underground electrical feeder line, except for the Ralston Mound related midden noted above, none of these sites have been yet documented within the project alignment.

The planned 6-foot-deep excavation depth required to install the electrical distribution circuits would have the potential to encounter prehistoric cultural resources. Effects to CRHR-eligible archeological resources would be a significant impact. Therefore, prior to excavation within the alignment for the electrical circuits, the project sponsor should develop an archeological testing plan to avoid potential adverse impacts.

With implementation of the following mitigation measure, the impacts on archeological cultural resources would be reduced to a less-than-significant level.

Mitigation Measure M-CP-2: Archaeological Testing Plan

Based on a reasonable presumption that archeological resources may be present within the proposed ISE project site and along the route of the proposed 12kV electrical distribution circuits, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried archeological resources. The project sponsor shall retain the services of an archaeological consultant from the rotational Department Qualified Archaeological Consultants List (QACL) maintained by the Planning Department archaeologist. The project sponsor shall contact the Department archaeologist to obtain the names and contact information for the next three archeological consultants on the QACL. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at

the direction of the Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by 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 (a)(c).

Consultation with Descendant Communities. On discovery of an archeological site an appropriate representative of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to consult with ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group.

Archeological Testing Plan. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

- A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or
- B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions:

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils-disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work and shoring, site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context;
- The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation /construction activities and equipment until the deposit is evaluated. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected 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 historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP 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 and Deaccession Policy.* Description of and rationale for field and post-field discard and deaccession policies.
- *Interpretive Program.* Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
- *Security Measures.* Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- *Final Report.* Description of proposed report format and distribution of results.
- *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.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of 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. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Impact CP-3: The proposed project would not destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant)

Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. Paleontological resources include vertebrate, invertebrate, and plant fossils or the trace or imprint of such fossils. The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered nonrenewable resources because the organisms from which they derive no longer exist. Thus, once destroyed, a fossil can never be replaced. Paleontological resources are lithologically dependent; that is, deposition and preservation of paleontological resources are related to the lithologic unit in which they occur. If the rock types representing a deposition environment conducive to deposition and preservation of fossils

are not favorable, fossils will not be present. Lithological units that may be fossiliferous include sedimentary and volcanic formations.

As discussed in Topic E.14. Geology, areas of the project site contain up to 13 ½ feet of imported fill material. The historic land surface below the fill is a composite of sandy silt or clayey sand. The presence of sandy silt, clayey sand and clay deposits within shallow depths below the surface indicate that this area may have at one time been within tidal wetlands at a time that the South Basin extended further inland. Rock formations were not encountered in any of the seven borings, with a maximum 52-foot depth, conducted on the project site in 2000³² and 2011.³³

The proposed excavation, as discussed in the Project Description and in Impact CP-2, would extend up to five feet in depth on the 320-400 Paul Avenue site and up to six feet in depth within the roadways along the route for the proposed electrical distribution circuits. Therefore, the depth of excavation would not be anticipated to encounter geologic rock formations containing lithological units (containing fossils). Therefore, impacts to paleontological resources would be less than significant.

Impact CP-4: The proposed project may disturb human remains. (Less than Significant with Mitigation)

Impacts on Native American burials are considered under Public Resources Code (PRC) Section 15064.5(d)(1). When an Initial Study identifies the existence of, or the probable likelihood of, Native American human remains within the project site, the lead agency is required to work with the appropriate tribal entity, as identified by the California Native American Heritage Commission (NAHC). The lead agency may develop an agreement with the appropriate tribal entity for testing or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials. By implementing such an agreement, the project becomes exempt from the general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5) and the requirements of CEQA pertaining to Native American human remains. The proposed project's treatment of human remains and of associated or unassociated funerary objects discovered during any soils-disturbing activity would comply with applicable state laws, including immediate notification of the City and County of San Francisco Coroner. If the Coroner were to determine that the remains are Native American, the NAHC would be notified and would appoint a Most Likely Descendant (PRC Section 5097.98).

Previous development at the proposed ISE facility site at 320–400 Paul Avenue and within the roadways along the route of the proposed electrical distribution circuits has resulted in substantial

32 Kleinfelder, Inc., *Geotechnical Investigation Proposed New Building at 400 Paul Avenue, San Francisco, CA*. October 25, 2000. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E. (Kleinfelder, 2000)

33 Engeo, Inc., *Geotechnical Feasibility Study for Data Center at 400 Paul Avenue, San Francisco, CA*. September 26, 2011. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E. (Engeo, 2011)

ground-disturbing activities. Therefore, if human remains were present, it is likely that they were previously disturbed. As such, the proposed project is not anticipated to disturb any human remains, including Native American burials. Nonetheless, in an abundance of caution, this Initial Study considers the project's impact on human remains to be potentially significant. Implementation of **M-CP-2 - Archeological Testing Plan**, would reduce this impact to a less-than-significant level.

Impact C-CP-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the site, would not result in a significant cumulative cultural resources impact. (Less than Significant)

Table 6 on p. 57 identifies approved projects and reasonably foreseeable future projects within the vicinity of the project site. The proposed project would not adversely impact the historic resource (320 Paul Avenue) present on the proposed ISE facility site and the site is not part of or adjacent to an historic district.

The installation of the planned electrical distribution circuits would occur within the existing roadway and would not result in any aboveground structures adjacent to, or physically intersect, any historical resources within the roadways along the route between the PG&E Martin substation and 320-400 Paul Avenue. Therefore, this project would not have any impacts to historic architectural resources and the proposed project would not have the potential to contribute to any cumulative impacts to historic architectural resources.

Ground-disturbing activities on the planned ISE site and along the planned route for the 12kV electrical distribution circuits could encounter previously recorded and/or unrecorded archaeological resources as well as human remains. Project-related impacts on archaeological and paleontological resources and human remains are site-specific and generally limited to the project's construction area. Therefore, cumulative impacts to archaeological and paleontological resources and/or human remains would be less than significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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E.5. Transportation and Circulation

Would the project:

- | | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | ☐ | ☐ | ☒ | ☐ | ☐ |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☐	☒	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	☐	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐	☐

Setting

ISE Facility at 320 – 400 Paul Avenue

The project site is located within the Bayview/South Bayshore neighborhood midblock on Paul Avenue between Highway 101/Bayshore Boulevard and Third Street. The project site has frontage on Paul Avenue. The proposed project includes the renovation of two 55,760-square-foot office buildings and construction of a new 187,000-square-foot data center building. These three buildings, totaling approximately 243,000 square feet in area would be operated as an ISE facility, or data center. Changes would be made to an existing 54-space parking lot adjoining the 320 and 350 Paul Avenue office buildings, resulting in a smaller 35-space parking lot with a center landscape island available to visitors and building personnel. An additional 45 parking spaces for the data center tenants would be added in two areas along the right (east) and rear sides of the new data center building. A receiving and loading area with two loading bays for large trucks would be added at the rear of the data center building for deliveries of IT components. A third loading bay would be used for trash and recycling pick up. A 20-foot-wide emergency vehicle access (EVA) would be constructed along the west side of the site in order to provide access for emergency vehicles to the west side of the buildings, as well as for use by tenants in the event of an emergency blocking the eastern driveway. A new curb cut on Paul Avenue would be added for the EVA and an automatic gate added to limit vehicle access to emergency vehicles only.

Regional Access. Regional access to the project site is provided by Highway 101, Interstate 80 (I-80), and Interstate 280 (I-280). Both I-80 and I-280 connect to Highway 101 north of the project site. Highway 101 provides the primary regional access to the project site, providing access to the San Francisco-Oakland Bay Bridge that connects San Francisco with the East Bay, as well as providing access to areas to the south of the project site, including the Silicon Valley and the South Bay. Also, Highway 101 connects San Francisco and the North Bay via the Golden Gate Bridge. Within the northern part of San Francisco, Highway 101 operates on surface streets (i.e., Van Ness Avenue and Lombard Street). Access to the project site from northbound Highway 101 is provided via the Third Street off-ramp and from the southbound direction via the Paul Avenue off-ramp. The Bayshore Boulevard on-ramps provide access from the project site onto both directions of Highway 101.

Local Access. Paul Avenue is a two-way arterial that runs in an east-west direction between Third Street and San Bruno Avenue. The street has two travel lanes, one in each direction, and a parking lane on the north side of the street. No parking is allowed on the south side of the street, adjacent to the residential neighborhood. Paul Avenue has driveways on the north side for the individual industrial uses and, on its south side, connections to local residential neighborhood streets. In the SF General Plan, Paul Avenue does not have any special designation or characterization on the Vehicular Street Map, Congestion Management Plan (CMP) Network Plan, or the Metropolitan Transportation System Street and Highway Network Plan.

Rather, Paul Avenue is a relatively short arterial connecting two major arterials, Bayshore Boulevard and Third Street. Both Bayshore Boulevard and Third Street are designated as major arterial streets on the SF General Plan Vehicular Map (Map 6 of the SF General Plan Transportation Element) and CMP Plan (Map 7 of the SF General Plan Transportation Element). These major arterials are intended to function as cross-town thoroughfares with a primary function to link districts within the city and to distribute traffic to and from the freeways.

Bicycle Access. Bicycle Route 5, a Class III bike route, is located on Paul Avenue between San Bruno Avenue and Third Street, and then, on Third Street to the Islais Creek bridge. Route 5 connects to Route 25 on Bayshore Boulevard.

Public Transit. The SFMTA's T-Third Street light rail line and Caltrain regional rail line are located to the east of the project site, 900 and 400 feet respectively. The closest transit stops on the SFMTA's T-Third Street light rail line is the Gilman/Paul stop at the intersection of Paul Avenue and Gilman Street. Although the Caltrain right-of-way adjoins the entire eastern edge of the project site, the nearest station, Bayshore, is 1.0 mile to the southwest of the project site. A previous stop at Paul Avenue was eliminated in 2005 due to low ridership. The SFMTA's 29 Sunset provides bus service along the property's Paul Avenue frontage with a flag stop³⁴ near the center of the project's frontage. Other

34 A flag stop is a stop location available for passengers alighting and disembarking from a designated bus route that does not have a demarcated bus zone. The bus stops in the travel lane to pick up and drop off passengers when the driver is alerted by the passenger of a stop request.

SFMTA routes near the project site include two rapid network routes, the 8X Bayshore at San Bruno Avenue and the 9 San Bruno at San Bruno Avenue. Nighttime bus service to the site is provided by the 91 Owl on Third Street.

12kV Electrical Distribution Circuits

The 12kV electrical distribution circuits would be constructed within the following public streets: Paul Avenue, San Bruno Avenue, Bayshore Boulevard, and Geneva Avenue. Both Paul Avenue and San Bruno Avenue are two- to four-lane arterials with on-street parking on one or both sides of the roadway along the route of the planned electrical circuits. The SFMTA bus routes using this portion of San Bruno Avenue include the 8AX Bayshore Express, 8X Bayshore Express, 9 San Bruno, 9L San Bruno Limited, 56 Rutland, and 90 San Bruno Owl. As mentioned above, only the 29 Sunset bus route is located along Paul Avenue.

Bayshore Boulevard and Geneva Avenue are four-lane arterials within predominantly commercial areas. Both roadways have parking along both sides of the street along the proposed electrical circuit route. Also, the SFMTA's T-Third Street light rail is located in the center of Bayshore Boulevard south of Third Street to approximately 200 feet south of the San Francisco-San Mateo County line. The SFMTA bus routes using this portion of Bayshore Boulevard include the 8AX Bayshore Express, 8BX Bayshore Express, 8X Bayshore Express, 9 San Bruno, 9L San Bruno Limited, 56 Rutland, and 91 Owl. San Mateo County Transit District's SAMTRANS bus routes using this portion of Bayshore Boulevard include SAMTRANS 292 and 397. Bus routes serving this portion of Geneva Avenue in Daly City include the SFMTA 8AX Bayshore Express and SAMTRANS Routes 24 and 29.

Impact TR-1: The proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, nor would the proposed project conflict with an applicable congestion management program. (Less than Significant)

Policy 10.4 of the Transportation Element of the SF General Plan states that the City will "[c]onsider the transportation system performance measurements in all decisions for projects that affect the transportation system." To determine whether the proposed project would conflict with a transportation- or circulation-related plan, ordinance, or policy, this section analyzes the proposed project's effects on intersection operations, transit demand, pedestrian and bicycle circulation, parking, and freight loading, as well as construction impacts.

Trip Generation

The *Transportation Impact Analysis Guidelines for Environmental Review* (SF Guidelines)³⁵ does not contain any data on the trip generation rates for data center uses. The use is different from an office

35 San Francisco Planning Department, *Transportation Impact Analysis Guidelines for Environmental Review*, October 2002. Available online at <http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=6753>. Accessed January 23, 2014.

use in that large areas of the building house racks of computing hardware with only a few employees present around the clock to monitor the equipment and an irregular influx of additional workers to install and replace the equipment, along with building security, maintenance, and administrative personnel. Additionally, unlike typical trip patterns generated by office uses, data center trip arrival and departure times are spread out over three shifts, most which occur outside the PM peak period, and operate seven days a week. Much of the installation, repair and maintenance in a data center takes place in the evening hours after 10:00 p.m. when Internet usage drops significantly. The project sponsor estimates that approximately 80 employees would be expected for each 8-hour shift, with a maximum of 87 workers anticipated during the day shift. Therefore, a total of 240 people would be employed at the facility, though only a maximum of 87 employees would be on site at any given time. The facility is not open to the general public. Therefore, visitors to the facility would be limited to potential tenants, salespersons, and data room IT equipment installers.

Based on the employee travel modes in the SF Guidelines for this area (Superdistrict 3), during the daytime shift (87 employees) approximately 62 employees would arrive by auto (in 50 autos due to ridesharing), 18 would arrive by transit, and 7 would be expected to walk or bike. The mode split and number of employees per shift are shown in Table 7. While there is a potential for overlap between shifts, it would vary based on the staggered work hours of the employees of the various data hall tenants.

Table 7 - Travel Commute Mode for Employees to the Site

Trips to Project Site (Per Shift)	Auto Commute Trips	Number of Autos	Transit Commute Trips	Walk Commute Trips	Other Commute Trips
Mode Split	71.1 percent	1.23 Persons per Auto	20.2 percent	5.8 percent	2.0 percent
Number of Employees	62	50	18	5	2

Traffic

Intersection analysis in San Francisco is generally conducted for the PM peak hour. Based on the projected number of employees, mode split, and persons per auto, a maximum of 50 vehicle trips per shift (daytime shift) would be added to traffic volumes at adjacent intersections. Although it is unlikely that employees of the different data center tenants would all have the same work hours and shift change, if the daytime and nighttime shifts overlap it could result in the addition of up to 91 vehicle trips (based on 157 employees from both shifts) during the PM peak hour to the local street network. These 91 vehicle trips would be split between Paul Avenue and Third Street and Paul Avenue and Bayshore Boulevard. The SFMTA Traffic Count Data indicates that in April 2009 there

was a total 713 PM peak hour trips on Paul Avenue.³⁶ Due to this relatively minor increase in trips as compared to traffic volumes on Paul Avenue and surrounding intersections, the project would have a negligible impact on intersection levels of service in the project vicinity.

After completion of construction of the electrical circuits, there would be only a negligible increase in vehicle trips on public streets generated by PG&E personnel as part of its periodic maintenance of the proposed electrical circuits.

Therefore, the proposed project would have a less-than-significant impact on traffic and intersection levels of service.

Parking

Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel. While parking conditions change over time, a substantial deficit in parking caused by a project that creates hazardous conditions or significant delays to traffic, transit, bicycles or pedestrians could adversely affect the physical environment. Whether a deficit in parking creates such conditions will depend on the magnitude of the shortfall and the ability of drivers to change travel patterns or switch to other travel modes. If a substantial deficit in parking caused by a project creates hazardous conditions or significant delays in travel, such a condition could also result in secondary physical environmental impacts (e.g., air quality or noise impacts caused by congestion), depending on the project and its setting.

The proposed ISE facility would have 80 on-site parking spaces that would be adequate to accommodate the anticipated 50 auto trips per shift generated by the data center and administrative service employees, along with any potential overlap between employees from other shifts. Although employees would be directed to park on site, street parking is available along the project's Paul Avenue frontage.

The SF Planning Code does not include a specific parking ratio standard for data center uses. Therefore, the project sponsor has submitted its request for PUD approval to establish 80 parking spaces, or one space per 3,000 square feet of building area, for the ISE. As described above, all parking for the proposed ISE facility would be accommodated within the proposed on-site parking areas.

Upon completion of the construction of the electrical distribution circuits, there would be only a negligible impact on parking generated as a result of their installation. Some future temporary loss of on-street parking along portions of the route may result from construction crews needing to perform periodic ongoing maintenance of the electrical circuits. These losses would be temporary (short duration in the number of days).

36 San Francisco Municipal Transportation Agency, *SFMTA Traffic Count Data 1995-2013*. Available online at <http://www.sfmta.com/about-sfmta/reports/sfmta-traffic-count-data-1995-2013>. Accessed May 29, 2014.

As discussed above, the proposed project would not result in a parking shortfall and therefore the project would not have the potential to result in secondary physical environmental effects that could result from a substantial parking deficit and parking-related impacts on the physical environment would be less than significant.

Loading

The SF Planning Code requires two loading spaces for uses with 200,000 to 500,000 square feet of office and other similar uses. Therefore, one loading space would be required for the proposed ISE facility. The project proposes two loading bays for large deliveries at the rear of the data center building and a third for trash and recycling service. The proposed ISE facility would not be a delivery-intensive use. Rather, most deliveries of large items would occur during tenant improvement projects within the suites, i.e. installation of equipment for a new user. Smaller deliveries handled by UPS and FedEx would be delivered to the main entrance at 350 Paul Avenue. Therefore, adequate loading facilities would be provided on site for the proposed ISE facility at 320-400 Paul Avenue.

There would not be any demand generated for loading facilities as a result of the construction of the electrical distribution circuits. No existing loading facilities would be affected or changed. Therefore, the electrical distribution circuits would not have any loading impacts.

As described above, implementation of the proposed project would have a less-than-significant impact on loading.

Transit

Based on the employee mode split in the SF Guidelines for this area, 18 of the 87 employees during the maximum shift (day shift) are projected to utilize public transit. These new transit trips would utilize the nearby SFMTA bus routes and light rail lines, as well as nearby regional transit lines, including Caltrain and Bay Area Rapid Transit (BART). The addition of the 18 project-generated riders per shift would have a negligible impact on the AM and PM peak hour capacity utilization of the SFMTA bus and light rail lines and Caltrain and BART transit lines operating in the vicinity of the proposed project.

No aboveground structures would be constructed within the public roadway that would obstruct transit vehicles or transit riders as part of the proposed electrical distribution circuits. After construction is completed, there would be a negligible increase in maintenance activities along the route. All future maintenance activities along this route would be required to comply with the regulations in the SFMTA's Blue Book³⁷ governing construction activities along major transit routes that includes restrictions on work hours on roadways served by the SFMTA's major transit routes. All future maintenance and construction activities within the Daly City roadways would be required to comply with the DC DPW's *General Conditions of Approval for Work within the City Street Right-of-Way*³⁸

³⁷ SFMTA, 2012.

³⁸ Daly City Department of Public Works, *General Conditions of Approval for Work within the City Street Right-of-Way*, June 25, 2010. Available online at

that requires a traffic control plan be approved prior to construction and that no construction occur from 4:00 p.m. to 9:00 a.m. (includes both the AM and PM peaks hours), minimizing conflicts with transit and other vehicles.

Therefore, the project would have a less-than-significant impact on the capacity, performance and safety of public transit facilities.

Pedestrian and Bicycles

Based on the travel mode split for employees in this area, seven employees would walk or bike to the site. Existing sidewalks along Paul Avenue and surrounding streets are available for use by employees. An existing bicycle route, Route 5, is located on Paul Avenue. This route connects to both San Bruno Avenue and Third Street, as well as to Route 25 on Bayshore Boulevard. Therefore, the pedestrians and bicyclists generated by the proposed project would be accommodated by existing facilities and implementation of the proposed project would have a less-than-significant impact on pedestrians and bicycles.

No aboveground structures would be constructed within the public roadway that would obstruct bicycles or pedestrians after construction of the proposed electrical circuits. Upon completion of the construction of the proposed circuits, there would be a negligible increase in maintenance activities along the route. All future maintenance activities would be required to comply with the regulations in the SFMTA's Blue Book³⁹ and DC DPW's *General Conditions of Approval for Work within the City Street Right-of-Way*⁴⁰ for construction activities within public roadways, intended to maintain adequate and safe pedestrian and bicycle facilities.

Construction

Construction activities for the proposed ISE facility at 320-400 Paul Avenue would last 12 months and would be completed in four phases. The average number of construction workers would be 48 workers per day, with maximum of 110 during peak construction periods. Construction material staging and storage, parking for construction workers, and all other construction activities are anticipated to be accommodated on the project site. Construction would occur Monday through Friday, 7:00 a.m. to 6:00 p.m. The average daily construction-related truck trips would be seven trips, with a maximum of 24 daily trips during the peak construction period. No specific construction-related truck routing is anticipated. During the construction phase for the proposed ISE facility, temporary and intermittent transportation effects would be generated by the project including additional vehicle trips to the project site from workers, material hauling and equipment deliveries. These activities would be limited in duration.

<http://www.dalycity.org/Assets/Departments/Public+Works/pdf/Encroachment+Permit+Application.pdf>. Accessed January 23, 2014. (DC DPW, 2010)

39 SFMTA, 2012.

40 DC DPW, 2010.

Construction activities for the proposed electrical distribution circuits would last approximately six months. Excavation within the public roadways would require excavation permits from both Daly City and San Francisco. An anticipated six-person construction crew would meet at the PG&E maintenance yard, or other contractor yard if the work is subcontracted to another contractor, and travel to the jobsite in company trucks and construction vehicles. Some construction materials and equipment may be temporarily stored overnight within the right-of-way resulting in a temporary loss of on-street parking.

Construction on roadways within San Francisco used by major SFMTA routes is required to comply with the SFMTA Blue Book Regulation 2.2.5 Major Muni Routes (Unclog the Streets)⁴¹ that establishes specific construction hours be adhered to in order to minimize disruption to SFMTA transit vehicles. All construction activities affecting travel lanes (including tow-away zones) on any major transit route must cease between 4:00 p.m. to 7:00 p.m., Monday through Friday. Construction activities along any major transit route that is a commercial district must stop from 7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m., Monday through Friday. This regulation would apply to the portion of Bayshore Boulevard within San Francisco, San Bruno Avenue, and Paul Avenue. Construction within Daly City roadways along the proposed electrical circuit route would be required to adhere to Daly City's *General Conditions of Approval for Work within the City Street Right-of-Way*⁴² that requires construction activities within public roadways not occur between 4:00 p.m. to 9:00 a.m. to minimize disruption to transit during the peak commute periods. Therefore, disruption to transit during construction of the electrical circuits would be minimal.

During construction of the proposed electrical distribution circuits, temporary and intermittent transportation impacts would result from temporary lane closures, additional construction vehicle trips along the construction route, and temporary loss of parking. These activities would be limited in duration and would only occur in intervals along the entire route.

Potential conflicts during construction of the proposed ISE facility and electrical distribution circuits could result in temporary and intermittent conflicts with other components of the transportation system (e.g., transit, pedestrian, bicycle). Given the temporary and intermittent nature of the construction activities, the proposed project's construction-related activities would not result in a substantial impact to the transportation system. Therefore, the construction of the proposed project would have a less-than-significant impact on transportation-related infrastructure and area circulation.

41 SFMTA, 2012.

42 DC DPW, 2010.

Impact TR-3: The proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks. (No Impact)

The proposed ISE facility at 320-400 Paul Avenue is not located near an airport or within an airport land use plan area. Therefore, the project would not have any effects on air traffic patterns.

No aboveground structures would be constructed within the public roadways as part of the proposed electrical distribution circuits. Circuit breakers would be installed near the transformers within the PG&E Martin substation and would be similar in height to the existing circuit breakers within the substation. The portion of the electrical circuits and circuit breakers constructed within Daly City and Brisbane would be within an airport land use plan area, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*.⁴³ However, the only portion of the project with new aboveground structures would be the circuit breakers that would be constructed in an area with similarly-sized equipment and structures and not in an area designated for height controls in the airport land use plan. Therefore, the project would not have any impact on air traffic.

Impact TR-3: The proposed project would not substantially increase hazards due to a design feature or incompatible uses. (Less than Significant)

The proposed project would include the addition of a curb cut along the north side of Paul Avenue, at the west side of the proposed ISE facility. This curb cut would provide access to the proposed gated EVA along the west side of the facility, resulting in very low use of this new curb cut. Therefore, there would be a negligible impact on pedestrians using the Paul Avenue public sidewalk and vehicles travelling on Paul Avenue as a result of this new curb cut. The proposed ISE facility land use at 320-400 Paul Avenue is consistent with both the BVHP Area Plan and SF Planning Code and is compatible with surrounding land uses, as described in Topic E.1, Land Use and Land Use.

The installation of the electrical distribution circuits would not result in any design changes to the roadways or any aboveground structures along the route. The only aboveground structures associated with the proposed electrical circuits would be within the confines of the PG&E Martin substation and would be consistent with other improvements within the substation.

Therefore, the proposed project would have a less-than-significant impact with respect to hazardous design features or incompatible uses.

43 City/County Association of Governments of San Mateo County, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*, October 2012. Available online at: http://www.ccag.ca.gov/pdf/plans-reports/2012/Consolidated_CCAG_ALUCP_10-29-12.pdf (City/County Association of Governments of San Mateo County, 2012.)

Impact TR-4: The proposed project would not result in inadequate emergency access. (Less than Significant)

An EVA would be constructed along the west side of the proposed ISE facility at 320–400 Paul Avenue to provide access to the west side of the buildings and to provide alternate access in the event of a temporary closure of the eastern driveway. Emergency service providers would be able to pull onto the project site from both the west and east sides to access the buildings in the event of an emergency. A lockbox or other equivalent equipment would be installed at the gate to the EVA to allow the San Francisco Fire Department (SFFD) and other authorized personnel to open the gate in the event of an emergency.

The installation of the 18 diesel generators would be reviewed by the SFFD plan check personnel to ensure compliance with the San Francisco Fire Code and other applicable regulations governing emergency vehicle access to the new generators prior to the issuance of a building permit, along with undergoing all required SFFD inspections.

An excavation permit would be required to construct the electrical distribution circuits within the public right-of-way. The excavation permits for both Daly City and San Francisco roadways would include conditions requiring the project adhere to Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones (Daly City) and SFMTA Blue Book⁴⁴ (San Francisco) intended to maintain safe vehicular circulation and emergency vehicle access in a roadway construction zone. No aboveground structures would be built within the public right-of-way. The related aboveground circuit breakers within the PG&E Martin substation would be located within the previously developed substation and would not interfere with emergency access. Therefore, the proposed electrical circuits would not result in a significant adverse impact to emergency access.

For the reasons above, the proposed ISE facility at 320-400 Paul Avenue and the electrical distribution circuits would have a less-than-significant impact on emergency vehicle access.

Impact C-TR-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the site, would not result in a cumulatively considerable contribution to any significant cumulative transportation impact. (Less than Significant)

Construction

It is anticipated that project-related construction activities for both the proposed ISE facility at 320-400 Paul Avenue and the electrical distribution circuits may overlap with the construction activities of other projects in the vicinity. The construction activities associated with other nearby projects would have a negligible impact on traffic, bicycle and pedestrian movements along Paul Avenue near the proposed ISE facility as they would be required to adhere to the regulations in the SFMTA Blue Book⁴⁵

⁴⁴ SFMTA, 2012.

⁴⁵ SFMTA, 2012.

and those associated with the relevant San Francisco Department of Building Inspection (SF DBI) building permits.

Work within the public roadways for the electrical distribution circuits would require excavation permits from Daly City and San Francisco that would allow those agencies to coordinate with other construction projects within the roadway. SF DPW currently coordinates roadway utility projects with other City Departments as part of its Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT) process designed to coordinate roadway construction activities with other events and activities in order to minimize disruptions to traffic and transit.

Given the limited duration (12 months for the proposed ISE facility at 320–400 Paul Avenue and six months for the electrical distribution circuits) and extent of project-related construction activities, particularly in the context of the other projects that would occur in the area, the project would not result in a cumulatively considerable contribution to construction impacts that could affect access, traffic and transit operations, and pedestrian/bicycle movements. Cumulative construction-related transportation impacts would therefore be less than significant.

Operation

The BVHP EIR assessed cumulative traffic conditions for future projects within the Plan Area, such as the proposed ISE facility and the adjacent data center expansion planned at 200 Paul Avenue using the San Francisco County Transportation Authority (SFCTA) countywide travel demand forecasting model to develop future year 2025 cumulative traffic volumes at the study intersections and transit ridership projections.⁴⁶ The SFCTA model output takes into account both the future development expected in the Plan Area, as well as the expected growth in housing and employment for the remainder of San Francisco and the nine-county Bay Area.

In 2025 cumulative conditions in the BVHP Area Plan, vehicle delays would increase to an unacceptable level of service (LOS F) at only one study intersection, Third and Cesar Chavez Streets, with mitigation infeasible. All other study intersections within the Plan Area would continue to operate at acceptable levels of service (LOS D or better), though some require implementation of mitigation measures. The closest study intersection to the project site is Bayshore Boulevard at Paul Avenue that required a timing change be implemented to the left turn movement to improve the LOS from F to D in the Cumulative 2025 conditions. The Highway 101 freeway in the northbound direction south of I-280 was also shown to deteriorate from LOS E to F with no feasible mitigation. The Cesar Chavez and Third streets intersection and Highway 101 would operate at LOS E or LOS F under 2025 cumulative conditions with the BVHP project. The proposed project's vehicle trip contribution to 2025 cumulative traffic volumes at these locations would represent a less than cumulatively considerable contribution to the LOS F operating conditions.

⁴⁶ Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

The BVHP analyzed the potential impact of 15,388 new transit trips (on local MUNI routes) generated by development within the Area Plan at 2025 and found that all screenlines would have acceptable capacity utilization within San Francisco. The BVHP found that the net increase of 48 regional transit trips generated by new development within the Plan Area would have a negligible impact on regional transit service. The anticipated increase during the weekday PM peak hour of 2,210 net new pedestrian trips and 79 new bicycle trips was not found to have significant pedestrian impacts due to the availability of sidewalks and bicycle routes within the Plan Area. The cumulative impacts of parking and loading were not found to be cumulatively significant, as both would be reviewed for compliance with SF Planning Code requirements as the time of development review. The proposed project is consistent with the growth projections assumed in the BVHP FEIR and the proposed project's 18 PM peak hour transit trips, 5 pedestrian trips, and 2 bicycle trips would represent a minimal portion of the overall growth assumed in the BVHP FEIR. Therefore, the proposed project's contribution to cumulative transportation impacts would be less than significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.6. Noise					
Would the project:					
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	☐
b) Result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
e) For a project located within 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?	☐	☐	☒	☐	☐

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☐	☒
g) Be substantially affected by existing noise levels?	☐	☐	☒	☐	☐

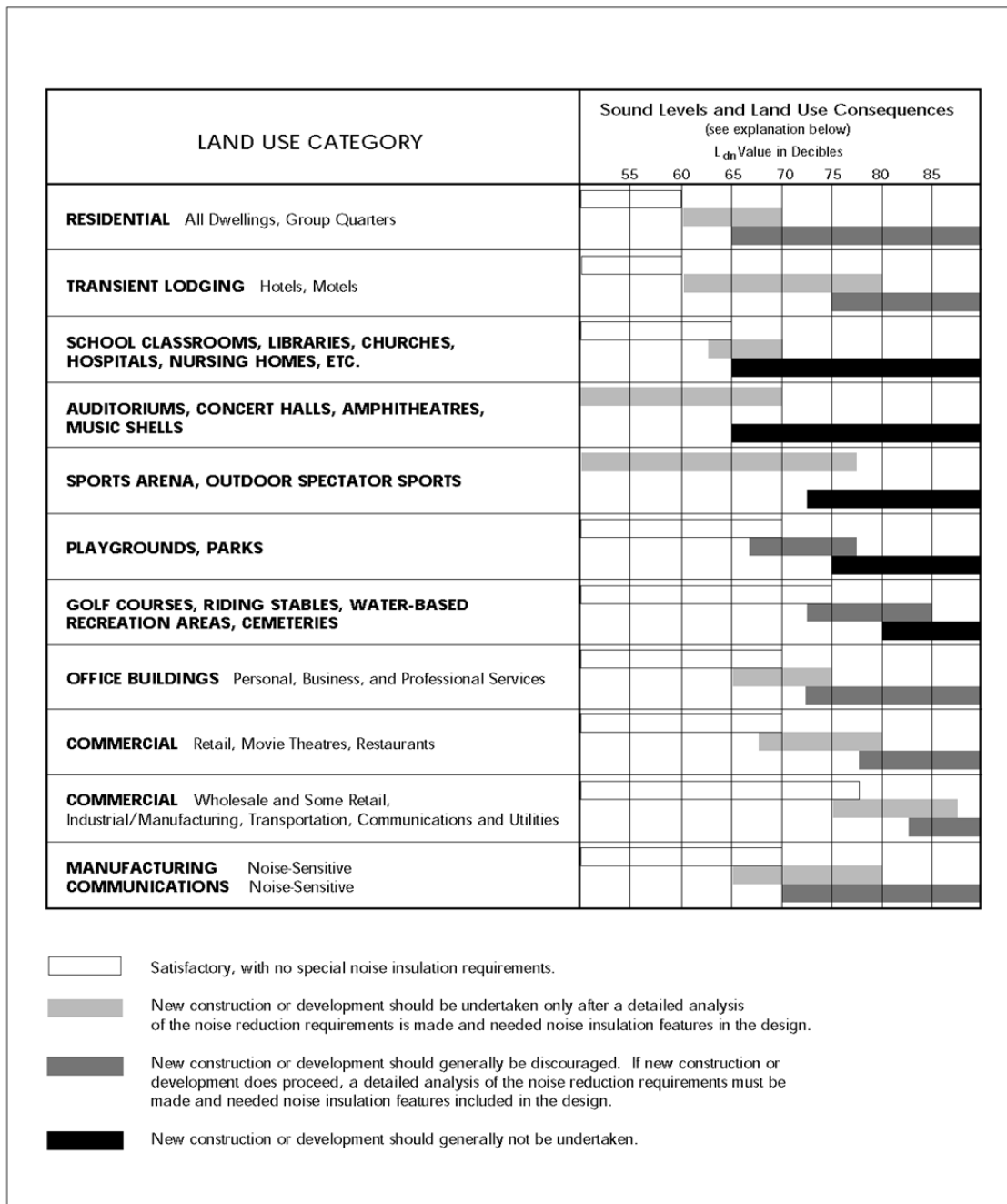
The proposed ISE facility at 320-400 Paul Avenue and the route for the planned 12kV electrical circuits are not located within the vicinity of a private airstrip. Therefore, Topic E.6.f is not applicable and is not discussed further in this section.

Regulatory Framework. Noise is measured in decibels (dB) which indicates the relative amplitude of a sound. A-weighted sound level, or dBA, is a method for characterizing sound that gives greater weight to frequencies of sound to which the human ear is more sensitive. Because sound levels vary markedly over a short period of time, a method for describing the average character of the sound or the statistical behavior of the variations is used. Sensitivity to noise increases at night when excessive noise can interfere with the ability to sleep. Therefore, a 24-hour descriptor, L_{dn} , is used that prescribes a penalty to nighttime noise due to its increased potential for sleep disturbance. The thresholds for speech interference indoors are about 55 dBA and 70 dBA for outdoor areas with fluctuating noise levels. Steady noise of sufficient intensity, above 35 dBA, and fluctuating noise levels above 45 dBA have been shown to affect sleep.

The Environmental Protection Element in the SF General Plan includes Figure 22 for assessing compatibility between land uses and noise levels. The SF General Plan uses the L_{dn} measure in establishing recommended maximum noise levels for various land uses throughout the City as it represents a longer-term descriptor of noise, a key factor in land use noise conflicts. The proposed ISE land use would fit within the category of Commercial – Wholesale and some retail, Industrial/Manufacturing, Transportation, Communications, and Utilities and is not considered a noise-sensitive facility.

The San Francisco Noise Ordinance (SF Noise Ordinance; Article 29 of the SF Police Code) includes standards for limiting a fixed noise source from producing maximum nighttime noise levels (L_{MAX}) greater than 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. inside any sleeping or living room, and a maximum (L_{MAX}) of 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. These noise levels are measured with windows open. Where building ventilation is achieved through mechanical systems, this noise level may be met with windows closed. Typical wood frame structures reduce exterior noise

Figure 22 - Land Use Compatibility Chart for Community Noise⁴⁷



⁴⁷ Land Use Compatibility Chart for Community Noise, Environmental Protection Element of the San Francisco General Plan

by about 15 dBA with the windows open and if mechanical ventilation is available, closed windows can reduce the noise by 20 to 25 dBA.⁴⁸

Additionally, the SF Noise Ordinance limits commercial and industrial land uses to generating a maximum 8 dBA noise increase over the local ambient noise level at the property plane at the source. To capture fluctuating noise from active land uses, this noise measure is calculated using the maximum continuous sound level (L_{MAX}) generated by the land use as compared to the ambient noise level which represents the lowest sound level repeating itself in a ten-minute period. The San Francisco Department of Public Health (SFPDH) has published guidelines for assisting with the implementation of the SF Noise Ordinance that includes guidance that under most conditions, the L_{90} (the level exceeded by 90 percent of measurements) is an adequate representation of the ambient noise level.⁴⁹

Project Setting. Ambient noise levels in the vicinity of the proposed ISE facility at 320–400 Paul Avenue are typical of noise levels in San Francisco, which are dominated by vehicular traffic noise, including trucks, cars, transit buses, emergency vehicles, noise from land use activities, heating, ventilation, and cooling (HVAC) equipment for commercial and mechanically-cooled residential buildings, periodic temporary construction-related noise from nearby development, and street maintenance noise.

A noise assessment was completed for the proposed project by Illingworth & Rodkin, Inc.⁵⁰ The report evaluated the ambient noise at the site, the regulatory requirements governing noise generated by the facility (noted above), the anticipated noise levels that would be generated by the facility (modelled using SoundPLAN software), and the potential for noise annoyance from mechanical equipment, commonly referred to as tonal noise. Ambient noise levels (L_{90}) were recorded at six locations along the perimeter of the planned ISE site, as well as two locations at the closest residential neighborhoods (one at the Egbert neighborhood to the north and the other at the residential neighborhood south of the site) for use in determining the project's compliance with the SF Noise Ordinance. The residential development at 5800 Third Street is approximately 200 feet further from the proposed ISE facility than the northern Egbert Avenue residential neighborhood so noise levels generated by the proposed ISE facility would be less at that property location (5800 Third Street) than those measured at the Egbert Avenue location as noise attenuates (dissipates) with distance.

48 Illingworth & Rodkin, Inc., 400 Paul Avenue Data Center Noise Assessment Report, San Francisco, California, October 4, 2013. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

49 San Francisco Department of Public Health (SFPDH), *Guidelines for Noise Control Ordinance Monitoring and Enforcement*, November 10, 2011. Available online at <http://www.sfdph.org/dph/files/EHSdocs/ehsNoise/GuidelinesNoiseEnforcement.pdf>. Accessed December 13, 2013.

50 Illingworth & Rodkin, Inc., 400 Paul Avenue Data Center Noise Assessment Report, San Francisco, California, October 4, 2013. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

The results of the noise monitoring survey found that at the six locations along the project site property line, the ambient noise levels (L_{90}) ranged from 56 to 60 dBA. The longer-term measure, L_{dn} , was 67 dBA at Egbert Avenue and 76 dBA on the south side of Paul Avenue. These levels are generally consistent with San Francisco's background Noise Map⁵¹ maintained by SFDPH that shows transportation-generated noise levels of 65 to 69 dBA L_{dn} along Egbert Avenue and 70 to 74 dBA L_{dn} along Paul Avenue.

Impact NO-1: Operation of the proposed project would not generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies or result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant)

Noise from Additional Employee Vehicle Trips. A total of 240 employees are anticipated to work at the ISE facility, though only a maximum of 87 employees would be present at the facility at any given time during each of the three 8-hour shifts. Based on the SF Guidelines, these 87 employees would be expected to generate 50 vehicle trips per shift. The general rule is that a doubling of traffic volumes on a given street is needed before any increase in vehicle noise is perceived. As an increase of 50 vehicles during the day shift, or a maximum daily increase of 138 vehicle trips (assuming a total of 240 employees for all three shifts), would not double the number of daily vehicles using Paul Avenue, there would not be any perceptible increase due to transportation-generated noise as a result of the project.

Noise from Mechanical Equipment. Tonal noise generated by some mechanical noise can be an annoyance to surrounding land uses. The SF Noise Ordinance does not include a measure for determining potential annoyance generated by tonal noise. By definition, tonal noise is present when a single third octave noise level is more than 5 dB greater than the average of the two adjacent third octave noise bands. It is usually perceived as a whine, screech, or hum emanating from mechanical equipment. A commonly accepted standard for assessing the potential for annoyance from tonal noise sources is to assess a 5 dBA "penalty" if tonal noise sources are part of the environment.⁵² So while the SF Noise Ordinance allows an 8 dBA increase in noise levels over the ambient noise level for purposes of determining compliance with Article 29, in instances where the noise generated by the facility would include any equipment generating tonal noise, an increase of 3 dBA would identify potential annoyance to surrounding uses due to the presence of tonal noise.

51 San Francisco Department of Public Health, San Francisco Background Noise Map, 2009. Available online at http://www.sf-planning.org/ftp/general_plan/images/I6.environmental/ENV_Map1_Background_Noise%20Levels.pdf. Accessed February 11, 2014.

52 Illingworth & Rodkin, Inc., 400 Paul Avenue Data Center Noise Assessment Report, San Francisco, California, October 4, 2013. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

Noise sources associated with the proposed ISE facility were evaluated using manufacturer-supplied third octave sound power level ratings to determine whether they would produce tonal noise. The equipment evaluated for the proposed facility includes 140-ton DX packaged air conditioning (AC) units, 5-ton and 10-ton AC units, fan-only variable refrigerant volume (VRV) air handling units, packaged VRV condenser units, and the diesel emergency backup generators. Only the emergency generators were found to produce tonal noise, as the third octave was 9.4 dB greater than the two side bands. Although the 130-ton packaged AC units had a band 4.6 dB greater than the two other side bands, they did not meet the 5 dB or greater tonal noise definition.

Noise that would be anticipated to be generated by the facility was modelled using the maximum number of 140-ton DX packaged AC units that would be running at any given time (39 units) along with the maximum number of diesel backup generators that would be tested at any given time (1 generator). A 12½ foot-high roof screen constructed of precast concrete (or equivalent sound-attenuating material) would be constructed at the top of the data center building to provide noise attenuation for the rooftop mechanical equipment. The diesel generators modelled were ground level generators within individual 70 dBA-rated noise enclosures. Since the backup generators would produce tonal noise, the 5 dBA tonal noise penalty was applied to the SF Noise Ordinance's 8 dBA standard for noise increases at the property plane of an industrial/commercial site to determine if the proposed facility would produce annoying tonal noise.

The existing ambient noise levels (L_{90}) at the property line range between a low of 56 (southwest corner) to a high of 60 dBA (southeast corner). The maximum project-generated noise levels (L_{MAX}) at the property line would range from 52 to 59 dBA. In all but one location, the project-generated noise levels would be less than the existing ambient noise level. At one location, the southwest corner of the project site, the project would generate a noise level 2 dBA (58 dBA) greater than the existing ambient noise level (56 dBA). The SF Noise Ordinance allows a commercial project to generate a noise level 8 dBA greater than the existing ambient, therefore, the project would comply with the Ordinance. Also, the project-generated maximum noise level increase of 2 dBA is within the supplemental standard of a maximum 3 dBA increase for determining annoyance from mechanical equipment generating tonal noise.

In addition, the highest noise levels during the daytime and nighttime that would be generated by the project at the two residential noise survey points (one at the Egbert Avenue and the other on the south side of Paul Avenue) are projected to be a maximum noise level (L_{MAX}) of 45 (Egbert Avenue) and 46 dBA (Paul Avenue) with the 39 rooftop mechanical units and one generator running. These maximum project-generated noise levels would be less than the existing lowest L_{MAX} noise levels at the Egbert Avenue location (75 dBA daytime and 61 dBA nighttime) and at the Paul Avenue location (83 dBA daytime and 80 dBA nighttime). As a result, there would not be any increase to the existing interior noise levels within the residences closest to the project site. The existing interior noise levels at those residential survey points currently exceed the 45 dBA nighttime and 55 dBA daytime specified in the Ordinance. However, the project-generated noise levels at these locations are substantially less than the existing noise levels and would therefore, not increase the interior noise levels in those residences.

Therefore, the noise levels that would be produced by the proposed ISE facility would be within the allowable increase in ambient noise levels allowed by the SF Noise Ordinance. Also, the noise generated by the proposed mechanical equipment at the ISE facility has been evaluated using a supplemental 5 dBA penalty to account for tonal noise characteristics of the proposed equipment. The project would not result in an increase in the interior noise levels within the surrounding residences.

The electrical distribution circuits would not include the operation of any mechanical or other noise-generating equipment. Therefore, the electrical circuits would not generate any increase in existing ambient noise levels.

As described above, the operation of the proposed ISE facility would comply with the noise standards in the SF General Plan and SF Noise Ordinance and would produce a less-than-significant increase in ambient noise levels in the area of the project site.

Impact NO-2: During construction, the proposed project would result in a temporary or periodic increase in ambient noise and vibration levels in the project vicinity, above levels existing without the project, but any construction-related increase in noise and vibration levels would not be substantial. (Less than Significant)

Demolition, excavation and building construction would temporarily increase noise, and possibly vibration, in the project vicinity. During the construction phase, the amount of construction noise generated would be influenced by equipment type and duration of use, distance between noise source and listener, and presence or absence of barriers (including subsurface barriers). Construction equipment would generate noise and possibly vibrations that could be considered an annoyance by occupants of nearby properties. There would be times when noise and vibration could interfere with indoor activities in nearby residences and businesses. The nearest sensitive receptors to the proposed ISE facility site are the residences on the south side of Paul Avenue, approximately 60 feet south of the project site. Sensitive receptors abut one or both sides of the public roadways along the route where the electrical distribution circuits would be constructed.

Construction for the proposed ISE facility at 320–400 Paul Avenue would last approximately 12 months. A continuous strip footing with interior slab-on-grade or structural reinforced mat with a maximum depth of four feet would be used for this project, and no substantial noise generating equipment (including pile driving) would be necessary during the construction phase of the project. Construction would occur Monday through Friday, 7:00 a.m. to 6:00 p.m. The proposed project would not create unusual levels of ground borne vibration that would disturb nearby businesses and occupants.

Construction of the 12kV electrical distribution circuits would last approximately 6 months. The excavation work would generate the largest amount of construction-related noise associated with the planned electrical distribution circuits. Although most of the roadway along the route would have adjacent sensitive receptors on one or both sides, construction of the electrical circuits would proceed at approximately 100 feet per day. Therefore, the construction would continue to move along the route so

that the sensitive receptors would be exposed to the greatest amount of noise for approximately one week (based on an average 500-foot-long block length) before the construction moved to the next block. The final phase, pulling the electrical wires through the installed conduits, would generate less noise than that produced during excavation activities.

Construction noise and vibration would fluctuate depending on the construction phase, equipment type and duration of use, and distance between noise source and listener. Further, construction noise and vibration would be intermittent and limited to the duration of construction. Construction noise generated at the planned ISE site and in roadways within San Francisco is regulated by the SF Noise Ordinance. The SF Noise Ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dBA at a distance of 100 feet from the source. Section 2908 of the ordinance prohibits construction between 8:00 p.m. and 7:00 a.m. from generating noise levels greater than 5 dBA above the ambient noise level at the proposed project's property lines, unless a special permit is authorized by the Director of the SF DPW or SF DBI. Night noise permits are available from the SF DPW that allow construction up to 10:00 p.m. to generate noise levels up to 5 dBA greater than ambient levels at the property line. After 10:00 p.m., the use of impact tools and other high noise activities must cease.⁵³ Compliance with the SF Noise Ordinance would reduce the potential for construction activities to cause sleep disturbances at nearby sensitive receptors.

Construction of the electrical distribution circuits within Daly City roadways would be subject to the DC DPW's *General Conditions of Approval for Work within the City Street Right-of-Way*⁵⁴ attached to the encroachment permit issued for the project.⁵⁵ Construction is limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. No start-up of machines or equipment is permitted before 7:30 a.m., nor is any cleaning or servicing of machines after 6:00 p.m. No noise-generating activity is permitted between 5:30 p.m. and 7:30 a.m. weekdays or at any time on weekends, except during an emergency and for work during inclement weather. For all work within the PG&E Martin substation, construction noise would be required to adhere to the Brisbane Noise Ordinance that limits construction noise to 86 dBA above the ambient noise level and between 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 7:00 p.m. on weekends. Compliance with the Brisbane Noise Ordinance, the SF Noise Ordinance and the DC DPW's *General Conditions of Approval for Work within the City Street Right-of-Way*⁵⁶ would ensure that potential construction noise impacts would be less than significant, including noise effects on nearby residents.

Noise from Construction Truck Traffic. There would be truck traffic to and from the site, hauling away excavated materials and debris, or delivering building materials throughout the 12-month construction period. It is anticipated that construction hours would occur from 7:00 a.m. to 6:00

53 San Francisco Department of Public Works, *Night Noise Authorization*. Available online at: <http://www.sfdpw.org/modules/showdocument.aspx?documentid=3264>. Accessed January 14, 2014.

54 DC DPW, 2010.

55 DC DPW, 2010.

56 DC DPW, 2010.

p.m. during the week in San Francisco and between 8:00 a.m. and 5:00 p.m. for work within the roadways in Daly City. The average daily construction-related truck trips would be seven trips, with a maximum of 24 trips during the peak construction period. Noise from truck traffic would not cause a significant impact given ambient noise levels at the proposed ISE facility site and along the planned route of the electrical circuits and the limited hours and duration of project construction.

The increase in noise and vibration in the project area during project construction would be temporary, intermittent, and restricted in occurrence and level, as the contractors would be required to comply with the SF Noise Ordinance, DC DPW's *General Conditions of Approval for Work within the City Street Right-of-Way*,⁵⁷ and the Brisbane Noise Ordinance. In light of the above, the project's construction noise impact would be less than significant.

Impact NO-3: Operation of the proposed project would not be substantially affected by existing or proposed noise levels. (Less than Significant)

An ISE facility, or a data center, is not considered a noise-sensitive use, as operations are conducted inside enclosed buildings and are not dependent on low noise levels for communication or other purposes. The proposed project would establish an ISE that would be categorized as Commercial – Wholesale and some retail, Industrial/Manufacturing, Transportation, Communications, and Utilities buildings, on the SF General Plan Land Use compatibility table. The proposed ISE facility is located within an area with an ambient L_{dn} of 76 dBA along the property's Paul Avenue frontage and 67 dBA L_{dn} at Egbert Avenue, to the north of the proposed ISE facility. The SF General Plan identifies this type of use as not requiring any special insulation measures at 77 dBA L_{dn} and less.

There would not be any new land uses established as a result of the installation of the electrical distribution circuits. Therefore, there would not be any impact from ambient noise levels along the planned route of the electrical circuits.

For the reasons above, the impact of the existing outdoor ambient noise levels on the operation of the proposed project would be less than significant.

Impact NO-4: A portion of the proposed project would be constructed within an airport land use plan area for the San Francisco International Airport and would not expose people working in the area to excessive noise levels. (Less than Significant)

The portion of the project within San Francisco, including the proposed ISE facility at 320-400 Paul Avenue and the northern 7,500-foot-portion of the planned route for the electrical distribution circuits, is not within an airport land use plan area.

The approximately 2,500-foot-long portion of the planned route for the electrical distribution circuits that would be within Daly City and Brisbane would be within an approved airport land use plan area.

⁵⁷ DC DPW, 2010.

The *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport* (ALCUP) prepared by the City/County Association of Governments of San Mateo County⁵⁸ establishes policies for land use development in areas that could potentially be influenced by airport activities. The ACLUP establishes an Airport Influence Area (AIA) which is comprised of two areas, Area A – Real Estate Disclosure Area and Area B – Policy/Project Referral Area. The construction activities necessary to install the 2,500-foot-long portion of the planned electrical distribution circuits within Daly City roadways and circuit breakers within the PG&E Martin substation in Brisbane is within Area A but is not within Area B. The requirements of Area A include 1) compliance with Section 11010 of the Business and Professions Code requiring people offering property for sale or lease to be notified of an airport within two miles of the property and 2) conveyance of a real estate disclosure when properties within the area are offered for sale notifying purchasers of potential airport annoyances, including noise, vibration, and odors. No real estate would be offered for sale as part of the planned installation of the electrical distribution circuits. Therefore, no disclosures would need to be provided as part of the project.

Because the construction activities within this area of potential noise and vibration annoyance would be temporary, with a duration of approximately one to two months, the impacts to construction workers would be minimal. Additionally, given that workers use mechanized construction equipment, most workers are required to wear ear protection in compliance with Occupational Safety and Health Administration (OSHA) requirements that would also serve to protect workers from any aircraft flyover noise.

Therefore, the impact from airport noise and vibration on the project's construction workers would be less than significant.

Impact C-NO-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative noise impact. (Less than Significant)

Construction activities in the vicinity of the proposed ISE facility at 320–400 Paul Avenue and the planned route for the electrical distribution circuits, such as excavation, grading, or construction of other buildings in the area, would occur on a temporary and intermittent basis, similar to the project. Construction-related noise would not substantially increase ambient noise levels in the project vicinity. As such, construction noise effects associated with the proposed project are not anticipated to combine with those associated with other proposed and ongoing projects located near the project site. Construction noise levels from past, present, and reasonably foreseeable projects in the vicinity would be required to adhere to the SF Noise Ordinance, DC DPW's *General Conditions of Approval for Work within the City Street Right-of-Way*,⁵⁹ and Brisbane Noise Ordinance.⁶⁰ Vibration

58 City/County Association of Governments of San Mateo County, 2012.

59 DC DPW, 2010.

impacts are not anticipated during construction as no pile-driving would be used to construct the project and is not anticipated to be used during the construction of the adjacent ISE expansion at 200 Paul Avenue. Therefore, cumulative construction-related noise and vibration impacts would be less than significant.

Localized traffic noise would increase in conjunction with foreseeable residential and commercial growth in the project vicinity. However, the proposed project in combination with other cumulative projects in the vicinity are not anticipated to result in a doubling of traffic volumes along nearby streets. Therefore, cumulative traffic-related noise impacts would be less than significant.

The BVHP FEIR⁶¹ evaluated cumulative noise levels from new development approved under the BVHP Area Plan and found that traffic and other noise resulting from new development would have a less-than-significant noise impact. Noise levels from the operation of past, present, and reasonably foreseeable projects in the vicinity would be required to adhere to the SF Noise Ordinance. The closest project with stationary noise sources would be the existing ISE at 200 Paul Avenue. Given its proximity to the project site, it may result in an increase to the ambient noise levels, although the new diesel generators approved for that project are required to be installed in noise attenuation enclosures, as would the diesel generators for the proposed project site. The new generators installed as part of the 200 Paul Avenue ISE expansion would be tested on a rotational schedule with no net increase in the number of generators that would be tested at any given time at that facility. A noise study prepared for the 200 Paul Avenue ISE expansion demonstrated that the project would not generate a substantial increase in ambient noise levels at the property line.

As sound pressure levels in decibels are based on a logarithmic scale, they cannot be added in the usual arithmetical manner. Adding a noise source to an existing noise source, both producing the same level, will not double the noise level. Noise generated by new development projects within the vicinity would be required to comply with the SF Noise Ordinance and coupled with the fact that noise dissipates with distance, these combined noise sources would not combine and result in a cumulatively significant increase in the ambient noise levels within the project area. Therefore, cumulative noise impacts would be less than significant.

Additionally, the operation of the new diesel backup generators would not produce vibration impacts, and would not combine with other projects to result in cumulative vibration impacts.

Given all of the above, the proposed project in combination with past, present, and reasonably foreseeable future projects would not result in a significant cumulative noise impact.

60 Brisbane Municipal Code, Chapter 8.28 Noise Controls. Available online at <https://library.municode.com/index.aspx?clientId=16223&stateId=5&stateName=California>. Accessed May 6, 2014.

61 Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

<u>Topics:</u>	<u>Potentially Significant Impact</u>	<u>Less Than Significant with Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>	<u>Not Applicable</u>
E.7. Air Quality					
Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐	☐
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	☐

Environmental Setting

Overview

The project site is within the nine-county San Francisco Bay Area Air Basin (SFBAAB), which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties and portions of Sonoma and Solano Counties. The planned ISE facility at 320-400 Paul Avenue and a 7,500-foot-long portion of the route for of the 12kV electrical distribution circuits would be within San Francisco, while another 2,500-foot-long portion of the route would be within Daly City and Brisbane (San Mateo County).

The BAAQMD is responsible for attaining and maintaining air quality in the SFBAAB within federal and state air quality standards, as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the SFBAAB and to develop and implement strategies to attain the applicable federal and state standards. The CAA and the CCAA require plans be developed for areas that do not meet the standards. The most recent air quality plan, the 2010 Clean Air Plan (CAP), was adopted by the BAAQMD on September 15, 2010. The 2010 CAP updates the Bay Area 2005 Ozone Strategy in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan; and establish emission control measures to be adopted or implemented. The 2010 CAP contains the following primary goals:

- Attain air quality standards;
- Reduce population exposure and protect public health in the San Francisco Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

The 2010 CAP represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of air quality plans.

Criteria Air Pollutants

In accordance with the state and federal CAAs, air pollutant standards are identified for the following six criteria air pollutants: ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment or unclassified for most criteria pollutants with the exception of ozone, PM_{2.5}, and PM₁₀, for which these pollutants are designated as non-attainment for either the state or federal standards.⁶² By its very nature, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.⁶³

Land use projects contribute to regional criteria air pollutants during the construction and operational phases of a project. Table 8 identifies air quality significance thresholds followed by a discussion of each. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

62 Attainment status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. Non-attainment refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. Unclassified refers to regions where there is not enough data to determine the region's attainment status for a specified criteria air pollutant.

63 Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines*, May 2011, page 2-1.

Table 8 - Criteria Air Pollutant Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	

Ozone Precursors. As mentioned above, the SFBAAB is currently designated as non-attainment for ozone and particulate matter. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The potential for a project to produce a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on the state and federal Clean Air Act's emissions limits for stationary sources. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 pounds (lbs) per day).⁶⁴ These levels represent emissions by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Particulate Matter (PM₁₀ and PM_{2.5}).⁶⁵ The federal New Source Review (NSR) program was created by the federal CAA to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health-based ambient air quality standards. For PM₁₀ and PM_{2.5}, the emissions limit under NSR is 15 tons per year (82 lbs per day) and 10 tons per year (54 lbs per day), respectively. These limits represent levels at which a source is not expected to have an impact on air quality.⁶⁶

64 BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, (BAAQMD, 2009), page 17.

65 PM₁₀ is often termed coarse particulate matter and is made of particulates that are 10 microns in diameter or smaller. PM_{2.5}, termed fine particulate matter, is composed of particles that are 2.5 microns or less in diameter.

66 BAAQMD, 2009, page 16.

Although the above specified regulations apply to new or modified stationary sources, land use development projects produce ROG, NO_x, PM₁₀ and PM_{2.5} emissions from increases in vehicle trips, application of architectural coatings, and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects and those projects that produce emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ozone precursors or particulate matter. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Fugitive Dust. Fugitive dust emissions (particulate matter) are typically generated during the construction phase of a development project. Studies have shown that the application of best management practices (BMPs) at construction sites significantly controls fugitive dust.⁶⁷ Individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.⁶⁸ The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.⁶⁹ San Francisco's Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) (SF Dust Control Ordinance) requires contractors implement identified fugitive dust control measures to prevent construction projects from generating visible dust. The BMPs employed in compliance with the SF Dust Control Ordinance is an effective strategy for controlling construction-related fugitive dust.

Daly City requires a set of measures to minimize fugitive dust from construction activities. A Dust Nuisance Control Plan is required to be prepared for construction projects as part of the excavation permit application process for work within the public right-of-way in Daly City.

Brisbane does not have any dust control ordinance nor any requirements governing the generation of dust as part of any permit for on-site improvements.

Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long-duration) and acute (i.e., severe but of 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.

67 Western Regional Air Partnership. 2006. *WRAP Fugitive Dust Handbook*. September 7, 2006. This document is available online at http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf, accessed February 16, 2012.

68 BAAQMD, 2009, page 27.

69 BAAQMD, 2011.

Unlike criteria air pollutants, TACs do not have ambient air quality standards but are regulated by the BAAQMD using a risk-based approach to determine which sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.⁷⁰

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 70 years. Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

Exposures to fine particulate matter (PM_{2.5}) are strongly associated with mortality, respiratory diseases, and lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease.⁷¹ In addition to PM_{2.5}, diesel particulate matter (DPM) is also of concern. The California Air Resources Board (CARB) identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.⁷² The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

In an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with the BAAQMD to inventory and assess air pollution and exposures from mobile, stationary, and area sources within San Francisco (Citywide modeling). Areas with poor air quality, termed "Air Pollutant Exposure Zones," were identified based on two health-protective criteria: (1) excess cancer risk from the contribution of emissions from all modeled sources greater than 100 per one million population, and/or (2) cumulative PM_{2.5} concentrations greater than 10 micrograms per cubic meter (µg/m³). The Citywide modeling uses a 20-meter receptor grid to identify the Air Pollutant Exposure Zones.

Excess Cancer Risk. The above 100 per one million persons (100 excess cancer risk) criteria is based on United States Environmental Protection Agency (USEPA) guidance for conducting air toxic analyses

70 In general, a health risk assessment is required if the BAAQMD 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 is then subject to 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.

71 SFDPH, *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 2008.

72 California Air Resources Board (ARB), Fact Sheet, *The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines*, October 1998.

and making risk management decisions at the facility and community-scale level.⁷³ As described by the BAAQMD, the USEPA considers a cancer risk of 100 per 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 (NESHAP) rulemaking,⁷⁴ the USEPA 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 cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling.⁷⁵

Fine Particulate Matter. In April 2011, the USEPA published Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards, “Particulate Matter Policy Assessment.” In this document, USEPA staff concludes that the then-current (April 2011) federal annual PM_{2.5} standard of 15 µg/m³ should be revised to a level within the range of 13 to 11 µg/m³, with evidence strongly supporting a standard within the range of 12 to 11 µg/m³.⁷⁶ Air Pollutant Exposure Zones for San Francisco are based on the health protective PM_{2.5} standard of 11 µg/m³, as supported by the USEPA’s Particulate Matter Policy Assessment, although lowered to 10 µg/m³ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

Land use projects within these Air Pollutant Exposure Zones require special consideration to determine whether the project’s activities would expose sensitive receptors to substantial air pollutant concentrations or add emissions to areas already adversely affected by poor air quality.

320-400 Paul Avenue Project Vicinity. The primary sources of air pollutants in the project vicinity are vehicle emissions along Highway 101 and diesel backup generators at 200 Paul Avenue. These sources’ emissions exceed the health protective standards identified above, resulting in the project site and nearby sites being within an Air Pollutant Exposure Zone. Figure 23 illustrates and provides geographical descriptions of sensitive receptors within 1,000 feet of the project site, based on a map search and site visit. The map includes both residential areas and daycares. The residential area labelled “Future Residential” is the approved but unbuilt residential units and senior center in the development commonly referred to as 5800 Third Street. At these sensitive receptor locations, based on Citywide modeling, PM_{2.5} concentrations range between 8.4 and 12.3 µg/m³ and excess cancer risk ranges between 17 and 173 cases per million. The highest PM_{2.5} concentrations and excess cancer risk

73 BAAQMD, 2009, page 67.

74 Federal Register 38044, September 14, 1989.

75 BAAQMD, 2009, page 67.

76 Note: In December 2012, the USEPA lowered the federal annual primary PM_{2.5} standard from 15.0 µg/m³ to 12.0 µg/m³

are the Northwest Residential, Southwest Residential (at locations close to Highway 101), and South Residential sensitive receptor locations. The lowest PM_{2.5} concentrations and excess cancer risk are at the Southwest Residential sensitive receptor locations further west of Highway 101.

Air Quality Impacts

An Air Quality Technical Report (AQTR) was prepared for the proposed project and the following analysis relies largely on the information provided in the AQTR.⁷⁷

Construction

Project-related air quality impacts fall into two categories: short-term impacts from construction and long term impacts from project operation. The following addresses construction-related air quality impacts resulting from the proposed project.

Impact AQ-1: The proposed project's construction activities would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Construction activities (short-term) typically result in emissions of ozone precursors and particulate matter in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and particulate matter are primarily a result of fuel combustion in on-road and off-road vehicles. However, ROG's are also emitted from activities that involve painting, the application of other architectural coatings, and laying asphalt pavement. The proposed project includes the demolition of a 95,000-square-foot building, the construction of a 187,000-square-foot building, the renovation of two office buildings totaling 55,670 square feet, the installation of 18 diesel backup generators, and the construction of two electric distribution circuits along a 10,000-foot-long route between the proposed ISE facility and the PG&E Martin substation. During the project's approximately 12-month construction period (270 days), construction activities would have the potential to result in emissions of ozone precursors and particulate matter, as discussed below.

Fugitive Dust. Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could add particulate matter to the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that exposure to particulate matter can cause health effects at levels lower than the national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure.

⁷⁷ BlueScape Environmental, *Air Quality Technical Report for 400 Paul Avenue*, San Francisco, California, December 2013. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E. (Bluescape, 2013)

Figure 23 - Residential Areas and Daycares within 1,000 Feet



*Note – Red outlined area is the proposed ISE facility at 320-400 Paul Avenue
White outlined areas are the boundaries of the labelled residential areas.
Yellow text boxes indicate locations of known daycare facilities.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, grading, and other construction activities can cause wind-blown dust that adds particulate matter to the local atmosphere. Depending on exposure, adverse health effects can be caused by particulate matter in general and by specific contaminants in soil, such as lead and asbestos.

In response, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes referred hereto as the SF Construction Dust Control Ordinance with the intent of reducing the quantity of dust generated during site preparation, demolition, and construction work in order to protect the health of the general public and on-site workers, and minimize public nuisance complaints.

The SF Dust Control Ordinance requires that all site preparation work, demolition, and other construction activities within San Francisco with 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 whether or not the activity requires a permit from San Francisco DBI. The Director of San Francisco DBI may waive this requirement for activities on sites less than one half-acre that are unlikely to result in any visible wind-blown dust.

For the portion of the project within San Francisco, the following dust control measures would be required. All active construction areas would need to be watered sufficiently to prevent dust from becoming airborne and increased watering frequency may be necessary whenever wind speeds exceeds 15 miles per hour. Recycled water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code (Public Works Code). If not required, recycled water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated material, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 mil (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

For projects over one half-acre, such as the proposed 320-400 Paul Avenue ISE facility, the Dust Control Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Department of Public Health. DBI will not issue a building permit without written notification from the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement. Interior-only tenant improvement projects that are over one-half acre in size that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement.

The site-specific Dust Control Plan would require the project sponsor to: submit of a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and

downwind particulate dust monitors; record particulate monitoring results; hire an independent, third-party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and securing with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep off adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with these dust control requirements.

Compliance with the regulations and procedures set forth by the San Francisco Dust Control Ordinance would ensure that potential dust-related air quality impacts would be reduced to a level of insignificance.

Daly City also has a requirement that contractors implement dust control measures through implementation of a Dust Nuisance Control Plan. This plan is required to be submitted for review and approval as part of the excavation permit process required for utility projects constructed within public roadways in Daly City.

Brisbane does not have any specific requirements regarding dust control. However, given the limited scope of excavation improvements (100 linear feet of six-foot-deep trench to install conduit) within the PG&E Martin substation, construction activities within the area of the PG&E Martin substation would not generate a significant amount of fugitive dust. Compliance with the regulations and procedures set forth by the SF Dust Control Ordinance and Daly City-approved Dust Nuisance Control Plan for the project would ensure that potential dust-related air quality impacts from project components would be reduced to a less-than-significant level. Any fugitive dust generated in the PG&E Martin substation in Brisbane would be minor and less than significant.

Criteria Air Pollutants. Construction activities would generate emissions of criteria air pollutants from the use of off- and on-road vehicles and equipment. The proposed project includes the demolition of a 95,000-square-foot building, the construction of an 187,000-square-foot building, the renovation of two office buildings totaling 55,670 square feet, the installation of 18 diesel backup generators, and the installation of two electric distribution circuits along a 10,000-foot-long route between the PG&E Martin substation and the proposed ISE facility. The anticipated construction period for improvements (the ISE facility and the two electrical distribution circuits) is estimated to be approximately 270 days, from June 2014 to June 2015. Construction of the proposed ISE facility and the electrical distribution circuits could occur simultaneously, though the duration of construction for the electrical distribution circuits would be shorter, estimated at approximately 100 days.

Construction-related criteria air pollutants generated by construction at the proposed ISE facility at 320-400 Paul Avenue site were quantified using the California Emissions Estimator Model (CalEEMod). The model was developed, including default data (e.g., emission factors, meteorology, etc.) in collaboration with California air districts. Default assumptions were used where project-specific information was unknown. Emissions were converted from tons/year to lbs/day using the estimated construction duration of 270 days.

Construction-related criteria air pollutants for the electrical distribution circuits was prepared using a representative list of construction equipment and construction duration provided by the project sponsor's electrical contractor and modelled using emission factors from the EMFAC emissions database and the South Coast Air Quality Management District (SCAQMD) off-road equipment database. Emissions were converted from tons/year to lbs/day using the estimated construction duration of 100 days.

As shown in Table 9, the proposed project's construction-related emissions would not exceed the criteria air pollutants thresholds of significance identified in the BAAQMD's CEQA Air Quality Guidelines (see Table 8 above). The average daily construction emissions generated by the proposed ISE facility at 320-400 Paul Avenue are estimated to be 36.2 lbs of NO_x/day, 15.8 lbs of ROG/day and 4.6 lbs of PM_{2.5}/PM₁₀. The average daily construction emissions generated by the electrical distribution circuits are estimated to be 8.3 lbs of NO_x/day, 1.3 lbs of ROG/day and 0.5 lbs of PM_{2.5} and PM₁₀/day. The combined total of both components of the proposed project is estimated to be 44.5 lbs of NO_x/day, 17.1 lbs of ROG/day and 5.1 lbs of PM_{2.5} and PM₁₀/day.

Table 9 - Criteria Air Pollutant Emissions Generated during Construction

Criteria Air Pollutant	Average Daily Emissions (lbs/day)*	
	Project-Generated	Construction Thresholds
NO _x	44.5	54
ROG	17.1	54
PM _{2.5} /PM ₁₀	5.1	54/ 82

**Note – This table includes both the 320-400 Paul Avenue construction emissions calculated in CalEEMod and the installation of the two electrical distribution circuits estimated from the EMFAC database and SCAQMD off-road equipment database, averaged over their respective construction periods.*

***Note - PM_{2.5} is conservatively assumed to be equivalent to PM₁₀ for combustion emissions.*

The average daily emissions that would be generated during construction of the proposed ISE facility and the two electrical distribution circuits would not exceed the construction emissions thresholds for criteria air pollutants. Therefore, the proposed project's construction activities would result in a less-than-significant criteria air pollutant impact.

Impact AQ-2: The proposed project's construction activities would generate toxic air contaminants, including diesel particulate matter, which would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)

As discussed above, San Francisco, in partnership with BAAQMD, has modeled and assessed air pollutant impacts from mobile, stationary and area sources within San Francisco and identified Air Pollutant Exposure Zone, based on significance thresholds for PM_{2.5} and excess cancer risk. Uses within these identified areas that either emit TACs or are considered sensitive to air pollution require special attention. The site of the proposed ISE facility at 320-400 Paul Avenue and locations in the project vicinity are within an Air Pollutant Exposure Zone. Also, the portion of the proposed route for the electrical distribution circuits on Paul Avenue and the northern portion of the route within San Bruno Avenue are also within Air Pollutant Exposure Zones.

The nearest sensitive receptors to the 320-400 Paul Avenue site are the residences on the south side of Paul Avenue, approximately 60 feet south of the project site (South Residential Area). Other nearby sensitive receptors include residences on the north side of Egbert Avenue, approximately 200 feet north of the project site (North Residential Area), and residences on the west side of Third Street (5800 Third Street) across the Caltrain tracks, approximately 450 feet east of the project site (East Residential Area). Most of the electrical distribution circuit route, with the exception of a portion of Bayshore Boulevard in Daly City, is flanked by residential land uses and several hotels.

Off-road equipment (which includes construction equipment) is a large contributor to DPM emissions in California, although since 2007, the CARB has found the emissions to be substantially lower than previously expected.⁷⁸ Newer and more refined emission inventories have substantially lowered the estimates of DPM emissions from off-road equipment such that off-road equipment is now considered the sixth largest source of DPM emissions in California.⁷⁹ For example, revised estimates of PM emissions (of which DPM is a major component) for the SFBAAB for the year 2010 have decreased by 83 percent from 2010 emissions estimates.⁸⁰ Approximately half of the reduction in emissions can be attributed to the economic recession and half to updated methodologies used to better assess construction emissions.⁸¹

Additionally, a number of federal and state regulations require cleaner off-road equipment. Specifically, both the USEPA and California have set emissions standards for new off-road equipment engines, ranging from Tier 1 to Tier 4. Tier 1 emission standards were phased in between 1996 and 2000, and Tier 4 Interim and Final emission standards for all new engines would be phased in between

78 ARB, *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements*, p.1 and p. 13 (Figure 4), October 2010. (ARB, 2010)

79 ARB, 2010.

80 ARB, *In-Use Off-Road Equipment, 2011 Inventory Model*, Query accessed online, April 2, 2012, http://www.arb.ca.gov/msei/categories.htm#inuse_or_category.

81 ARB, 2010.

2008 and 2015. To meet the Tier 4 emission standards, engine manufacturers will be required to produce new engines with advanced emission-control technologies. Although the full benefits of these regulations will not be realized for several years, the USEPA estimates that by implementing the federal Tier 4 standards, NO_x and PM emissions will be reduced by more than 90 percent.⁸² Furthermore, California regulations limit maximum idling times to five minutes, which further reduces public exposure to NO_x and PM emissions.⁸³

Construction activities do not lend themselves to assessments of long-term health risks because of their temporary and variable nature. As explained in the BAAQMD's CEQA Air Quality Guidelines:

"Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk."⁸⁴

Therefore, project-level analyses of construction activities have a tendency to produce overestimated assessments of long-term health risks. However, within Air Pollutant Exposure Zones, as discussed above, additional construction activity may adversely affect populations that are already at a higher risk for adverse long-term health effects from existing sources of air pollution.

Construction activities for the proposed ISE facility would last 12 months (270 days). These activities would produce short-term emissions of DPM and other TACs that would affect nearby sensitive receptors, resulting in a significant impact.

Implementation of **Mitigation Measure M-AQ-2: Construction Emissions Minimization**, below, would reduce the magnitude of this impact to a less-than-significant level. Reductions in emissions from the imposition of time limitations on engine idling, worker education, and the proper maintenance of construction equipment are difficult to quantify. Other measures, specifically the requirement to use construction equipment with Tier 2 engines and a Level 3 Verified Diesel Emission Control Strategy (VDECS) can reduce emissions from construction activities by 89 to 94 percent compared to using equipment with engines meeting no emission standards and without a VDECS. The reduction of emissions from the combination of Tier 2 equipment with Level 3 VDECS is almost

82 USEPA, "Clean Air Non-road Diesel Rule: Fact Sheet," May 2004.

83 California Code of Regulations, Title 13, Division 3, Section 2485.

84 BAAQMD, 2011, page 8-6.

equivalent to a Tier 4 Final engine, which is not yet readily available for engine sizes subject to the mitigation.

Although portions of the electrical distribution route are within the Air Pollutant Exposure Zone, construction of the electrical distribution circuits would occur in approximately 100-linear-foot segments per day. Therefore, at no time would any nearby residents be exposed to substantial amounts of air pollution from equipment required for construction of the electrical distribution circuits as sensitive receptors would only be exposed to construction emissions for a short period of time (on the order of a few days).

Mitigation Measure M-AQ-2: Construction Emissions Minimization

This mitigation measure shall be implemented for all project construction activities that occur on the proposed ISE facility site at 320-400 Paul Avenue and is not required to be implemented for construction activities associated with the installation of the electrical distribution circuits.

A. *Construction Emissions Minimization Plan.* Prior to issuance of a construction permit, the project sponsor shall submit a Construction Emissions Minimization Plan (Plan) to the Environmental Review Officer (ERO) for review and approval by an Environmental Planning Air Quality Specialist. The Plan shall detail project compliance with the following requirements:

1. All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

a) Where access to alternative sources of power are available, portable diesel engines shall be prohibited;

b) All off-road equipment shall have:

i. Engines that meet or exceed either U.S. Environmental Protection Agency (USEPA) or California Air Resources Board (CARB) Tier 2 off-road emission standards, and

ii. Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS).⁸⁵

c) Exceptions:

i. Exceptions to A(1)(a) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that an alternative source of power is limited or infeasible at the project site and that the requirements of this exception provision apply. Under this circumstance, the sponsor shall submit documentation of compliance with A(1)(b) for on-site power generation.

⁸⁵ Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement, therefore a VDECS would not be required.

- ii. Exceptions to A(1)(b)(ii) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that a particular piece of off-road equipment with an ARB Level 3 VDECS is: (1) technically not feasible, (2) would not produce desired emissions reductions due to expected operating modes, (3) installing the control device would create a safety hazard or impaired visibility for the operator, or (4) there is a compelling emergency need to use off-road equipment that are not retrofitted with an ARB Level 3 VDECS and the sponsor has submitted documentation to the ERO that the requirements of this exception provision apply. If granted an exception to A(1)(b)(ii), the project sponsor must comply with the requirements of A(1)(c)(iii).
- iii. If an exception is granted pursuant to A(1)(c)(ii), the project sponsor shall provide the next cleanest piece of off-road equipment as provided by the step down schedules in Table 10.

Table 10 - Off-Road Equipment Compliance Step-down Schedule

Compliance Alternative	Engine Emission Standard	Emissions Control
1	Tier 2	ARB Level 2 VDECS
2	Tier 2	ARB Level 1 VDECS
3	Tier 2	Alternative Fuel*

If the requirements of (A)(1)(b) cannot be met, then the project sponsor would need to meet Compliance Alternative 1. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 1, then Compliance Alternative 2 would need to be met. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 2, then Compliance Alternative 3 would need to be met.

2. The project sponsor shall require the idling time for off-road and on-road equipment be limited to no more than two minutes, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment. Legible and visible signs shall be posted in multiple languages (English, Spanish, Chinese) in designated queuing areas and at the construction site to remind operators of the two minute idling limit.
3. The project sponsor shall require that construction operators properly maintain and tune equipment in accordance with manufacturer specifications.
4. 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. Off-road equipment descriptions and information 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 usage and hours of operation. For VDECS installed: technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date. For off-road equipment using alternative fuels, reporting shall indicate the type of alternative fuel being used.

5. The Plan shall be kept on-site and available for review by any persons requesting it and a legible sign shall be posted at the perimeter of the construction site indicating to the public the basic requirements of the Plan and a way to request a copy of the Plan. The project sponsor shall provide copies of Plan to members of the public as requested.

B. *Reporting.* Quarterly reports shall be submitted to the ERO indicating the construction phase and off-road equipment information used during each phase including the information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used. Within six months of the completion of construction activities, the project sponsor shall submit to the ERO a final report summarizing construction activities. The final report shall indicate the start and end dates and duration of each construction phase. For each phase, the report shall include detailed information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.

C. *Certification Statement and On-site Requirements.* Prior to the commencement of construction activities, the project sponsor must certify (1) compliance with the Plan, and (2) all applicable requirements of the Plan have been incorporated into contract specifications.

Operation

This section addresses operational air quality impacts that would result from the proposed project. Land use projects typically result in emissions of criteria air pollutants and toxic air contaminants primarily from an increase in motor vehicle trips. However, land use projects may also result in criteria air pollutants and toxic air contaminants from combustion of natural gas, landscape maintenance, use of consumer products, architectural coating, and stationary sources, such as the proposed project's emergency backup generators.

Impact AQ-3: During project operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant with Mitigation)

Air Quality Impacts from Operation of the Planned ISE Facility

Operational activities would generate emissions of criteria air pollutants from the 18 diesel backup generators and additional sources related to the proposed use, which include transportation-related fuel usage for work and visitor trips and maintenance activities. Operational-related criteria air pollutants at the proposed ISE facility were quantified using CalEEMod. Operational-related criteria air pollutants for the 18 diesel backup generators were prepared based on a Cummins QSK60-G6

generator model rated 2,922 brake-horsepower (bhp), CARB Airborne Toxics Control Measure (ATCM)⁸⁶ emissions limit for Tier 2 engines, and an annual testing limit of 50 hours. Detailed modeling assumptions and methodology are provided in the AQTR prepared for the proposed project.⁸⁷

As shown in Table 11, the proposed project's operational-related emissions would exceed the criteria air pollutants thresholds of significance for NO_x (average daily emissions and maximum annual emissions) identified in the BAAQMD's CEQA Air Quality Guidelines. The average daily and maximum annual NO_x emissions from the proposed project is estimated to be 85 lbs/day and 15.3 tons/year. Therefore, the proposed project would violate an air quality standard, contribute to an existing or projected air quality violation, and result in a cumulatively considerable net increase in criteria air pollutants, which is a significant impact

Implementation of **Mitigation Measure M-AQ-3: Diesel Backup Generator Specifications**, below, would reduce the magnitude of this impact to a less-than-significant level by requiring the diesel backup generators to use engines that meet or exceed a CARB-certified NO_x plus non-methane hydrocarbons emission factor of 3.8 grams per bhp-hour (g/bhp-hr) using diesel fuel with less than 15 parts per million sulfur that are retrofitted with Level 3 VDECS and an annual maintenance testing limit of 32 hours per engine per year. As shown in Table 11, implementation of **M-AQ-3** would reduce average daily and maximum annual NO_x emissions from the proposed project to 49 lbs/day and 9 tons/year, which is below the thresholds of significance for NO_x identified in Table 8.

A portion of the ROG, NO_x, and PM emissions in Table 11 would be generated from ISE facility operational activities apart from the diesel generators, such as employee and visitor vehicle trips and maintenance activities and, therefore no reduction in these sources would result from implementation of the following mitigation measure. Operational emissions resulting from vehicle trips and maintenance activities, excluding the diesel backup generators, equates to average daily emissions of 12.7 lbs/day of NO_x, 21.7 lbs/day of ROG, and 7.9 lbs/day of PM_{2.5}/PM₁₀ and maximum annual emissions of 2.3 tons/year of NO_x, 3.9 tons/year of ROG, and 1.7 tons/year of PM_{2.5}/PM₁₀.

As noted on Table 11, project-generated criteria air pollutant emissions with mitigation was based on a maximum annual testing of 32 hours per year per generator. The project sponsor has indicated that based on the diesel generator manufacturer's testing information the generators would only need to be tested a maximum of 28 hours annually, and their intent is to limit testing to 28 hours. Based on the project sponsor's assumed maximum annual testing of 28 hours per year per generator, the diesel generator emissions would be 12.5⁸⁸ percent less than projected in Table 11, which assumes 32

86 California Air Resources Board, *Airborne Toxics Control Measure for Stationary Compression Ignition Engines*, 17 Cal. Code Regs. Section 93115.6(a)(3)(A)1.c. (May 19, 2011).

87 BlueScape Environmental, 2013.

88 Email from Tracy Haynes, Bluescape, to Heidi Kline, Follow-up on Generator Testing, dated February 13, 2014. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

maximum annual hours of testing per generator. Maximum annual testing of 28 hours per generator and implementation of **M-AQ-3** (Level 3 VDECS filters and 34-foot stack height) would result in average daily emissions of 8.2 lbs/day of NO_x, 4.3 lbs/day of ROG, and 1.5 lbs/day of PM_{2.5}/PM₁₀ and maximum annual emissions of 45 tons/year of NO_x, 23 tons/year of ROG, and 8.2 tons/year of PM_{2.5}/PM₁₀.⁸⁹

Table 11 - Criteria Air Pollutant Emissions Generated During Operation

Criteria Air Pollutant	Project-Generated (without mitigation) ²		Project-Generated (with mitigation) ³ and Maximum Annual Testing of 32 hours per Generator		Operation Thresholds	
	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
NO _x	85	15.3	49	9	54	10
ROG	25.8	5.0	24	4.3	54	10
PM _{2.5} /PM ₁₀ ⁹⁰	8.5	1.9	8.2	1.5	54/82	10/15

Bold = significant impact.

Notes: 1. PM_{2.5} is assumed equivalent to PM₁₀ for combustion emissions. Both are assumed to equal PM as provided in the engine Emission Compliance Statement.

2. This column includes both the 320-400 Paul Avenue operational land use emissions calculated in CalEEMod and the emissions from the 18 diesel backup generators calculated using ACTM emissions limit for Tier 2 engines and annual testing limit of 50 hours as a "Baseline" to compare to emissions with mitigation.

3. This column includes both the 320-400 Paul Avenue operational land use emissions calculated in CalEEMod and the installation of the 18 diesel backup generators calculated using CARB-certified NO_x plus non-methane hydrocarbons emission factor of 3.8 grams per brake horsepower-hour (g/bhp-hr) and particulate matter emission factor of 0.09 g/bhp-hr using diesel fuel with less than 15 parts per million sulfur, CARB-verified Level 3 diesel particulate filters, and annual testing limit of 32 hours. No mitigation is assumed for operational land use emissions.

Mitigation Measure M-AQ-3 - Diesel Backup Generator Specifications

All 18 diesel backup generators shall have (1) engines that meet or exceed a California Air Resources Board (CARB)-certified oxides of nitrogen plus a non-methane hydrocarbon emission factor of 3.8 grams per brake-horsepower-hour (g/bhp-hr) and a particulate matter emission factor of 0.09 g/bhp-hr using diesel fuel with less than 15 parts per million sulfur and that are retrofitted with a CARB Level 3 VDECS; (2) exhaust stack heights of 34 feet, as measured from the top of the generator pad to the top of the stack; and (3) annual maintenance testing limit of 28 hours, if feasible, and up to a maximum of 32 hours per engine. For each diesel backup generator or

⁸⁹ Email from Tracy Haynes, Bluescape, to Heidi Kline, February 13, 2014.

⁹⁰ PM_{2.5} is assumed equivalent to PM₁₀ for combustion emissions. Both are assumed to equal PM as provided in the engine Emission Compliance Statement.

generator pad permit submitted for the 320-400 Paul Avenue site, engine and filter specifications shall be submitted to the San Francisco Planning Department for review and approval prior to issuance of a permit for the generator from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators and VDECS shall be maintained in good working order in perpetuity and any future replacement of the diesel backup generators and Level 3 VDECS filters shall be required to be consistent with these emissions specifications. The operator of the facility shall maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and provide this information for review to the Planning Department annually for the first three years, starting with the first submittal in 2017. Thereafter, this information may be provided on a less frequent schedule as approved by the SF Planning Department. No more than one diesel backup generator shall be tested at any given time and all testing shall only be conducted between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.

The project sponsor has indicated that it plans to implement “load banking”⁹¹ during its scheduled testing of the diesel backup generators. This process forces the generator to run at a high horsepower that in turn lowers the emissions produced by the generator during the testing session. This process is typically performed using portable trailer-mounted equipment that uses the electricity generated to heat the electrical coils inside the load bank. The process of exercising the generators with full load prolongs the life of the generators, ensures that they are available to operate reliably at full loads during emergency power outages, and minimizes the emissions produced during routine generator testing. Testing the engines with partial loads may increase the rate of engine wear due to insufficient fuel combustion and loss of lubrication resulting in cylinder bore glazing and “wet stacking”⁹² which causes fouling of exhaust ports and valves.⁹³ Based on manufacturer self-testing of its diesel generator, tests performed by Cummins found that its Model QSK60-C6 diesel generator produced a PM_{2.5} emission rate of 0.14 g/bhp-hr when run at less than ¾ load and an emission rate of 0.04 g/bhp-hr when run with a ¾ load or greater.⁹⁴ This reduction in emissions resulting from load banking is analogous to more noticeable emissions from a car starting with a cool engine versus one operating at highway speed.

The project sponsor has indicated its intent to adopt **Improvement Measure IM-AQ-2 – Load Bank Testing** as part of its ongoing generator maintenance to prolong the life expectancy of the engines, greater engine reliability, and to lower the emissions during generator testing (based on the manufacturer’s emissions self-testing).

91 Load banking refers to an industry practice whereby generators are tested with equipment that simulates the actual electrical load, or demand, that would be generated by the facility.

92 Wet stacking is a field term indicating the presence of unburned fuel or carbon in the exhaust system. Reference to this term is made in the National Fire Protection Agency (NFPA) 110 Code for Emergency and Standby Power Systems Section 6-4.2 (1996 Edition).

93 Fouling of exhaust ports and valves refers to the degradation of smooth surfaces due to the accumulation of combustion byproducts that results in friction between moving parts and reduces engine efficiency.

94 Cummins Power Generation, Exhaust Emission Data Sheet 2000DQKAB 60 Hz Diesel Generator Set.

Improvement Measure IM-AQ-3a – Load Bank Testing

The project sponsor should endeavor to develop and implement a load bank testing program for the diesel backup generators that would utilize a load at or greater than the level recommended by the manufacturer at which the particulate matter emissions rate would be minimized as compared to the generators' horsepower range of operation. All routine testing of the on-site diesel backup generators should be completed using this load banking procedure.

Some early research has been conducted on the potential reduction of particulate matter from the atmosphere by trees and vegetation. Trees remove gaseous air pollution primarily through uptake via leaf stomata, and interception of particles on the leaf surface. The particulates can then be washed off in the rain or fall to the ground during leaf and twig drop.⁹⁵ Though no quantification of the reduction that could be expected by using trees for passive filtration is currently available, any potential reduction of particulate matter would be beneficial in this Air Pollutant Exposure Zone. The area where the trees would be expected to provide the greatest benefit would be in the general direction of the prevailing winds and anticipated exhaust plume, in this case, in a northeasterly direction. Based on the planned location of the generator service yard at the ISE facility, the area where the trees would be of greatest benefit would be along the eastern property line, northeast of the generator yard. The project sponsor has indicated its interest in planting trees in that area in order to provide the additional benefit of any reduction in particulate matter emissions that the trees could provide. Trees with large leaf surfaces and sticky or hairy surface texture have been identified as having the greatest benefit. The *Platanus x acerifolia* 'Liberty' or 'Columbia' cultivars have been identified as potential trees that would be used along the eastern property line of the project site in order to help improve air quality in that area. To provide adequate area for the tree's root structure, some of the parking at the east side of the data center building may need to be moved to alongside the proposed parking spaces at the rear of the data center building. Any change to the on-site parking configuration would not result in environmental effects not analyzed as part of this environmental review. The project sponsor has indicated its intent to adopt the following improvement measure in order to improve air quality:

Improvement Measure IM-AQ-3b – Trees for Improving Air Quality

The project sponsor should plant trees along the eastern property line of the project site, generally northeast of the generator yard, for the purpose of improving air quality by removing particulate matter. Tree species should be recommended by a certified arborist as suitable for the site's conditions and for improving air quality. Any change to the on-site parking configuration required to accommodate additional on-site trees shall be submitted for the review and approval of the Planning Department prior to the issuance of a building or grading permit for the project.

With implementation of **M-AQ-3**, the project's impact from the emission of criteria air pollutants as a result of the operation of the planned ISE facility would be less-than-significant.

⁹⁵ Nowak, David J., *Tree Species Selection, Design, and Management to Improve Air Quality*, 2000. Available on at http://sites.udel.edu/sld/files/2012/09/Nowak_Trees-for-air-quality1.pdf.

Air Quality Impacts from Operation of the Electrical Distribution Circuits

The operation of the 12kV electrical distribution circuits would not result in the direct emissions of criteria air pollutants other than the minor emissions that could result from vehicle trips made by maintenance personnel; these impacts would be less than significant.

With implementation of **M-AQ-3**, operation of the proposed project would have a less-than-significant criteria air pollutant impact.

Impact AQ-4: The proposed project would generate toxic air contaminants, including diesel particulate matter, which would expose sensitive receptors to substantial air pollutant concentrations. (Less than Significant with Mitigation)

As mentioned above, San Francisco, in partnership with BAAQMD, has modeled and assessed air pollutant impacts from mobile, stationary and area sources within the City and identified areas, Air Pollutant Exposure Zones, based on the significance thresholds for PM_{2.5} and excess cancer risk discussed above. Locating uses within these identified areas that either emit TACs or are considered sensitive to air pollution require special attention. The site of the proposed ISE facility at 320-400 Paul Avenue and locations in the project vicinity are within an Air Pollutant Exposure Zone. The closest sensitive receptors are the residences on the south side of Paul Avenue, approximately 60 feet south of the project site. Other nearby sensitive receptors include residences on the north side of Egbert Avenue, approximately 200 feet north of the project site, and residences on the west side of Third Street (5800 Third Street) across the Caltrain tracks, approximately 450 feet east of the project site (refer to Figure 23, above). The proposed project would generate TACs and DPM from the operation of 18 new diesel backup generators, and to a lesser extent new vehicle trips.

The threshold of significance used to evaluate health risks from new sources of TACs is based on the potential for the proposed project to substantially affect the geography and severity of the Air Pollutant Exposure Zone at sensitive receptor locations. For projects that could result in sensitive receptor locations meeting the Air Pollutant Exposure Zone criteria that otherwise would not without the project, a proposed project's contribution to PM_{2.5} concentrations above 0.3 µg/m³ or an excess cancer risk greater than 10 per million persons exposed would be considered a significant impact. The 0.3 µg/m³ PM_{2.5} concentration and the excess cancer risk of 10 per million persons exposed are the levels below which the BAAQMD considers new sources not to make a considerable contribution to cumulative health risks.⁹⁶ For those locations already meeting the Air Pollutant Exposure Zone criteria, a lower significance standard is required to ensure that a proposed project's contribution to existing health risks would not be significant. In these areas a proposed project's contribution to PM_{2.5}

96 BAAQMD, California Environmental Quality Act Guidelines Update, Proposed Air Quality CEQA Thresholds of Significance. May 3, 2010. Available online at http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Proposed_Thresholds_Report_%20May_3_2010_Final.ashx?la=en. Accessed February 20, 2014.

concentrations above 0.2 µg/m³ or an excess cancer risk greater than 7 per million persons exposed would be considered a significant impact.⁹⁷

The proposed project has the potential to generate up to 138 daily employee vehicle trips. The BAAQMD considers roads with less than 10,000 vehicles per day “minor, low-impact” sources that do not pose a significant health impact even in combination with other nearby sources and recommends that these sources be excluded from the environmental analysis. The proposed project’s daily 138 vehicle trips would be well below this level, therefore an assessment of project-generated TACs resulting from vehicle trips is not required and the proposed project’s vehicle trips would not generate a substantial amount of TAC emissions that could affect nearby sensitive receptors.

However, operation of 18 new diesel backup generators could result in a substantial increase in DPM and other TACs. Therefore, the project-specific AQTR quantified PM_{2.5} and excess cancer risk impacts from the proposed 18 new diesel backup generators. The AQTR used the same 20-meter receptor grid used in the aforementioned Citywide modeling for sensitive receptor points identified within a 1,000-foot radius of the proposed facility at 320-400 Paul Avenue to identify project-level PM_{2.5} and excess cancer risk impacts at each of these sensitive receptor points. PM_{2.5} impacts were modeled with the Industrial Source Complex Short Term Model (ISCST3), which is a recommended model for modeling local risks and hazards by the BAAQMD.⁹⁸ Excess cancer risk impacts were quantified from the modeled PM_{2.5} concentrations and assumed all PM_{2.5} was DPM.⁹⁹ The 18 diesel backup generators were assumed to be Cummins QSK60-G6 generator model rated 2,922 bhp with CARB ATCM emissions limit for Tier 2 engines, a maximum annual testing limit of 50 hours, and a typical minimum stack height of 23 feet.

The project site is within an Air Pollutant Exposure Zone, so the following analysis considers whether the project would create a new Air Pollutant Exposure Zone or substantially contribute to existing health risks at sensitive receptor locations already within the Air Pollutant Exposure Zone. As shown in Table 12 and illustrated in Figure 24, without implementation of any mitigation the proposed project’s diesel backup generators would result in PM_{2.5} concentrations at sensitive receptors of less than 0.2 µg/m³ and an excess cancer risk ranging between 2 (southeast area) and 105 (nearest sensitive receptor to the east). The proposed project would result in the lowest PM_{2.5} concentrations and excess cancer risk at sensitive receptor locations to the north, south, and west of the proposed project site. The

97 A 0.2 µg/m³ 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. 2005. Spatial Analysis of Air Pollution and Mortality in Los Angeles. *Epidemiology*. 16:727-736. The excess cancer risk has been proportionally reduced to result in a significance criteria of 7 per million persons exposed.

98 Bay Area Air Quality Management District, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2012, <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>, (accessed May 2012).

99 Office of Environmental Health Hazard Assessment (OEHHA), *Air Toxics Hot Spots Program Risk Assessment Guidelines*, April 2003, http://oehha.ca.gov/air/hot_spots/pdf/HRAfinalnoapp.pdf, (accessed June 2012).

proposed project would result in the greatest excess cancer risk at sensitive receptor locations to the east of the project site, including the Future Residential sensitive receptor location (see Figure 23), where additions to excess cancer risk would range between approximately 30 and 105. At these sensitive receptor locations, the proposed project would expose sensitive receptors to substantial pollutant concentrations, which is a significant impact.

However, implementation of **Mitigation Measure M-AQ-3: Diesel Backup Generator Specifications** would reduce the magnitude of this impact to a less-than-significant level. M-AQ-3 requires the diesel backup generators to use engines that meet or exceed a CARB-certified PM emission factor of 0.09 g/bhp-hr using diesel fuel with less than 15 parts per million sulfur that are retrofitted with Level 3 VDECS, an annual maintenance testing limit of 32 hours per engine, and a stack height of 34 feet. As shown in Table 12 and illustrated on Figure 25, implementation of this mitigation measure would reduce the excess cancer risk at sensitive receptor locations from the diesel backup generators to between 0.1 and 5. The project sponsor has indicated its intent to limit testing of each generator to no more than 28 hours per year. Therefore, the emissions produced by the generators would be reduced an additional 12.5 percent.

Figure 26 illustrates the reduced project-level excess cancer risk based on a maximum annual 28 hours of testing per generator.

Table 12 – Excess Cancer Risks

Scenario	PM _{2.5} Concentrations (µg/m ³)	Excess Cancer Risk Range
Background (Existing)	8.4 – 12.3	17 – 173
Project-generated (without mitigation) ¹	< 0.2	2 - 105
Project-generated (with mitigation) ²	< 0.1	0.1 – 5

Bold = significant impact.

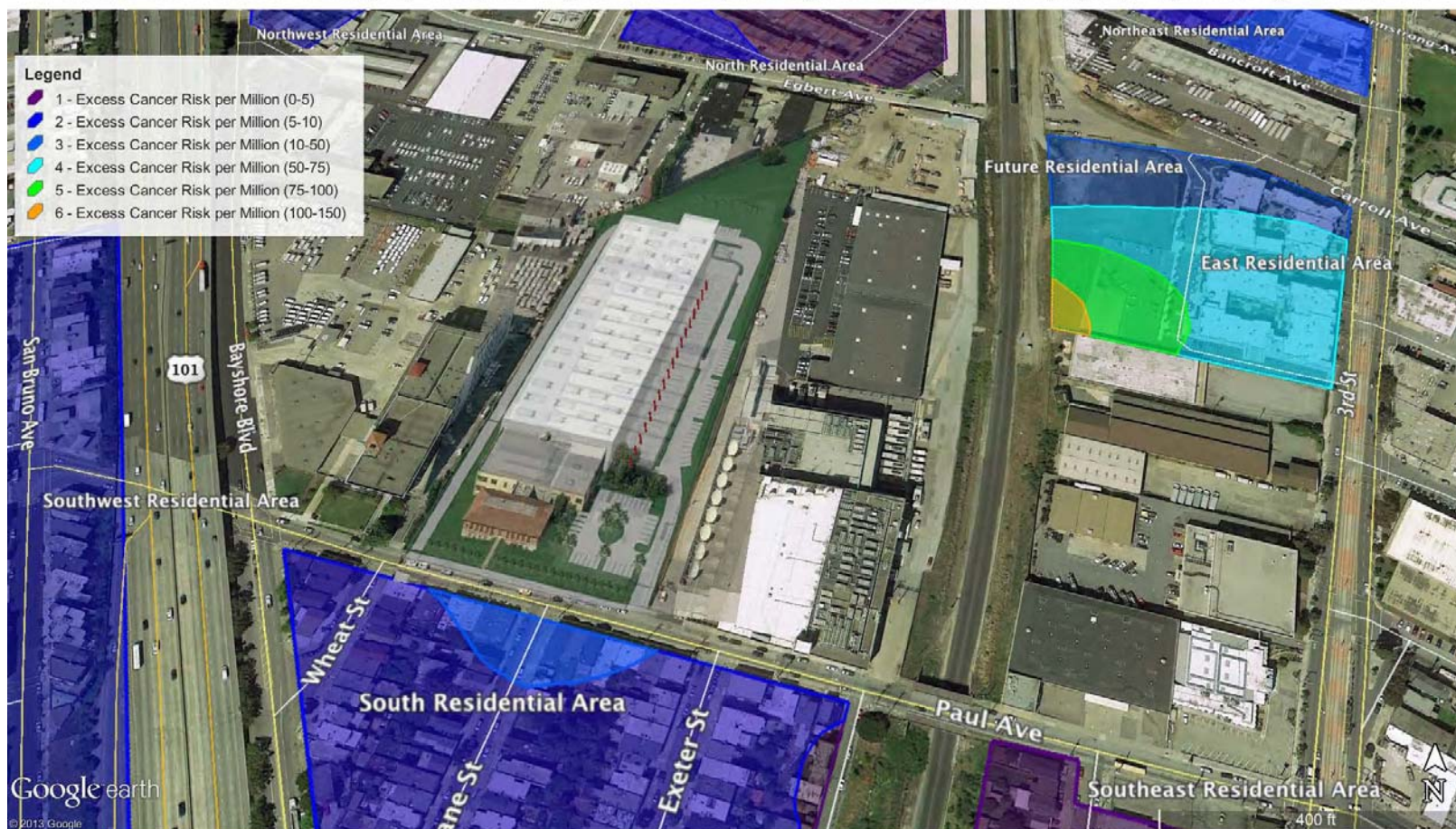
1. This row assumes the installation of the 18 diesel backup generators calculated using ACTM emissions limit for Tier 2 engines, annual testing limit of 50 hours, and typical stack heights of 23 feet.
2. This row assumes the installation of the 18 diesel backup generators calculated using CARB-certified NO_x plus nonmethane hydrocarbons emission factor of 3.8 grams per brake horsepower-hour (g/bhp-hr) and particulate matter emission factor of 0.09 g/bhp-hr using diesel fuel with less than 15 parts per million sulfur, CARB-verified Level 3 diesel particulate filters, annual testing limit of 32 hours, and a stack height of 34 feet.

As discussed above, with implementation of M-AQ3, the proposed project's contribution to area wide PM_{2.5} concentrations would be reduced from 0.2 µg/m³ to less than 0.1 µg/m³ and the project's contribution to excess cancer risk would be reduced from about 105 to approximately 5. Furthermore, the AQTR also found that the proposed project would not result in new sensitive receptor locations meeting the Air Pollutant Exposure Zone criteria.

Figure 24 – Project-Level (without Mitigation Measure M-AQ-3) Excess Cancer Risk

400 Paul Uncontrolled Case - Project Excess Cancer Risk Contours for 18 Emergency Standby Diesel Engines

Uncontrolled Case is defined as 18 emergency standby diesel engines without filters, stack heights of 23 feet, and 50 hours per year per engine of testing and maintenance.

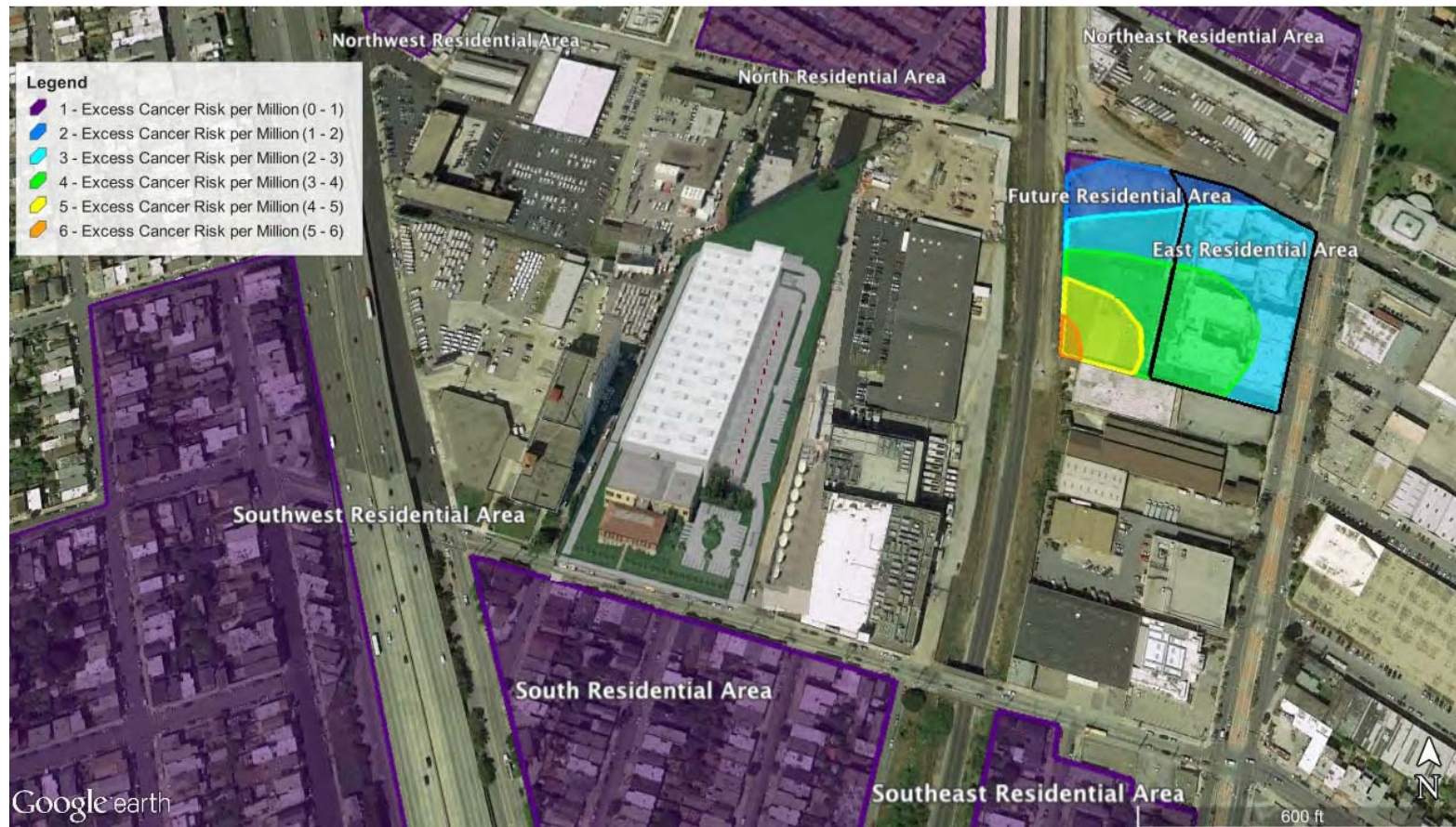


Note: Approximate stack locations are shown in red. This map represents residential excess cancer risk exposure from the 400 Paul Project, which only applies to residential receptor locations.

Figure 25 - Project-Level Excess Cancer Risk (with Mitigation Measure M-AQ-3): Maximum Annual 32 Hours of Testing

400 Paul Controlled Case - Project Excess Cancer Risk Contours for 18 Emergency Standby Diesel Engines with 32 Annual Testing & Maintenance Hours

Controlled Case is defined as 18 emergency standby diesel engines with CARB-verified Level 3 diesel particulate filters, stack height of 34 feet, and 32 annual testing and maintenance hours per engine.

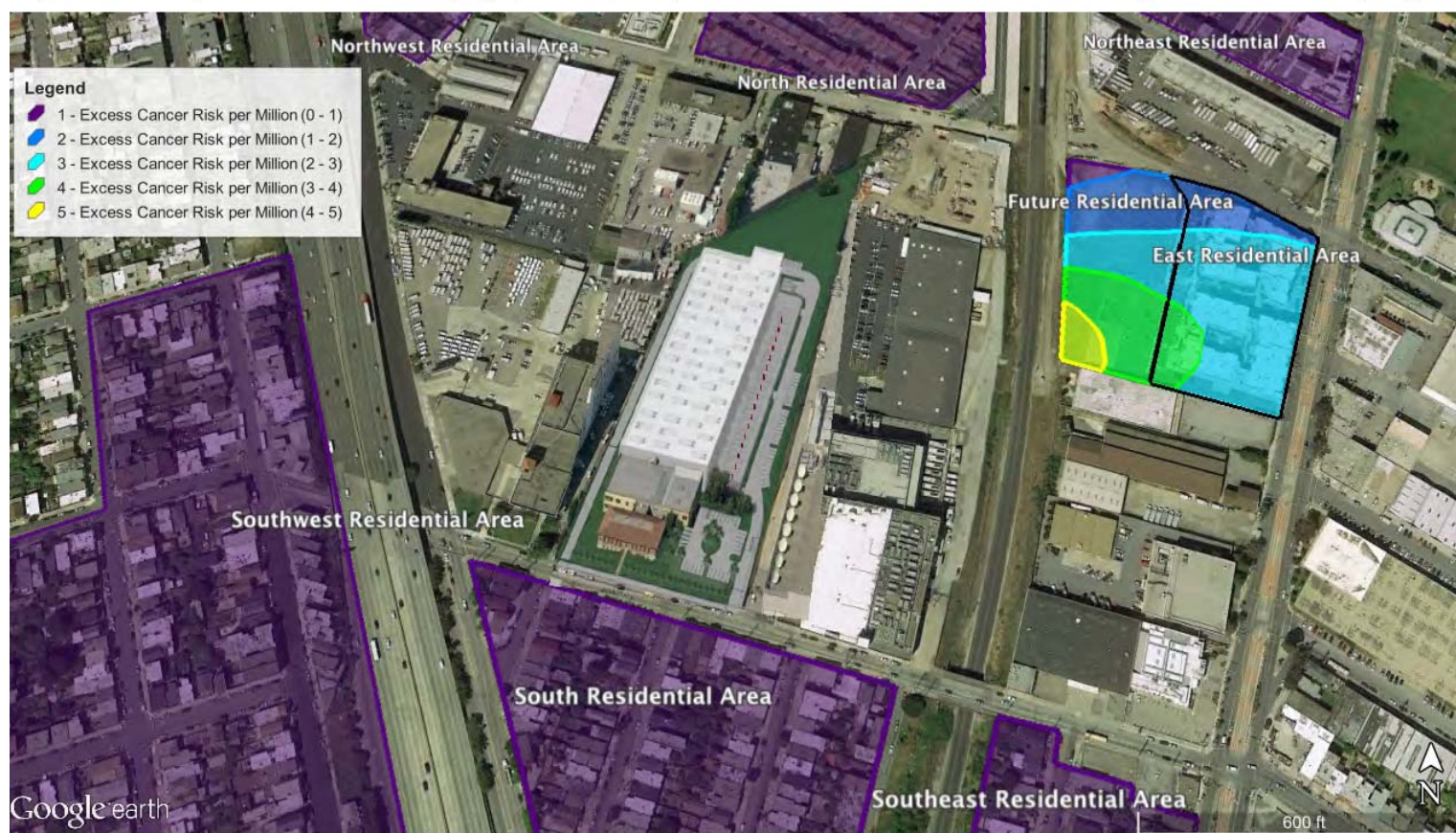


- Approximate stack locations are shown in red.
- This map represents residential excess cancer risk exposure from the 400 Paul Project, which only applies to residential receptor locations. The maximally exposed receptor is located within the future residential area boundary. At this receptor, the calculated excess cancer risk is approximately 5 cases per million.
- The excess cancer risk calculation is based upon the Bay Area Air Quality Management District's *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012) document, which specifies certain assumptions for residential exposure including a 70-year exposure duration. As stated in the document, "The District recognizes that the assumptions used in the risk methodology may be overly conservative especially in cases where residents are assumed to spend 24 hours every day for 70 years in outside activity near their homes." (page 89)

Figure 26 - Project-Level Excess Cancer Risk (with Mitigation Measure M-AQ-3): Maximum Annual 28 Hours of Testing

400 Paul Controlled Case - Project Excess Cancer Risk Contours for 18 Emergency Standby Diesel Engines with 28 Annual Testing & Maintenance Hours

Controlled Case is defined as 18 emergency standby diesel engines with CARB-verified Level 3 diesel particulate filters, and stack height of 34 feet. The project proponent has agreed to limit testing and maintenance to 28 hours per year; therefore, this map reflects excess cancer risk contours for 28 annual testing and maintenance hours per engine.



- Approximate stack locations are shown in red.
- This map represents residential excess cancer risk exposure from the 400 Paul Project, which only applies to residential receptor locations. The maximally exposed receptor is located within the future residential area boundary. At this receptor, the calculated excess cancer risk is approximately 4 cases per million.
- The excess cancer risk calculation is based upon the Bay Area Air Quality Management District's *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012) document, which specifies certain assumptions for residential exposure including a 70-year exposure duration. As stated in the document, "The District recognizes that the assumptions used in the risk methodology may be overly conservative especially in cases where residents are assumed to spend 24 hours every day for 70 years in outside activity near their homes." (page 89)

Impact AQ-5: The proposed project would conflict with implementation of the 2010 Clean Air Plan. (Less than Significant with Mitigation)

The most recently adopted air quality plan for the SFBAAB is the 2010 Clean Air Plan. The 2010 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. In determining consistency with the 2010 Clean Air Plan (CAP), this analysis considers whether the project would: (1) support the primary goals of the CAP, (2) include applicable control measures from the CAP, and (3) avoid disrupting or hindering implementation of control measures identified in the CAP.

The primary goals of the CAP are to: (1) reduce emissions and decrease concentrations of harmful pollutants, (2) safeguard the public health by reducing exposure to air pollutants that pose the greatest health risk, and (3) reduce greenhouse gas emissions.

Without mitigation, the proposed project's operation of diesel backup generators would result in significant emissions of NO_x and DPM that would contribute to a violation of air quality standards and result in emissions of DPM that would significantly affect sensitive populations. As discussed in Impacts AQ-3 and AQ-4, the proposed project would be required to implement **M-AQ-3 – Diesel Backup Generator Specifications** and would voluntarily implement **IM-AQ-3a** and **IM-AQ-3b**. With implementation of **M-AQ-3**, the proposed project would reduce NO_x emissions and DPM emissions to less than significant levels and would therefore support the primary goals of the 2010 CAP to reduce criteria air pollutants and emissions of other harmful air pollutants. The proposed project's impact with respect to GHGs are discussed in the Greenhouse Gas Emissions section, which demonstrates that the proposed project would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy and the 2010 CAP.

The CAP also recommends 55 specific control measures and actions in support of the primary goals. 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. The CAP recognizes that to a great extent, community design dictates individual travel mode, and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and greenhouse gases from motor vehicles is to channel future Bay Area growth into vibrant urban communities where goods and services are close at hand, and people have a range of viable transportation options. The measures most applicable to the proposed project are stationary source, and energy and climate. Several stationary control measures in the CAP applicable to facilities similar to the proposed use included Stationary Source Measure (SSM) 16 New Source Review Addressing PM_{2.5}, recommending the reduction in PM_{2.5} emissions, and SSM 17 New Source Review for Toxic Air Contaminants, recommending the reduction in TAC emissions. The intent of both measures would be met through implementation of **M-AQ-3**, reducing the project's criteria air pollutant and TAC emissions.

The proposed project's anticipated 138 daily vehicle trips would result in a negligible increase in air pollutant emissions. Furthermore, the proposed project would be generally consistent with the SF

General Plan, as discussed in Topic E.1, Land Use and Land Use Planning. Transportation control measures that are identified in the 2010 Clean Air Plan are implemented by the SF General Plan and the Planning Code, for example, through the City's Transit First Policy, bicycle parking requirements, and transit impact development fees. Compliance with these requirements would ensure the project includes relevant transportation control measures specified in the 2010 Clean Air Plan.

Examples of a project that could cause the disruption or delay implementation of the Clean Air Plan control measures are projects that would preclude the extension of a transit line or bike path, or projects that propose excessive parking beyond parking requirements. The proposed project would not preclude the extension of a transit lane or bike path, nor would it include excessive employee parking. Therefore, it would not disrupt or hinder implementation of control measures identified in the Clean Air Plan.

As discussed above, with incorporation of **M-AQ-3** the operation of the 18 generators would not conflict with the two primary goals of the Clean Air Plan (1 and 2). Therefore, with implementation of this mitigation measure, the proposed project would not interfere with implementation of the 2010 Clean Air Plan, and because the proposed project would be consistent with the applicable air quality plan that demonstrates how the region will improve ambient air quality and achieve the state and federal ambient air quality standards, this impact would be less than significant.

Impact AQ-6: The proposed project would not create objectionable odors that would affect a substantial number of people. (Less than Significant)

Typical sources of odor concerns include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. The proposed ISE facility would not be anticipated to generate substantial objectionable odors during the testing and use of the generators as diesel fuel used in stationary engines in California cannot exceed 15 ppm sulfur since 2006.¹⁰⁰ Additionally, no odors would be produced by construction of the new electrical circuits. Therefore, odor impacts from the proposed project would be less than significant.

Impact C-AQ-1: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area would contribute to cumulative air quality impacts. (Less than Significant with Mitigation)

Regional air pollution is by its very nature largely a cumulative impact. Emissions from past, present, and future projects contribute to the region's adverse air quality on a cumulative basis. No single

¹⁰⁰ Diesel fuel used in Stationary engines in California must have less than 15 ppm sulfur or a biodiesel blend provided that the biodiesel portion of the blend complies with ASTM D6751 and provided the diesel portion of the blend complies with Title 13 (CCR), sections 2281 and 2282 and the blend contains no more than 20 percent biodiesel by volume. Source: ARB website at <http://www.arb.ca.gov/diesel/verdev/vt/stationary.htm>. Accessed February 14, 2014.

project by itself would be sufficient in size to result in regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.¹⁰¹

Criteria Air Pollutants. The project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. As described above in Impact AQ-3, the proposed project's operational emissions would be significant. However, with implementation of **Mitigation Measure M-AQ-3 – Diesel Backup Generator Specifications**, the proposed project's criteria air pollutant emissions would be reduced to below the project-level thresholds for criteria air pollutants. Therefore, with implementation of **M-AQ-3**, the proposed project would not be considered to result in a cumulatively considerable contribution to regional criteria air pollutant impacts.

Impact AQ-4 considers the project's emissions potential to increase local health risks. In doing so, that analysis considers the cumulative health risks to sensitive receptors.

The 320-400 Paul Avenue project would be located immediately to the west of the existing data center facility at 200 Paul Avenue. On September 26, 2013, the SF Planning Commission approved a conditional use authorization allowing that facility to install up to 18 new diesel backup generators, including the concurrent retrofit of several existing older engines to reduce project-level PM emissions so that there would be no net increase in emissions from the additional generators. Four of the 17 existing generators at the 200 Paul Avenue ISE were required to be upgraded per an approved CEQA mitigation measure for the project. Additionally, the 200 Paul project sponsor signed a Memorandum of Understanding (MOU) with community representatives to retrofit two additional generators that they own. The MOU also states the project sponsor will use reasonable efforts to require any existing tenants to retrofit the six additional existing generators the lessees own when renewing their lease. Therefore, the cumulative excess cancer risk is likely to be reduced by the 200 Paul Avenue project and the existing excess cancer risk is likely overestimated as it does not take into account improvements agreed to pursuant to the 200 Paul Avenue project.

Although portions of the electrical distribution route are within the Air Pollutant Exposure Zone, construction of the electrical distribution circuits would occur in approximately 100-linear-foot segments per day. Therefore, at no time would any nearby residents be exposed to substantial amounts of air pollution from equipment required for construction of the electrical distribution circuits as sensitive receptors would only be exposed to construction emissions for a short period of time (on the order of a few days).

As mentioned above, the project would add new sources of TACs (e.g., construction activities, new vehicle trips, and stationary sources) within an area already adversely affected by air quality. The proposed project would include **Mitigation Measure M-AQ-3 – Diesel Backup Generator Specifications** which requires

¹⁰¹ BAAQMD, 2011, page 2-1.

the installation of Level 3 VDECS filters on all Tier 2 generators, reducing PM emissions by at least 85 percent, and limiting routine testing to a maximum 32 hours per year for each generator, reducing the project's contribution to adverse health risks for sensitive uses. Implementation of **M-AQ-3** would ensure that the proposed project would not result in a considerable contribution to cumulative air quality impacts resulting from the proposed project in combination with past, present, and reasonably foreseeable future projects and cumulative air quality impacts would be less than significant with mitigation.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.8. Greenhouse Gas Emissions (GHG)					
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?	☐	☐	☒	☐	☐

Environmental Setting

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO₂), black carbon, methane (CH₄), nitrous oxide (N₂O), ozone, and water vapor.

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction, and operational phases. While the presence of the primary GHGs in the atmosphere is naturally occurring, CO₂, CH₄, and N₂O are largely emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Black carbon has recently emerged as a major contributor to global climate change, possibly second only to CO₂. Black carbon is produced naturally and by human activities as a result of the incomplete combustion of fossil fuels, biofuels and biomass.¹⁰² N₂O is a byproduct of various industrial processes and has a number of uses, including use as an anesthetic and as an aerosol propellant. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur

¹⁰² Center for Climate and Energy Solutions, What is Black Carbon?, April 2010. Available online at: <http://www.c2es.org/docUploads/what-is-black-carbon.pdf>. Accessed September 27, 2012.

hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in carbon dioxide-equivalent measures (CO₂E).¹⁰³

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Many impacts resulting from climate change, including sea level rise, increased fires, floods, severe storms and heat waves, already occur and will only become more frequent and costly. Secondary effects of climate change are likely to include impacts to agriculture, the state's electricity system, and native freshwater fish ecosystems, an increase in the vulnerability of levees in the Sacramento-San Joaquin Delta, changes in disease vectors, and changes in habitat and biodiversity.^{104,105}

Greenhouse Gas Emission Estimates and Energy Providers in California. The California Air Resources Board (ARB) estimated that in 2010 California produced approximately 451.60 million metric tons of CO₂E (MTCO₂E) from the following sources: transportation (38 percent), electricity generation - both in-state generation and imported electricity (21 percent), industrial (19 percent), and commercial and residential fuel use - primarily for heating (10 percent).¹⁰⁶

San Francisco's GHG emissions in 2010 were 5.3 million MTCO₂E from the following sources: on-road transportation (40 percent or 2.1 million MTCO₂E), natural gas use by residential, commercial, and industrial sectors (29 percent or 1.5 million MTCO₂E), and electricity consumption by residential, commercial, municipal buildings and BART and Muni transportation systems (25 percent, or 1.3 million MTCO₂E).¹⁰⁷

Electricity in San Francisco is currently primarily provided by PG&E and the SFPUC. In 2010, electricity consumption in San Francisco was approximately 6.1 million megawatt-hours (MWh). PG&E is responsible for approximately 73 percent of electricity delivery (4.5 million MWh) and 79 percent (1.1 million MTCO₂E) of GHG emissions. The SFPUC is responsible for approximately 14

103 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.

104 California Climate Change Portal. Available online at: <http://www.climatechange.ca.gov/>. Accessed September 25, 2012.

105 California Energy Commission, California Climate Change Center, *Our Changing Climate 2012*, July 2012. Available online at: <http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf>. Accessed August 21, 2012.

106 California Air Resources Board (CARB), *California Greenhouse Gas Inventory for 2000-2010— by Category as Defined in the Scoping Plan*, Available online at: http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-10_2013-02-19.pdf. Accessed June 5, 2013.

107 San Francisco Department of Environment (SFD OE), *San Francisco Climate Action Strategy*, 2013 Update.

percent (0.9 million MWh) of electricity delivery and 0.01 percent (12,489 MTCO₂E) of GHG emissions.¹⁰⁸

In 2010, PG&E's total power mix was as 20 percent natural gas, 24 percent nuclear, 16 percent eligible renewables, 16 percent large hydroelectric, 23 percent unspecified power, one percent coal, and one percent other fossil fuels.^{109,110}

Energy supplies for the SFPUC are currently provided by the three hydroelectric power plants that the SFPUC owns and operates in association with San Francisco's Hetch Hetchy system. This system has the lowest GHG emissions of any large electric utility in California and currently supplies electricity for use by Muni, city buildings, and a limited number of other commercial accounts.¹¹¹

In September 2012, the SF Board of Supervisors directed the initiation of a community choice aggregation program, CleanPowerSF, for San Francisco that would provide 100 percent California-certified renewable energy and may include purchases of renewable energy credits. The program was anticipated to be rolled out in phases with the first to include 20 to 30 MW of electricity, sufficient to power approximately 50,000 to 90,000 San Francisco residential accounts. Commercial customers were not anticipated to be served in the first phase, though subsequent phases may be served if adequate supply were to be made available. CleanPowerSF would be administered by the SFPUC (operated separately from the above mentioned SFPUC Hetch Hetchy system accounts) with PG&E continuing to transmit, distribute, and own the City's electricity grid.¹¹² While the program was anticipated to start in 2013, the program has not come online as of April 2014 and the actual start date has not been determined.¹¹³

Data Centers. Due to concerns over the rapid growth in data center energy consumption and interest in energy efficiency opportunities for data centers, Congress passed Public Law 109-431, directing the United States Environmental Protection Agency (USEPA) to study data center energy use, equipment, and opportunities for energy efficiency. According to *Report to Congress on Server and Data Center*

108 SFDOE. Note: the remainder of the electricity consumption is derived from third party generators or other suppliers.

109 Pacific Gas & Electric (PG&E), *PG&E's 2010 Electric Power Mix Delivered to Retail Customers*. Available online at: <http://www.pge.com/myhome/edusafety/systemworks/electric/energymix/>. Accessed June 10, 2013 (2013a).

110 Pending California Public Utilities Commission approval, PG&E would include a Green Option program that would allow customers an opportunity to pay into a program that may lead to the development of up to 250 MW of new clean energy projects in the PG&E service area. This document, *New Green Option (Community Solar) FAQ* is available online at: <http://www.pge.com/about/environment/pge/greenoption/faq/>. Accessed June 10, 2013 (2013b).

111 PG&E, 2013b.

112 SFPUC, *Agenda Item No 13, CleanPowerSF Not-to-Exceed Electric Generation Rates*, May 14, 2013. Available online at: <http://www.sfwater.org/modules/showdocument.aspx?documentid=3780>. Accessed June 10, 2013.

113 SFPUC, *Agenda Item No 5e, Response to Board of Supervisor Inquiry Reference No. 20130903-002, by Supervisor Avalos, requesting a response from the SFPUC regarding CleanPowerSF Program*, October 8, 2013. - Available online at: <http://www.sfwater.org/modules/showdocument.aspx?documentid=4286>. Accessed January 2, 2013.

Energy Efficiency – Public Law 109-431 (Report to Congress), US data centers consumed 61 million MWh of energy in 2006, which equates to 1.5 percent of all power consumed in the US. Energy use of US data centers in 2006 was estimated to be more than double their energy consumption in 2000 and was expected to double again by 2011. The USEPA in the report acknowledged that data centers “can also lead to indirect reductions in energy use in the broader economy, which can exceed the incremental data center energy expenditures in some cases. For instance, e-commerce and telecommuting can reduce both freight and passenger transportation energy use.”¹¹⁴ However, the USEPA did not quantify the indirect energy use reductions from data centers.

Power Usage Effectiveness, or PUE, is a metric used to compare the efficiency of facilities that house computer servers. PUE is defined as the ratio of total facility energy use to IT equipment power draw (i.e., $PUE = \text{Total Facility Power} / \text{IT Equipment Power}$). For example a PUE of two (2) means that the data center must draw two (2) watts of electricity for every one (1) watt of power consumed by the IT equipment. The ideal PUE is one (1) where all power drawn by the facility goes to the IT equipment (or lower if on-site electricity is generated).

A review of three different surveys found that the average PUE for data centers range between 1.8 to 1.89, 2.0, and 2.8.¹¹⁵ The USEPA, in its *Report to Congress*, identified three different energy-efficiency categories for data centers: (1) Improved Operation, with a PUE of 1.7; (2) Best Practice, with a PUE 1.5; and (3) State-of-the-Art, with a PUE of 1.5 or 1.4, depending on the type of data center. Based on the most comprehensive of the aforementioned surveys, the *Uptime Institute 2012 Data Center Industry Survey*, approximately 33 percent of data centers would meet the Improved Operation category (i.e., PUE of 1.69 or lower), approximately 15 percent of data centers would meet the Best Practice category (i.e., PUE of 1.49 or lower), and approximately 10 percent would meet the State-of-the-Art category (i.e., PUE of 1.39 or lower).

While the PUE of a data center is helpful in gauging the energy efficiency of the facility, it does not necessarily correlate with a reduction in overall energy consumption, and associated GHG emissions, from the facility. A data center may reduce its PUE without reducing its energy consumption by reallocating any reduction in “facility energy” to power additional IT equipment. This, in itself, can be

114 United States Environmental Protection Agency (USEPA), *Report to Congress on Server and Data Center Energy Efficiency – Public Law 109-431*, August 2, 2007. Available online at: http://hightech.lbl.gov/documents/data_centers/epa-datacenters.pdf. Accessed June 11, 2013. (USEPA, 2007)

115 First numbers: Matt Stansberry & Julian Kudtriski, *Uptime Institute, Uptime Institute 2012 Data Center Industry Survey*. Survey of over 1,100 data center end users across the world. Available online at: <http://uptimeinstitute.com/2012-survey-results>. Accessed June 11, 2013; Second number: USEPA, 2007. *Survey of 22 data centers, with a majority located on the west coast in the US*; Third number: Digital Realty, *US Campos Survey Results* January 2012. Survey of 300 data centers in the US.

potentially beneficial if smaller data room tenants relocate to the efficient data center, as single-user data rooms have been demonstrated to be less efficient than specially-designed facilities.¹¹⁶

Regulatory Setting

State

Executive Order S-3-05. In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Schwarzenegger established Executive Order (EO) S-3-05, which sets forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million MTCO₂E); by 2020, reduce emissions to 1990 levels (estimated at 427 million MTCO₂E); and by 2050 reduce statewide GHG emissions to 80 percent below 1990 levels (approximately 85 million MTCO₂E). As discussed in the Environmental Setting section, California produced about 452 million MTCO₂E in 2010, thereby meeting the 2010 target date to reduce GHG emissions to 2000 levels.

Assembly Bill 32 and California Climate Change Scoping Plan. In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq.), also known as the California Global Warming Solutions Act. AB 32 requires ARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

Pursuant to AB 32, ARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels, or about 15 percent from 2008 levels.¹¹⁷ The Scoping Plan estimates a reduction of 174 million MTCO₂E from the transportation, energy, agriculture, forestry, and high global warming potential sectors.¹¹⁸

The AB 32 Scoping Plan also anticipates that local government actions will result in reduced GHG emissions. ARB has identified a GHG reduction target of 15 percent from 2008 levels for local governments themselves and noted that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have the primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.¹¹⁹ The Scoping Plan also relies on the requirements of Senate Bill (SB) 375 (discussed below) to align local land use and transportation planning to achieve GHG reductions.

116 Shiino, Takao, Nomura Research Institute, *Japan's Approach to Reducing Greenhouse Gas Emissions from Data Centers*, September 1, 2010. p.9. This document is available to view at SF Planning Department, 1650 Mission Street, Suite 400.

117 ARB, *California's Climate Plan: Fact Sheet*. Available online at: http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf. Accessed August 23, 2012 (ARB, 2012).

118 ARB, 2012a.

119 ARB, 2008.

Table 13 - GHG Reductions from the AB 32 Scoping Plan Sectors^{120,121}

GHG Reduction Measures by Sector	GHG Reductions (million MTCO₂E)
Transportation Sector	62.3
Electricity and Natural Gas	49.7
Industry	1.4
Landfill Methane Control Measure (Discrete Early Action)	1
Forestry	5
High Global Warming Potential GHGs	20.2
Additional Reductions Needed to Achieve the GHG Cap	34.4
Total Reductions Counted Towards 2020 Target	174
Other Recommended Measures	
Government Operations	1-2
Agriculture - Methane Capture at Large Dairies	1
Additional GHG Reduction Measures:	
Water	4.8
Green Buildings	26
High Recycling/Zero Waste	9
-Commercial Recycling, Composting, Anaerobic Digestion, Extended Producer Responsibility, Environmentally Preferable Purchasing	
Total Reductions from Other Measures	41.8-42.8
<i>Note: MTCO₂E = metric tons of CO₂E (carbon dioxide equivalent)</i>	

The Scoping Plan must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve its 2020 GHG reduction goal. In early 2013, ARB initiated activities to update the AB 32 Scoping Plan. The 2013 AB 32 Scoping Plan update will define ARB's climate change priorities for the next five years and lay the groundwork to reach post-2020 goals set forth in EO S-3-05. The update will highlight California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original Scoping Plan (2008). It will also evaluate how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use. To address the State's near-term and longer-term GHG goals, the update will have both a 2020 element and a post-2020 element. The 2020 element will focus on State, regional, and local initiatives that are being implemented now to

120 ARB, *Climate Change Scoping Plan*, December 2008. Available online at:

http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed August 23, 2012.

121 ARB, 2012a.

assist California in meeting the 2020 goal. The post-2020 element will provide a high level view of a long-term strategy for meeting the 2050 GHG goals.¹²²

Senate Bill 375. In addition to policy directly guided by AB 32, the California legislature passed SB 375 in September 2008 to require regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires regional transportation plans developed by each of the State's 18 Metropolitan Planning Organizations (MPOs) to incorporate a sustainable communities strategy (SCS) in each regional transportation plan that will achieve GHG emission reduction targets set by ARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. The Bay Area's Metropolitan Transportation Commission's 2013 Regional Transportation Plan, Plan Bay Area (adopted in July 2013), is the region's first plan subject to SB 375.

Senate Bill 1078, 107, and X1-2 and Executive Order S-14-08 and S-21-09. California established aggressive Renewable Portfolio Standards under SB 1078 (Chapter 516, Statutes of 2002) and SB 107 (Chapter 464, Statutes of 2006), which require retail sellers of electricity, to provide at least 20 percent of their electricity supply from renewable sources by 2010. EO S-14-08 of November 2008 expanded the State's Renewable Portfolio Standard to 33 percent of electricity from renewable sources by 2020. In September 2009, California's commitment to the Renewable Portfolio Standard was continued by the Governor's signing of EO S-21-09, which directed ARB under its AB 32 authority to enact regulations to help California meet the Renewable Portfolio Standard goal of 33 percent renewable energy by 2020.¹²³

In the ongoing effort to codify the GHG reduction goal for energy suppliers of 33 percent by 2020, SB X1-2 (Chapter 1, Statutes of 2011) was signed by Governor Edmund G. Brown, Jr., in April 2011. This Renewable Portfolio Standard preempts the ARB's 33 percent renewable electricity standard and applies to all electricity suppliers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new Renewable Portfolio Standard goals of 20 percent of retail sales from renewable sources by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.¹²⁴ Eligible renewable sources include geothermal, ocean wave, solar photovoltaic, wind, but exclude large hydroelectric (30 MW or more). A specific provision in SB X1-2 also requires the SFPUC as a local

122 ARB, *AB 32 Scoping Plan*, July 3, 2013. Available online at: <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>. Accessed July 16, 2013.

123 California Energy Commission, *Renewables Portfolio Standard (RPS) Proceeding*. Available online at: <http://www.energy.ca.gov/portfolio/>. 2012. Accessed June 10, 2013.

124 California Energy Commission, 2012.

publicly owned utility to meet 100 percent of its energy needs from a combination of its hydroelectric Hetch Hetchy resources and renewable energy resources.¹²⁵

Regional

The BAAQMD is the primary agency responsible for air quality regulation in the nine county San Francisco Bay Area Air Basin (SFBAAB). The BAAQMD, through their CEQA Air Quality Guidelines, provides guidance for projects subject to CEQA in the SFBAAB. The BAAQMD is responsible for attaining and maintaining air quality in the SFBAAB within federal and state air quality standards, as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the 2010 Clean Air Plan, was adopted by the BAAQMD on September 15, 2010. The 2010 Clean Air Plan includes a goal of reducing GHG emission to 1990 levels by 2020 and 40 percent below 1990 levels by 2035.

The BAAQMD also assists local jurisdictions and lead agencies in complying with the requirements of CEQA regarding potentially adverse impacts to air quality in their CEQA Air Quality Guidelines. The BAAQMD advises that local agencies develop a Greenhouse Gas Reduction Strategy consistent with AB 32 goals and that subsequent projects be reviewed to determine the significance of their GHG emissions based on the degree to which that project complies with the Greenhouse Gas Reduction Strategy.¹²⁶ As described below under “Approach to Analysis”, this is consistent with the approach to analyzing GHG emissions outlined in the CEQA Guidelines.

In addition, BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the SFBAAB. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing GHGs and other air pollutants that affect the health of residents.

Local

San Francisco Greenhouse Gas Reduction Ordinance. In May 2008, the City adopted Ordinance No. 81-08 amending the San Francisco Environment Code to establish GHG emissions targets and departmental action plans, to authorize the San Francisco Department of the Environment to coordinate efforts to meet these targets, and to make environmental findings. The ordinance establishes the following GHG emissions reduction limits for San Francisco and the target dates by which to achieve them: determine 1990 Citywide GHG emissions by 2008, the baseline level with reference to which target reductions are set; reduce GHG emissions by 25 percent below 1990 levels by

¹²⁵ SFPUC, 2013.

¹²⁶ BAAQMD, *California Environmental Quality Act Air Quality Guidelines*, May 2012. Available online at: http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en. Accessed September 25, 2012.

2017; reduce GHG emissions by 40 percent below 1990 levels by 2025; and reduce GHG emissions by 80 percent below 1990 levels by 2050.

San Francisco Greenhouse Gas Reduction Strategy. San Francisco has developed a number of plans and programs to reduce the City's contribution to global climate change and meet the goals of the Greenhouse Gas Reduction Ordinance. San Francisco's Greenhouse Gas Reduction Strategy documents the City's actions to pursue cleaner energy, energy conservation, alternative transportation and solid waste policies. As identified in San Francisco Greenhouse Gas Reduction Strategy, the City has implemented a number of mandatory requirements and incentives that have measurably reduced GHG emissions including, but not limited to, increasing the energy efficiency of new and existing buildings, installation of solar panels on building roofs, implementation of a green building strategy, adoption of a zero waste strategy, a construction and demolition debris recovery ordinance, a solar energy generation subsidy, incorporation of alternative fuel vehicles in the City's transportation fleet (including buses), and a mandatory recycling and composting ordinance. The strategy also identifies 42 specific regulations for new development that would reduce a project's GHG emissions.

The Greenhouse Gas Reduction Strategy concludes that San Francisco's policies and programs have resulted in a reduction in GHG emissions below 1990 levels, exceeding statewide AB 32 GHG reduction goals. San Francisco's communitywide 1990 GHG emissions were approximately 6.2 million MTCO₂E. As stated above, San Francisco GHG emissions in 2010 were 5.3 million MTCO₂E, which represents a 14.5 percent reduction in GHG emissions compared to 1990 levels. The reduction is largely a result of reduced GHG emissions from the electricity sector, from 2.0 million MTCO₂E (year 1990) to 1.3 million MTCO₂E (year 2010), and waste sector, from 0.5 million MTCO₂E (year 1990) to 0.2 million MTCO₂E (year 2010).¹²⁷ The electricity sector reduction is a result of a cleaner electricity portfolio in the City, despite an increase in electricity consumption, including reductions resulting from the closure of the higher GHG-emitting Hunters Point Power Plant and Potrero Power Plant and completion of the lower GHG-emitting Trans Bay Cable project to Pittsburg, California.

San Francisco Conditional Use Authorization. A Conditional Use is a use that is not principally permitted in a particular Zoning District. Conditional Use Authorization requires a Planning Commission hearing in order to determine if the proposed use is necessary or desirable to the neighborhood, and whether the use complies with the SF General Plan. Section 303 of the Planning Code establishes criteria for the Planning Commission Conditional Use process. Section 303(h) has further criteria for an ISE, such as the proposed project, that includes finding that:

(F) The building is designed to minimize energy consumption, such as through the use of energy-efficient technology, including without limitation, heating, ventilating and air conditioning systems, lighting controls, natural ventilation and recapturing waste heat, and as such commercially available technology evolves;

¹²⁷ SF DOE, 2013.

(G) The project sponsor has examined the feasibility of supplying and, to the extent feasible, will supply all or a portion of the building's power needs through on-site power generation, such as through the use of fuel cells or co-generation;

(H) The project sponsor shall have submitted design capacity and projected power use of the building as part of the conditional use application.

Additionally, as a condition of approval in Section 303(h), ISE facilities are required to provide the Planning Department with an annual statement of their power consumption for the previous twelve-months and submit a written annual report to the Department of Environment and the Planning Department including, among other things, the annual energy and fuel consumption for all tenants and occupants in the ISE.

Significance Criteria

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the State CEQA Guidelines that is used by the SF Planning Department. For the purpose of this analysis, the following significance criteria were used to determine whether implementing the proposed project would result in a significant impact with respect to GHG emissions. Implementation of the proposed project would have a significant effect on GHG emissions if the proposed project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

Approach to Analysis

GHG emissions and global climate change represent cumulative impacts. GHG emissions contribute, on a cumulative basis, 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; the combination of GHG emissions from past, present, and future projects contribute substantially to the global climate change and its associated environmental effects.

Consistent with CEQA Guidelines Section 15183.5, San Francisco has prepared its own Greenhouse Gas Reduction Strategy. The BAAQMD has reviewed this strategy, concluding that "Aggressive GHG reduction targets and comprehensive strategies like San Francisco's help the Bay Area move toward reaching the State's AB 32 goals, and also serve as a model from which other communities can learn."¹²⁸

¹²⁸ BAAQMD, *Letter from J. Roggenkamp, BAAQMD, to B. Wycko, San Francisco Planning Department*, October 28, 2010. Available online at: http://www.sf-planning.org/ftp/files/MEA/GHG-Reduction_Letter.pdf. Accessed September 24, 2012.

For most land use projects within San Francisco, the GHG analysis prepared as part of the CEQA review process includes a qualitative assessment of GHG emissions generated by the proposed project and an assessment of the project's compliance with San Francisco's Greenhouse Gas Reduction Strategy via a checklist of the City's 42 specific regulations that reduce GHG emissions. Given the proposed project's unique data center land use and its anticipated greater generation of GHG emissions as compared to more typical projects (e.g., residential, office, mixed-use), this impact analysis evaluates compliance with the checklist, but also quantifies construction- and operation-related GHG emissions that would be generated by the project. As such, the determination as to whether a proposed project's GHG emissions are cumulatively considerable (i.e., generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment) is based upon whether the proposed project, and its associated GHG emissions, would conflict with EO S-3-05, AB 32, Bay Area 2010 Clean Air Plan, and San Francisco's GHG Reduction Ordinance (statewide, regional, and local plans and regulations). This approach is consistent with CEQA Guidelines Section 15064.4 and Appendix G. Additionally, for informational purposes, project-related energy efficiency features and the ISE facility's anticipated PUE (an indicator of the facility's energy efficiency) are provided.

The Air Quality Technical Report prepared for the project includes an estimate of both the construction- and operation-related GHG emissions that would be generated by the project.¹²⁹ Construction-related GHG emissions are quantified using the California Emissions Estimator Model (CalEEMod) and annualized over the expected 40-year lifespan of the proposed project, consistent with anticipated lifetimes for new buildings. The model was developed, including default data (e.g., emission factors, meteorology, etc.) in collaboration with California air districts. Default assumptions were used where project-specific information was unknown.

Operation-related GHG emissions are quantified for the proposed project using several different sources. Annual GHG emissions from the proposed 18 diesel backup generators are calculated using the rate of the fuel consumption as specified by the engine manufacturers, expected annual testing and maintenance operating hours, and emission factors from the Climate Registry General Reporting Protocol.¹³⁰ Annual GHG emissions from operational land use-related sources (e.g., solid waste, wastewater, worker trips) are quantified using CalEEMod. Annual GHG emissions from indirect electricity use are calculated using an anticipated increase in the amount of electricity consumption from the proposed project and a PG&E CO₂ emission factor of 0.177 MTCO₂/MWh for 2015 (year of

¹²⁹ BlueScape Environmental, 2013.

¹³⁰ The Climate Registry, *General Reporting Protocol, Version 2.0*, March 2013. Available online at: http://www.theclimateregistry.org/downloads/2013/03/TCR_GRP_Version_2.0.pdf. Accessed June 13, 2013.

proposed building operation) and lower emissions factors through 2020 (AB 32 target year)¹³¹ and eGrid CH₄ and N₂O emission factors of 0.029 lbs/MWh and 0.010 lbs/MWh, respectively.¹³²

Impact C-GG-1: The proposed project would generate greenhouse gas emissions, but not in levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)

The most common GHGs resulting from human activity associated with land use decisions are CO₂, black carbon, CH₄, and N₂O.¹³³ Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions from electricity providers; energy required to pump, treat, and convey water; and emissions associated with waste removal, disposal, and landfill operations.

Proposed Efficiency Measures and Power Usage Effectiveness (PUE)

As described in the Environmental Setting, PUE is an industry-defined metric used to compare the efficiency of data center facilities. PUE is defined as the ratio of total facility energy use to IT equipment power draw (i.e., $PUE = \text{Total Facility Power} / \text{IT Equipment Power}$). The ideal PUE is one (1) where all power drawn by the facility goes to the IT equipment (or lower if on-site electricity is generated). The project sponsor projects that the proposed ISE facility would have an average annualized PUE of 1.22 to 1.28 depending on the type of cooling system selected by the individual data center tenants for their data center halls, or pods. Data center users would have the option of selecting the use of either DX pre-packaged units with outside air economizers, if operating at temperatures at or below 75 degrees in the data hall, or the use of evaporative cooling units with outside air economizers, if the data room can operate above 75 degrees. The decision regarding the operating temperature of the data pod is dictated in part by the server manufacturers. The use of the evaporative cooling units offers cost savings as they require less energy than DX chillers. Therefore, the more tenants that use the evaporative coolers, the less energy that would be needed for the facility, producing a lower PUE.

The proposed project includes a number of data center-specific energy efficiency measures, such as the use of virtualization software to minimize the running of servers, intended to reduce the proposed project's energy usage and associated GHG emissions. Some of these energy efficiency measures would be constructed to comply with the San Francisco Green Building Ordinance, as well as for the

131 PG&E, *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*, April 2013. Available online at: http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf. Accessed June 12, 2013 (2013c).

132 BlueScape Environmental, 2013.

133 Governor's Office of Planning and Research, *Technical Advisory- CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*, June 19, 2008. Available online at: <http://opr.ca.gov/docs/june08-ceqa.pdf>. Accessed August 23, 2012.

project sponsor's proposed LEED Gold certification for the new building. A detailed list of efficiency measures is provided in the Project Description on pp. 37-39. These energy efficiency measures would be incorporated into the proposed ISE facility in order to achieve the average annualized PUE of between 1.22 and 1.28 for the proposed ISE facility at 320-400 Paul Avenue and reduce the amount of energy necessary to operate the facility. These energy efficiency features were included in the calculations used to arrive at the project estimated GHG emissions in Table 14 below.

Greenhouse Gas Emission Estimates

The proposed project would generate GHG emissions, both directly and indirectly. During construction, direct emissions would be generated from worker and vendor vehicle trips, hauling, and off-road equipment. During operation, direct emissions would mainly result from the operation of 18 new diesel backup generators. The proposed project would also indirectly generate ongoing GHG emissions resulting from an increase in off-site generated electricity used to power the ISE facility's mechanical and IT equipment, as well as from solid waste transport, landfill emissions, and municipal wastewater generated at the facility. The proposed project's estimated electricity load would be 12 MW in 2015, ramping up to 24 MW by 2020, equating to an estimated annual energy consumption of between 105,000 to 210,000 MWh.

As shown in Table 14, the proposed project's annual GHG emissions (year 2015) would equal 40,819 MTCO₂E. The largest source, indirect annual electricity consumption accounts for approximately 92.2 percent (37,641 MTCO₂E) of the proposed project's annual GHG emissions. The second largest source, operational emissions from land-use related emissions (e.g., solid waste, wastewater, worker trips), accounts for approximately 5.7 percent (2,325 MTCO₂E) of the proposed project's annual GHG emissions.

Table 14 - 400 Paul Annual GHG Emission Estimates (2015)

Emission Source	Annual GHG Emission Estimate (MTCO₂E)
Annualized Construction Emissions ^a	15.2
Operational Direct Emissions from 18 Proposed Generators	838
Operational Emissions from Land Use-Related	2,325
Operational Indirect Emissions from Electricity	37,641
	40,819

Notes: a. Total construction emissions equal 606 MTCO₂E. Emissions are annualized over the expected 40-year lifespan of the proposed project. The estimate of annualized GHG emissions includes the construction of the proposed ISE facility and the two 12kV electrical distribution circuits.

The indirect GHG emissions, or CO₂-equivalent emissions, from the ongoing operation of the proposed ISE facility would decrease between 2015 and 2020, as PG&E utilizes a higher percentage of renewable energy sources in its generation of electricity in compliance with California's Renewables Portfolio Standard. Based on PG&E's targeted generation mix of renewables in 2020, the indirect emissions from the ongoing operation of the proposed ISE facility would decrease to 28,009 MT/year

from the 37,681 MT/year projected in 2015.¹³⁴ Table 15 shows the projected decrease in operational indirect GHGs from the generation of electricity that would be used by the ISE facility from the year 2015 to 2020 as PG&E's electricity-generation portfolio reflects this larger contribution from renewable sources.

Table 15 - Indirect Operation CO₂-Equivalent Emissions from Years 2015-2020

Year	Annual CO ₂ Equivalent
2015	37,641
2016	35,638
2017	33,363
2018	31,633
2019	29,630
2020	28,009

The next section describes whether or not the proposed project's GHG emissions are cumulatively considerable by analyzing the proposed project's GHG emissions and consistency with statewide, regional, and local plans and regulations.

Consistency with Plans and Programs

GHG Reduction Strategy. The proposed project would be required to comply with 23 local regulations that reduce GHG emissions. Applicable regulations and a discussion of how the project would comply with these regulations are listed in Table 16.

¹³⁴ BlueScape Environmental, 2013.

Table 16 - Greenhouse Reduction Strategies Applicable to the Project

Regulation	Requirements	Project Compliance	Discussion
Transportation Sector			
Commuter Benefits Ordinance (SF Environment Code, Section 421)	All employers of 20 or more employees must provide at least one of the following benefit programs: 1. A Pre-Tax Election consistent with 26 U.S.C. § 132(f), allowing employees to elect to exclude from taxable wages and compensation, employee commuting costs incurred for transit passes or vanpool charges, or (2) Employer Paid Benefit whereby the employer supplies a transit pass for the public transit system requested by each Covered Employee or reimbursement for equivalent vanpool charges at least equal in value to the purchase price of the appropriate benefit, or (3) Employer-provided transit furnished by the employer at no cost to the employee in a vanpool, bus, or multi-passenger vehicle operated by or for the employer.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed ISE facility at 320-400 Paul Avenue would employ 240 people. If the facility operator or any of the individual tenants employ more than 20 employees, they would be required to comply with the Commuter Benefits Ordinance - SF Environment Code, Section 421. Currently, the project sponsor anticipates that it would employ only 17 employees and would not be subject to this requirement. If the facility staff increases to 20 or more, the project sponsor would offer the pre-tax election allowing employees to elect to exclude from taxable wages and compensation, employee commuting costs incurred for transit passes, and vanpool charges. Future tenants with 20 or more employees would be required to select one of the three methods for complying with this requirement.
Emergency Ride Home Program	All persons employed in San Francisco are eligible for the emergency ride home program.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The project sponsor would have a program in place at the 320-400 Paul Avenue facility to offer the Emergency Ride Home Program to its employees.

Regulation	Requirements	Project Compliance	Discussion
Bicycle Parking in New and Renovated Commercial Buildings (SF Planning Code, Section 155.2)	Professional Services: Buildings between 10,000-20,000 gross square feet in area require a minimum of 3 bicycle spaces. Buildings between 20,000—50,000 gross square feet require a minimum of 6 bicycle spaces. Buildings over 50,000 square feet of gross square feet require a minimum of 12 bicycle spaces.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed ISE facility at 320-400 Paul Avenue would provide a 14 bicycle parking spaces within the proposed ISE facility for use by employees.
San Francisco Green Building Requirements (SF Building Code, Chapter 13C.106.5 and 13C.5.106.5)	Requires New Large Commercial projects, New High-Rise Residential projects and Commercial Interior projects to provide designated parking for low-emitting, fuel efficient, and carpool/van pool vehicles. Mark 8% of parking stalls for such vehicles.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	A minimum of 10 parking spaces would be allocated for use by low-emitting and carpool vehicles. These spaces would be distributed throughout the site.
Parking requirements for San Francisco's Mixed-Use zoning districts. (SF Planning Code Section 151.1)	The Planning Code has established parking maximums for many of San Francisco's Mixed-Use districts.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed project has applied for a PUD to set a requirement of 80 parking spaces for the ISE facility that equates to one parking space per 3,000 square feet of building area. This parking ratio would result in less parking spaces than the warehouse parking ratio in the SF Planning Code.
Energy Efficiency Sector			
San Francisco Existing Commercial Buildings Energy Performance Ordinance (SF Environment Code 2000-2009)	Owners of nonresidential buildings in San Francisco are required to conduct energy efficiency audits, as well as to annually measure and disclose energy performance. The ordinance applies to nonresidential buildings greater than 10,000 square feet, with different requirements for buildings greater than 50,000 square feet. Certain exceptions apply for new construction and if specified performance criteria are met.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	In accordance with Section 303(h) of the SF Planning Code, ISE facilities are required to provide the Planning Department with an annual statement of their power consumption for the previous twelve-months and submit a written annual report to the Department of Environment (DOE) and the Planning Department including, among other things, the annual energy and fuel consumption for all tenants and occupants in the ISE. In conjunction with this energy use report to the DOE, the project sponsor would

Regulation	Requirements	Project Compliance	Discussion
			provide any required energy audit information required by the DOE. As the 400 Paul Avenue building would be new, no energy audit would be required for the first five years. The 320 and 350 Paul Avenue renovated buildings would be required to perform an energy audit initially if they do not receive the LEED for Existing Buildings Operations and Maintenance certification.
San Francisco Green Building Requirements for Energy Efficiency (SF Building Code, Chapter 13C.5.201.1.1)	New construction of non-residential buildings requires the demonstration of 15% energy reduction compared to 2008 California Energy Code, Title 24, Part 6.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	Energy efficiency measures have been identified for the construction and renovation of the buildings at the proposed ISE facility to maximize the energy efficiency of the facility. Examples of the proposed energy efficiency measures are: 1) LEED certified and Energy Star compliant “cool roof” single-ply roof membrane on top of rigid roof insulation board composed of a closed-cell polyisocyanurate foam core with a coated glass face and 2) the replacement of the existing single-pane windows with dual-pane thermal windows that would not conflict with the Secretary of the Interior’s Standards for Rehabilitation. Building entrance doors would be constructed using double doors in a vestibule to act as air-lock doors, preventing heat loss or heat gain, depending on the season. Operable windows with a thermal break in the window frames would be used to prevent heat loss and insulated glass window panes with low-E coating ¹³⁵ would be used in the

135 Low e or low thermal emissivity refers to a surface condition that emits low levels of radiant thermal (heat) energy. Window glass is by nature highly thermally emissive. To improve thermal efficiency (insulation properties) thin film coatings are applied to the raw soda-lime glass. These coatings reflect radiant infrared energy, thus tending to keep radiant heat on the same side of the glass from which it originated, while letting visible light pass. This results in more efficient windows because radiant heat originating from indoors in winter is reflected back inside, while infrared heat radiation from the sun during summer is reflected away, keeping it cooler inside.

Regulation	Requirements	Project Compliance	Discussion
			320 and 350 Paul Avenue buildings to allow outside air to be used for natural cooling and ventilation. The project would comply with SF Building Code, Chapter 13C.5.201.1.1 and demonstrate a 15% energy reduction as compared to California Energy Code (CEC) Title 24, Part 6. 1. All lighting fixtures would be Energy Star compliant and include motion sensors. High-efficiency florescent lamps/ballasts would be used in rooms where lighting is provided on an as-needed basis, and high-efficiency LED lighting would be used in areas with 24-hour lighting. Lighting controllers connected to the Building Automation System would cycle light fixtures on/off according to the building schedule. Light fixtures would be grouped into small zones to allow the automated building system to provide lighting only where required to minimize wasted energy. High-efficiency LED lighting would be used for all exterior lighting fixtures. Low-level exterior lighting would be used for pedestrian areas and the parking lot adjacent to Paul Avenue.
San Francisco Green Building Requirements for Energy Efficiency (LEED EA3, San Francisco Building Code, Chapter 13C.5.410.2) and Commissioning of Building Energy Systems (LEED prerequisite, EAp1)	For New Large Commercial Buildings – Requires Enhanced Commissioning of Building Energy Systems For new large buildings greater than 10,000 square feet, commissioning shall be included in the design and construction to verify that the components meet the owner’s or owner representative’s project requirements.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The project sponsor would have commissioning performed on the mechanical systems for the new data center and two renovated buildings to ensure that the systems meet the project requirements and maximize efficiency of the system. Therefore, the project would comply with SF Building Code, Chapter 13C.5.410.2 and would be certified as compliant with Enhanced Commissioning of Building Energy Systems.

Regulation	Requirements	Project Compliance	Discussion
San Francisco Green Building Requirements for Stormwater Management (SF Building Code, Chapter 13C) Or San Francisco Stormwater Management Ordinance (SF Public Works Code Article 4.2)	Requires all new development or redevelopment disturbing more than 5,000 square feet of ground surface to manage stormwater on-site using low impact design. Projects subject to the Green Building Ordinance Requirements must comply with either LEED® Sustainable Sites Credits 6.1 and 6.2, or with the City's Stormwater Management Ordinance and stormwater design guidelines.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	400 Paul Ave. would comply with San Francisco Stormwater Management Ordinance (SF Public Works Code Article 4.2) and would comply with either LEED® Sustainable Sites Credits 6.1 and 6.2, or with the City's Stormwater Management Ordinance and stormwater design guidelines.
San Francisco Green Building Requirements for water efficient landscaping (SF Building Code, Chapter 13C) and San Francisco Water Efficient Irrigation Ordinance	All new commercial buildings greater than 5,000 sf are required to reduce the amount of potable water used for landscaping by 50%. Projects that include 1,000 square feet (sf) or more of new or modified landscape are subject to this ordinance, which requires that landscape projects be installed, constructed, operated, and maintained in accordance with rules adopted by the SFPUC that establish a water budget for outdoor water consumption. Tier 1: Project landscape area is greater than or equal to 1,000 sf and less than 2,500 sf. Tier 2: Project landscape area is greater than or equal to 2,500 sf.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed project would be a Tier 2 project and would engage a landscape professional to prepare a water budget for outdoor water consumption. The proposed project would utilize drip irrigation for all new trees and shrubs to be planted on site. Hydroseeded or areas with ground cover may require some initial spray irrigation until established. Irrigation controllers would utilize technology, such as rain sensors, to provide irrigation as needed. All plant species would be selected based on their compatibility with the local climate to minimize the need for long-term irrigation. Through the implementation of these measures the project would reduce its use of potable water for landscaping.
Indoor Water Efficiency (SF Building Code, Chapter 13C sections 13C.5.103.1.2, 13C.4.103.2.2, 13C.3.03.2)	If meeting a LEED® Standard: Reduce overall use of potable water within the building by a specified percentage – for showerheads, lavatories, kitchen faucets, wash fountains, water closets and urinals. New large commercial and high-rise residential buildings must achieve a 30% reduction. Commercial interior, commercial alternation and residential alternation should achieve a 20%	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed ISE facility would comply with this section of SF Building Code, Chapter 13C and reduce the amount of potable water used by 20% through the use of water-saving, low flow plumbing fixtures inside the facility, such as motion sensor bathroom faucets waterless urinals, and tankless water heaters, as well by using a water-conserving outdoor irrigation system.

Regulation	Requirements	Project Compliance	Discussion
	reduction below UPC/IPC 2006.		
Commercial Water Conservation Ordinance (SF Building Code, Chapter 13A)	Requires all existing commercial properties undergoing tenant improvements to achieve the following minimum standards: 1. All showerheads have a maximum flow of 2.5 gallons per minute (gpm) 2. All showers have no more than one showerhead per valve 3. All faucets and aerators have a maximum flow rate of 2.2 gpm 4. All toilets have a maximum rated water consumption of 1.6 gallons per flush (gpf) 5. All urinals have a maximum flow rate of 1.0 gpf 6. All water leaks are repaired.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed project would be designed to include these requirements for faucets, showerheads (if any), toilets, and urinals. Additionally, the existing buildings would be examined for any potential leaks.
Renewable Energy Sector			
San Francisco Green Building Requirements for Renewable Energy (SF Building Code, Chapter 13C)	All new large commercial buildings are required to either generate 1% of energy on-site with renewable, or purchase renewable energy credits pursuant to LEED Energy and Atmosphere Credits 2 and 6, or achieve an additional 10% beyond Title 24 2008. Credit 2 requires providing at least 2.5% of the building energy use from on-site renewable sources. Credit 6 requires providing at least 35% of the building's electricity from renewable energy contracts.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed project would comply with this section of Chapter 13C as to the energy required for the shell building only, not the tenants' power requirements. This requirement would be fulfilled either through purchase of renewable energy credits or achievement of an additional 10% energy savings beyond Title 24 requirements.

Regulation	Requirements	Project Compliance	Discussion
Waste Reduction Sector			
San Francisco Green Building Requirements for construction and demolition debris recycling (SF Building Code, Chapter 13C)	Projects proposing demolition are required to divert at least 75% of the project's construction and demolition debris to recycling.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed project at 320-400 Paul Avenue would comply with the San Francisco Green Building requirements for construction and demolition debris recycling – SF Building Code, Chapter 13C with its planned recycling of approximately 80% of the anticipated construction and demolition debris.
Mandatory Recycling and Composting Ordinance (San Francisco Environment Code, Chapter 19) and San Francisco Green Building Requirements for solid waste (SF Building Code, Chapter 13C)	All persons in San Francisco are required to separate their refuse into recyclables, compostables and trash, and place each type in a separate container designated for disposal of that type of refuse. Pursuant to Section 1304C.0.4 of the Green Building Ordinance, all new construction, renovation, and alterations subject to the ordinance are required to provide recycling, composting and trash storage, collection, and loading convenient for all users of the building.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed buildings at 320-400 Paul Avenue would have provisions for recycling, composting, trash storage, and collection. The receiving and loading area at the rear of the proposed 400 Paul Avenue data center building would have a dedicated loading bay for the loading and pickup of refuse.
Environment/Conservation Sector			
Street Tree Planting Requirements for New Construction (SF Planning Code Section 138.1)	SF Planning Code Section 138.1 requires new construction, significant alterations or relocation of buildings within many of San Francisco's zoning districts to plant on 24-inch box tree for every 20 feet along the property street frontage.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed site plan includes 19 new street trees along the project site's Paul Avenue frontage and would comply with the size and species required by SF Planning Code Section 138.1. Therefore, the proposed project would comply with this requirement.

Regulation	Requirements	Project Compliance	Discussion
Light Pollution Reduction (SF Building Code, Chapter 13C5.106.8)	For nonresidential projects, comply with lighting power requirements in CA Energy Code, CCR Part 6. Requires that lighting be contained within each source. No more than .01 horizontal lumen foot-candles 15 feet beyond site, or meet LEED® credit SSc8.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed project would include only full-cutoff exterior lighting fixtures in order to prevent light trespass onto adjoining properties. Therefore, the project would comply with this requirement.
Enhanced Refrigerant Management (SF Building Code, Chapter 13C.5.508.1.2)	All new large commercial buildings must not install equipment that contains chlorofluorocarbons (CFCs) or halons.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed DX cooling units would not contain CFCs or halons. Therefore, the project would adhere to this requirement.
Low-emitting Adhesives, Sealants, and Caulks (SF Building Code, Chapters 13C.5.103.1.9, 13C.5.103.4.2, 13C.5.103.3.2, 13C.5.103.2.2, 13C.504.2.1)	If meeting a LEED® Standard: Adhesives and sealants (VOCs) must meet SCAQMD Rule 1168 and aerosol adhesives must meet Green Seal standard GS-36. If meeting a GreenPoint Rated Standard: Adhesives and sealants (VOCs) must meet SCAQMD Rule 1168.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	All adhesives and sealants used during the construction of the proposed project would adhere to SCAQMD Rule 1168 and any aerosol adhesives used would meet the requirements of Green Seal standard GS-36. Therefore, the project would adhere to this requirement.
Low-emitting Paints and Coatings (SF Building Code, Chapters 13C.5.103.1.9, 13C.5.103.4.2, 13C.5.103.3.2, 13C.5.103.2.2, 13C.504.2.2 through 2.4)	If meeting a LEED® Standard: Architectural paints and coatings must meet Green Seal standard GS-11, anti-corrosive paints meet GC-03, and other coatings meet SCAQMD Rule 1113. (Not applicable for New High Rise Residential)	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	All architectural paints and coatings would meet Green Seal standard GS-11. All anti-corrosive paints would meet GC-03 standards and other coatings would meet SCAQMD Rule 1113. Therefore, the project would adhere to this requirement.

Regulation	Requirements	Project Compliance	Discussion
Low-emitting Paints and Coatings (SF Building Code, Chapters 13C.5.103.1.9, 13C.5.103.4.2, 13C.5.103.3.2, 13C.5.103.2.2, 13C.504.3 and 13C.4.504.4)	If meeting a LEED® Standard: Hard surface flooring (vinyl, linoleum, laminate, wood, ceramic, and/or rubber) must be Resilient Floor Covering Institute FloorScore certified; carpet must meet the Carpet and Rug Institute (CRI) Green Label Plus; Carpet cushion must meet CRI Green Label; carpet adhesive must meet LEED EQc4.1.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	All hard surfaces, carpet, and carpet cushioning used within the proposed ISE facility would adhere to these requirements.
Low-emitting Composite Wood (SF Building Code, Chapters 13C.5.103.1.9, 13C.5.103.4.2, 13C.5.103.3.2, 13C.5.103.2.2, and 13C.4.504.5)	If meeting a LEED® Standard: Composite wood and agrifiber must not contain added urea-formaldehyde resins and must meet applicable CARB Air Toxics Control Measures.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	All composite wood and agrifiber would not contain added urea-formaldehyde resins and would meet applicable CARB Air Toxics Control Measures. Therefore, the project would adhere to this requirement.
Regulation of Diesel Backup Generators (SF Health Code, Article 3)	Requires (among other things): • All diesel generators to be registered with the Department of Public Health • All new diesel generators must be equipped with the best available air emissions control technology.	☒ Project Complies ☐ Not Applicable ☐ Project Does Not Comply	The proposed project, with mitigation, as described in Topic E.7 Air Quality would be equipped with the best available air emissions technology, specifically Level 3 VDECS filters, and would be limited to a maximum annual 32 hours of testing for each generator. The generators would be registered with SFDPH. Therefore, the project would comply with this requirement.

California, Regional, and Local Greenhouse Gas Emissions Goals. EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan goals include¹³⁶ reducing its GHG emissions to 2000 levels by 2010 and to 1990 levels by 2020. In 2010 San Francisco had reduced its GHG emissions (5.3 million MTCO₂E) to an amount roughly 14.5 percent below 1990 levels (6.2 million MTCO₂E). The proposed data center project's annual GHG emissions would equal 40,819 MTCO₂E (.04 million MTCO₂E). Adding the proposed project's GHG emissions to San Francisco's total 2010 GHG emissions would total 5.34

¹³⁶ The state, the region, and San Francisco have further GHG goals and emission limits for dates beyond 2017 and 2020. However, at this point it is too speculative to compare the proposed project's GHG emissions with dates beyond 2017 and 2020 given the uncertainty of estimating state and local GHG emissions that far into the future.

MTCO₂E of GHG emissions, or approximately 13.9 percent less than 1990 GHG emission levels. With the additional GHG emissions from the proposed data center project, San Francisco's GHG emissions would continue to be below 1990 levels, meeting the EO S-3-05, AB 32, and 2010 *Clean Air Plan* goals. For the above reasons, the proposed project would not conflict with Greenhouse Gas reduction targets in EO S-3-05, AB 32, or the 2010 Clean Air Plan.

San Francisco's Greenhouse Gas Reduction Ordinance includes GHG reduction goals intended to reduce GHGs by 25 percent below 1990 levels by 2017. As described above, adding the proposed project's GHG emissions with San Francisco's 2010 GHG emissions would result in an overall GHG reduction of approximately 13.9 percent less than 1990 levels. The majority of the proposed project's GHG emissions (92.2 percent, 37,641 MTCO₂E) would be a result of indirect electricity consumption. Annual GHG emissions from indirect electricity are based on a PG&E CO₂ emission factor of 0.177 MTCO₂/MWh for 2015. Per SB X1-2, PG&E's total power mix will be required to have 25 percent eligible renewables by the end of 2016 and 33 percent by the end of 2020. Therefore, the estimates of indirect electricity GHG emissions from the proposed project are conservative in that they do not take SB X1-2 into account for years beyond 2015. The California PUC estimates PG&E's CO₂ emission factors for 2017 to be 0.158 MTCO₂/MWh and for year 2020 to be 0.131 MTCO₂/MWh, which are lower than the emission factor used for the analysis in 2015 (0.177 MTCO₂/MWh).¹³⁷ Using these future estimates, the proposed project's annual GHG emissions from indirect electricity would be reduced by 10.6 percent (to 33,635 MTCO₂E) by 2017, and 25.6 percent (to 28,009 MTCO₂E) by 2020 compared to 2015 proposed project estimates.¹³⁸

Under existing conditions, the proposed project would not conflict with San Francisco's GHG Reduction ordinance. The proposed project's GHG emissions are anticipated to decrease in future years as SBX1-2 requirements for renewable energy sources comes on line. For the above reasons, the proposed project would not conflict with San Francisco's Greenhouse Gas Reduction Ordinance and thus the proposed project's GHG emissions would not be cumulatively considerable.

Summary

San Francisco has numerous policies in place to reduce GHG emissions from proposed projects. These policies have proven effective as San Francisco has resulted in a measured reduction of annual GHG emissions compared to 1990 emissions levels, which meets and exceeds EO S-3-05, AB 32, and the 2010 Clean Air Plan GHG reduction goals for the year 2020. These policies, as outlined in San Francisco's *Strategies to Address Greenhouse Gas Emissions*, meet the CEQA and BAAQMD requirements for a Greenhouse Gas Reduction Strategy. The proposed project was determined to be consistent with San Francisco's *Strategies to Address Greenhouse Gas Emissions*.¹³⁹ Other existing state, regional, and local

¹³⁷ PG&E, 2013c.

¹³⁸ Both GHG estimates assume a constant of 354 MT from CH₄ and N₂O to obtain a MTCO₂E.

¹³⁹ San Francisco Planning Department, *Strategies to Address Greenhouse Gas Emissions - Greenhouse Gas Analysis: Compliance Checklist, December 20, 2013*. This document is on file and available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0408E.

policies, such as Renewable Portfolio Standard requirements for electricity providers, cap-and-trade program for large GHG emitters, and CleanPowerSF, will continue to reduce a proposed project's contribution to climate change. The proposed project's GHG emissions would not conflict with state, regional, and local GHG reduction plans and regulations, and thus it's contribution to GHG emissions would not be cumulatively considerable or generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. As such, the proposed project would result in a less-than-significant impact with respect to GHG emissions. No mitigation measures are necessary.

While the proposed project's impact with respect to GHG emissions would be less than significant, City decision makers may wish to consider the following improvement measure to further reduce these less-than-significant impacts. The project sponsor has agreed to explore the implementation of the identified improvement measure.

Improvement Measure I-GHG-1: Reduce GHG Emissions

The project sponsor or property owner should annually measure and disclose greenhouse gas (GHG) emission estimates to the San Francisco Planning Department. The annual disclosure of GHG emission estimates should be submitted to and reviewed and approved by the Environmental Review Officer of the San Francisco Planning Department and should include GHG emissions from indirect electricity consumption and direct stationary source usage. As part of the conditional use authorization disclosure requirements,¹⁴⁰ the project sponsor or property owner should identify any measures taken that have resulted in a reduction in GHG emissions. Measures the project sponsor or property owner should consider to reduce GHG emissions include the following:

- Consider alternative types of backup power that would result in less GHG emissions than diesel generators;
- On-site co-generation (i.e., using waste heat for cooling);
- On-site renewable energy (e.g., solar panels);
- Enroll in PG&E's Green Option program;
- Contract/enroll with another electricity provider with lower electricity emissions factors (e.g., SFPUC, CleanPowerSF);
- Purchase renewable energy credits/certificates that can be tracked.

¹⁴⁰ The project sponsor or property owner would be required to comply with the conditions of approval per Planning Code 303(h), which requires, among other things, annually measuring energy performance and disclosing that information to the San Francisco Department of Environment and San Francisco Planning Department.

<i>TOPIC</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.9. Wind and Shadow					
Would the project:					
a) Alter wind in a manner that substantially affects public areas?	☐	☐	☒	☐	☐
b) Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	☐	☐	☐	☒	☐

Impact WS-1: The proposed project would not alter wind in a manner that substantially affects public areas. (Less than Significant)

Wind impacts are generally caused by tall buildings that are substantially higher than the surrounding structures and oriented in a manner such that a large wall catches a prevailing wind, particularly if the wall has little or no articulation. No changes would be made to the overall height of the two existing buildings at 320 and 350 Paul Avenue. The rear building at 400 Paul Avenue would be demolished and replaced by a new data center building. The highest portions of all three existing structures are within five feet of each other. The front building is currently higher than the two rear buildings due to the topography of the site (a downhill slope from the street to the center of the site). The new data center building would be built at generally the same elevation as the existing building it would replace and would measure 55½ feet in height from the top of the roof screen to the finished grade at the base of the building. The top of this new data center building would be approximately nine feet higher than the two existing buildings at 320 and 350 Paul Avenue.

The existing buildings on both sides of the proposed ISE facility (east and west) are higher than the proposed height of the new data center building. The prevailing winds in San Francisco are generally north to northeast. Due to the north and south orientation of the proposed data center building, any new wind catchment, albeit minor, would occur along the west side of the building in the area of the EVA. Wind impacts generated by buildings less than 80 feet in height are generally considered insignificant. Therefore, the planned improvements for the ISE facility would have a negligible change to existing ground-level wind conditions at and along the project site.

The planned 12kV electrical distribution circuits would not result in any permanent aboveground structures in the roadways and the aboveground circuit breakers within the PG&E Martin substation would be at a similar height to other existing circuit breakers. Therefore, no change in wind effects would occur as a result of the planned electrical distribution circuits.

Therefore, construction of the proposed ISE facility at 320-400 Paul Avenue and the electrical distribution circuits would have a less-than-significant impact on wind patterns.

Impact WS-2: The proposed project would not create new shadows that would affect outdoor recreation facilities or other public areas. (No Impact)

Section 295 of the Planning Code was adopted in November 1984 in order to protect certain public open spaces from shadowing by new structures during the period between one hour after sunrise and one hour before sunset, year round. Planning Code Section 295 restricts net new shadow on public open spaces under the jurisdiction of, or to be acquired by, the Recreation and Park Commission by any structure exceeding 40 feet in height unless the Planning Commission, in consultation with the Recreation and Park Commission, finds the impact to be less than significant. The nearest outdoor recreation facility to the project site is the Bayview Playground at 5701 Third Street that is located approximately 0.5 mile from the project site. Two recreational facilities, the Silver Terrace Clubhouse and Playground at 1700 Silver Avenue and the Palega Recreation Center at 500 Felton Street, are both approximately 0.7 miles from the project site.

The maximum height of the new data center building would be 55½ feet. The height of the 320 and 350 Paul Avenue buildings would not be increased. While the proposed data center building would have a maximum height of 55½ feet, an increase of approximately 14½ feet over that of the existing building it would replace, the closest public land under the jurisdiction of the Recreation and Parks Department is located 0.5 miles from the project site.¹⁴¹ Due to the limited height increase and the location of the 400 Paul Avenue building in the center of the site and at a lower topographic elevation, the new building would not cast any shadow on any public areas, such as streets, sidewalks, or other publically-owned land. Therefore, the proposed data center building would not cast any shadows on outdoor recreation facilities or other public areas.

No aboveground structures, apart from the related circuit breakers in the PG&E Martin substation, would be added as part of the electrical distribution circuits. The circuit breakers are in the substation with similarly-sized structures and would not generate shadows on any outdoor recreation areas or public areas.

Therefore, the proposed new data center structure and other improvements constructed as part of the establishment of the ISE facility at 320-400 Paul Avenue and new electrical distribution circuits would not have any shadow impact on outdoor recreation facilities or other public spaces.

Impact C-WS-1: The proposed project, in combination with other past, present, or reasonably foreseeable future projects in the vicinity, would not have a cumulatively considerable contribution to a significant cumulative wind or shadow impact. (Less than Significant)

Approved projects and reasonably foreseeable future projects within a quarter-mile radius of the project site are identified in Table 6 on p. 57. The proposed project would not have a significant wind impact in the project vicinity as the new data center building at 400 Paul Avenue would be built within approximately seven feet of the height of the existing on-site structures that would be retained

141 San Francisco Planning Department. Shadow Fan Analysis for 400 Paul Avenue. May 21, 2014.

and would be 14½ feet taller than the building it would replace. The approved and future projects closest to the site would include the construction of buildings or structures at a height similar to those already constructed on those properties. The 26-foot-high sound attenuation wall around the generator yard would be the tallest structure approved for construction as part of the expansion of the adjacent 200 Paul Avenue ISE. Therefore, proposed and approved structures on both sites would be below 80 feet in height. As a result, the proposed project in combination with projects currently proposed in the vicinity would not substantially alter wind patterns that could affect public areas, and the cumulative wind impacts would be less than significant.

The proposed project would not result in any substantial new shadows on public property within the vicinity. Over time, development of potentially taller buildings could occur in the vicinity of the project site. These projects have the potential to alter the shadow environment in the general vicinity of the proposed project. However, the proposed project would not cast shadows on outdoor recreational spaces. All buildings above 40 feet would be subject to Planning Code Section 295 and be required to be designed to limit shadow impacts on nearby recreational facilities by the San Francisco Recreation and Parks Department. Therefore, the proposed project, in combination with cumulative projects considered in this analysis, would not result in a cumulatively significant shadow impact.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.10. 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?	☐	☐	☒	☐	☐
c) Physically degrade existing recreational resources?	☐	☐	☐	☒	☐

Impact RE-1: The proposed project would not result in an increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration would occur to the facilities or be accelerated. (Less than Significant)

The nearest recreation facility to the proposed 320-400 Paul Avenue ISE facility is the Bayview Playground at 5701 Third Street that is located approximately 0.5 mile from the project site and is the only park within 0.5 mile of the project site. Two recreational facilities, the Silver Terrace Clubhouse and Playground at 1700 Silver Avenue and the Palega Recreation Center at 500 Felton Street, are both

located approximately 0.8 mile from the planned ISE facility. The proposed project would minimally increase the use of recreational facilities and parks due to an increase of approximately 240 employees at the ISE facility. Any increase in demand for recreational facilities due to their use by construction workers is considered temporary. Therefore, the project would result in a negligible increase to the existing demand for public recreational facilities in this area as a result of employees at the ISE facility but would not result in substantial physical deterioration of existing recreational resources.

The construction of the electrical distribution circuits would not generate additional employees and thus, would not generate demand for recreational resources.

Therefore, impacts on recreational facilities would be less than significant.

Impact RE-2: The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities that may have a significant effect on the environment. (Less than Significant)

The proposed project would not include any recreational facilities on or off site. The proposed project is in an area currently served by existing recreational facilities. The project would result in a negligible increase in the use of existing recreational facilities and parks in the area due to an increase of approximately 240 employees at the ISE facility. This minor increase in the demand for recreational facilities generated by these 240 employees would not necessitate the construction of new recreational facilities or the expansion of existing facilities. Any increase in the use of recreational facilities by construction workers would be temporary.

The construction of the electrical distribution circuits would not generate additional employees and thus, would not generate demand for recreational resources.

Therefore, the construction of new recreation facilities would not be required.

Impact RE-3: The proposed project would not physically degrade existing recreational facilities. (No Impact)

The proposed project would not result in the physical alteration of any recreational resource within the vicinity of the project site or along the proposed route for the electrical distribution circuits. Therefore, the project would not have any impact on the physical degradation of any existing recreational facilities.

Impact C-RE-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulative impact on recreational facilities. (Less than Significant)

The use of recreational facilities in the vicinity of the project site is not expected to noticeably increase as a result of the proposed project. The proposed project would result in an additional 240 employees

that would be within the 5,308 new employees assumed to be added to the project vicinity as part of the future growth in the BVHP Area Plan. The BVHP EIR¹⁴² found that the addition of these new employees would have a less-than-significant impact on existing recreation facilities. Additionally, a component of the Area Plan included a Community Enhancements Program that would add both open space and new recreation areas to the Plan Area. Therefore, the proposed project in combination with other reasonably foreseeable projects would not result in a cumulatively significant impact on recreational facilities.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.11. Utilities and Service Systems					
Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	☐
d) Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements?	☐	☐	☒	☐	☐
e) Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	☐

142 Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐	☐

Impact UT-1: Implementation of the proposed project would not require or result in the construction of wastewater collection and treatment facilities, exceed permitted wastewater treatment requirements, or require new or expanded stormwater drainage facilities. (Less than Significant)

The project site is located within an area served by existing wastewater and stormwater facilities. The proposed project would include construction of a new ISE facility at a vacant former manufacturing site, resulting in an increase in the demand for wastewater collection and treatment from the site. Project-related wastewater and stormwater would flow into San Francisco's combined stormwater and sewer system and would be treated to the standards contained in San Francisco's National Pollutant Discharge Elimination System (NPDES) Permit for the Southeast Water Pollution Control Plant (SEWPCP), prior to discharge into the San Francisco Bay. As identified in the Project Description, the proposed project would be consistent with current land use controls, including the BVHP Area Plan. The proposed projected increase of 240 additional employees are within the overall growth projections estimated by the Association of Bay Area Governments Projections 2009, as specified by the BVHP Area Plan. Thus, the additional wastewater generation associated with the proposed project would be within the anticipated overall increase in wastewater generation attributed to future growth in employment, and within the capacity of the SEWPCP treatment facilities.

The amount of impervious surface on the proposed ISE site would be reduced from existing conditions. Therefore, the amount of stormwater runoff from the site into the municipal collection system and requiring treatment would be reduced. Currently, 71% of the lot area, or 227,800 square feet, is covered with an impervious surface, including the buildings and driveway and parking lot pavement. The proposed improvements would reduce the amount of impervious surface on the site to 46% of the total lot area, or 145,500 square feet, in large part by removing the pavement from the rear unused portion of the site and hydroseeding the area. Also, permeable asphalt paving would be used for the parking spaces and for the flatter portion of the EVA along the west side of the property. Currently, both stormwater runoff and sewage from the site are directed to collection points for conveyance into San Francisco's combined sewer system.

Because the project would disturb more than 5,000 square feet of surface area, the project would be required to comply with the San Francisco Stormwater Design Guidelines, which describe the

requirements for stormwater management pursuant to the Stormwater Management ordinance.¹⁴³ Requirements for stormwater treatment pursuant to the Stormwater Management Ordinance would further decrease the amount of stormwater runoff generated from the site and requiring treatment at the SEWPCP. The proposed project would not exceed permitted wastewater treatment requirements or require new wastewater or stormwater collection and treatment facilities; therefore, the proposed project would have a less-than-significant impact on San Francisco's wastewater and stormwater systems.

The proposed electrical distribution circuits would be constructed within existing roadways in San Francisco and Daly City and no new impervious surfaces would be added. Therefore, there would not be any increase in the generation of wastewater or stormwater, or impact on the treatment of either, as a result of the proposed electrical circuits.

In light of the above, the proposed project would have a less-than-significant impact on existing wastewater and stormwater collection and treatment facilities.

Impact UT-2: The SFPUC has sufficient water supply and entitlements to serve the proposed project, and implementation of the proposed project would not require expansion or construction of new water treatment facilities. (Less than Significant)

Water for the proposed project is provided by the SFPUC, which provides both water supply and wastewater collection and treatment. On June 14, 2011, the SFPUC adopted the *2010 Urban Water Management Plan* (UWMP) for the City and County of San Francisco. The UWMP includes citywide demand projections to the year 2035, compares available water supplies to meet demands, and presents water demand management measures to reduce long-term water demand. In May 2013, SFPUC updated citywide water supply and demand projections with the *2013 Water Availability Study* (WAS).¹⁴⁴ According to the WAS, available water supply in 2015 will be 83.5 mgd. Retail water use¹⁴⁵ will be 83.7 mgd in 2015, comprising 78.1 mgd of in-City retail and irrigation use and 5.6 mgd of suburban retail use. Total retail demand is expected to hold relatively steady, at 83.4 mgd in 2020 and 84.2 mgd in 2035, with the relatively small increase in demand due primarily to expected growth in business and industry. The SFPUC plans to augment local supplies by extracting up to 4 mgd of groundwater from new wells in the City's Westside Groundwater Basin, as well as 4.0 mgd of recycled water from new recycled water projects. Total retail supply is expected to increase to 90.3 mgd by 2035.¹⁴⁶

The SFPUC updated forecasts for future water demand using updated Planning Department forecasts based on the ABAG and Metropolitan Transportation Commission (MTC) Bay Area Sustainable

143 SFPUC, *Stormwater Design Guidelines*, <http://sfwater.org/index.aspx?page=446>, accessed November 21, 2011.

144 SFPUC, *2013 Water Availability Study for the City and County of San Francisco*, May 2013. Available online at <http://sfwater.org/index.aspx?page=75>. Accessed December 27, 2013. (SFPUC, 2013.)

145 Retail water use is distinguished from wholesale use, under which the SFPUC provides potable water to suburban water agencies throughout the San Francisco Bay Area.

146 SFPUC, 2013.

Communities Strategy *Land Use Allocation*, which was released in 2012. According to the WAS, the SFPUC can meet the current and future water demand in years of average or above-average precipitation. It can also meet future water demand in single-dry-year and multiple-dry-year events, with the exception of year 2015. The proposed project construction is anticipated to be completed in late 2015, and would therefore not be affected by any short-term water supply shortfall. With the Water Shortage Allocation Plan in place, and the addition of local supplies developed under the SFPUC Water System Improvement Program, the SFPUC concluded that it has sufficient water available to serve existing customers and planned future uses.¹⁴⁷

The proposed project would use up to 2.5 million gallons of water per year, which is below the SFPUC water supply equivalent that would require preparation of a Water Supply Assessment per Sections 10910-10915 of the California Water Code.¹⁴⁸ Evaporative cooling is currently used for cooling both small- and large-scale structures, and is proposed for use on the planned data center building. The proposed ISE facility would use up to 1,000,000 gallons of water per year for its evaporative cooling units. The use of water for evaporative cooling systems for commercial and office buildings, similar to the proposed data center, would be within the demand for water supply considered in the SFPUC's 2013 Water Availability Study (WAS).¹⁴⁹ Because the water demand associated with the proposed project is within the demand projections considered by the 2013 WAS and the proposed project would comply with applicable water conservation regulations, there would be sufficient water supply to accommodate the proposed project. During construction (i.e. demolition dust, soil treatment, etc.), the project would be required to use recycled water from the SEWPCP.

No water demand would be generated as a result of the installation of the new electrical distribution circuits.

Given all of the above, the project's impact on water supply would be less than significant.

Impact UT-3: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with applicable statutes and regulations related to solid waste. (Less than Significant)

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. The City's Mandatory Recycling and Composting Ordinance (Ordinance 100-09) requires everyone in

147 SFPUC, 2010 *Urban Water Management Plan for City and County of San Francisco*, adopted June 14, 2011. Available online at <http://www.water.ca.gov/urbanwatermanagement/2010uwmps/San%20Francisco%20Public%20Utilities%20Commission/SFPUC%202010%20UWMP%20REPORT.pdf>. Accessed May 22, 2014.

148 Dines, Keith. Email to Heidi Kline ref. SFPUC question on water use. April 10, 2014. This document is on file and available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2011.0408E.

149 SFPUC, 2013.

San Francisco to separate their refuse into recyclables, compostables, and trash. Recology (formerly Norcal Waste Systems, Inc.) provides solid waste collection, recycling, and disposal services for residential and commercial garbage, recycling, and composting in San Francisco through its subsidiaries San Francisco Recycling and Disposal, Golden Gate Disposal and Recycling, and Sunset Scavenger. Materials collected are hauled to the Recology transfer station/recycling center on Tunnel Avenue, near the southeastern city limit, for sorting and subsequent transportation to other facilities. Recyclable materials are taken to Recology's Pier 96 facility, where they are separated into commodities (e.g., aluminum, glass, and paper) and transported to other users for reprocessing. Compostables (e.g., food waste, plant trimmings, soiled paper) are transferred to a Recology composting facility in Solano County, where they are converted to soil amendment and compost. The remaining material that cannot otherwise be reprocessed ("trash") is transported to, and disposed of at, the Altamont Landfill in Alameda County.

The Altamont landfill has a permitted peak maximum daily disposal capacity of 11,150 tons per day and accepted 1.29 million tons in 2007. The landfill has an estimated remaining capacity of approximately 46 million cubic yards or 74 percent of its permitted capacity. The estimated closure date of the landfill is 2025.¹⁵⁰

The City contract with the Altamont Landfill expires in 2015. Through August 1, 2009, the City had used approximately 12.5 million tons of its 15 million ton contract capacity. The City projects that the remaining contract capacity will be reached no sooner than August 2014. In 2009, the City announced that it could award its landfill disposal contract to a Recology subsidiary for shipment of solid waste by truck and rail to the Recology Ostrom Road Landfill in Yuba County. This facility has an expected closure date of 2066 with a total design capacity of over 41 million cubic yards.¹⁵¹ The ultimate determination with respect to future landfill contracting will be made by the Board of Supervisors on the basis of solid waste planning efforts being undertaken by the City's Department of the Environment.

Recycling, composting, and waste reduction are expected to increasingly divert waste from the landfill, per California and local requirements. San Francisco was required by the State's Integrated Waste Management Act (AB 939) to divert 50 percent of its waste stream from landfill disposal by

150 California Department of Resources Recycling and Recovery (CalRecycle), *Facility/Site Summary Details: Altamont Landfill and Resource Recovery (01-AA-0009)*, Available online at <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/>. Accessed December 4, 2012.

151 San Francisco is currently participating as a responsible agency in the environmental review process that Yuba County has begun for the Recology Ostrom Road Green Rail and Permit Amendment Project and to conduct CEQA review of San Francisco's proposal to enter into one or more new agreements with Recology. On March 28, 2013, Yuba County and San Francisco entered into a Cooperative Agreement to designate Yuba County as the lead agency for this project and to outline their cooperative efforts concerning environmental review.

2000. In 2012, the San Francisco Department of the Environment reported that San Francisco had achieved an 80 percent diversion of waste from landfills.¹⁵²

The proposed project would be subject to San Francisco's Mandatory Recycling and Composting Ordinance (City Ordinance 100-09), which requires all San Francisco residents and commercial landlords to separate their refuse into recyclables, compostables, and trash, thereby minimizing solid waste disposal and maximizing recycling. The project would be subject to the San Francisco Green Building Ordinance that requires all construction and demolition debris to be transported to a registered facility that can divert a minimum of 75 percent of the material from landfills. The proposed project would comply with these and other applicable state and local statutes and regulations associated with operational and construction-related solid waste.

Although the employees working at the proposed ISE facility would incrementally increase total waste generation within San Francisco, the increasing rate of diversion through recycling and other methods would result in a decreasing share of total waste that requires deposition into the landfill.

The operation of the proposed facility would comply with all federal, state, and local regulations regarding the disposal of solid waste. The disposal of hazardous materials, such as batteries, is addressed in Topic 16, Hazards and Hazardous Materials in this Initial Study. Given this and San Francisco's planning for future landfill capacity, the solid waste generated by project construction and operation would not result in the landfill exceeding its permitted capacity and the proposed project would result in a less-than-significant impact related to solid waste disposal.

Impact C-UT-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the site, would not have significant cumulative impacts on water and wastewater systems or landfill capacity. (Less than Significant)

The BVHP FEIR analyzed the cumulative impacts of the additional 2.4 million square feet of mixed uses that could be built as a result of the Area Plan. The proposed ISE facility would be within an area designated for future growth in employment and additional industrial uses. Wastewater treatment at 2025 for the Plan Area was estimated at 940,336 gallons per day, which is within the expected growth projection for San Francisco and would have a less-than significant impact on wastewater treatment capacity.¹⁵³ At build-out in 2025 of the new development within the Plan Area, additional water demand of 1.4 million gallons per day was projected to be needed based on water generation factors of 60 gallons per day per resident and 35 gallons per day per employee. Because this projected demand from future development in the BVHP Area Plan is within the citywide growth projections, new development within the Plan Area was found to have a less-than-significant impact on water supply

152 San Francisco Department of the Environment Press Release. Available online at <http://sfenvironment.org/news/press-release/mayor-lee-announces-san-francisco-reaches-80-percent-landfill-waste-diversion-leads-all-cities-in-north-america>. Accessed May 22, 2014.

153 Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

within San Francisco. Based on the 2013 WAS study, this remains true. New development within the BVHP Area Plan is anticipated to generate 39,971 pounds of solid waste per day and based on a presumed increase in recycling and the San Francisco's landfill planning, this additional waste would have a less-than-significant impact on the demand for solid waste disposal.

Given the San Francisco's existing service management plans address anticipated growth in the region and that the proposed project would be consistent with development projections assumed in the BVHP Area Plan and evaluated in the BVHP FEIR, the proposed project in combination with other cumulative projects would not be expected to result in cumulative impacts on utility service provision or facilities under existing or future conditions. Therefore, the proposed project in combination with other cumulative projects would result in less-than-significant effects on utilities and service systems.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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E.12. Public Services

Would the project:

- | | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Result in substantial adverse physical impacts associated with the provision of, or the 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 public services such as fire protection, police protection, schools, parks, or other services? | ☐ | ☐ | ☒ | ☐ | ☐ |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|

Impact PS-1: The proposed project would not increase demand for police services and would not result in substantial adverse environmental impacts associated with the provision of such service. (Less than Significant)

The project site currently receives police protection services from the San Francisco Police Department (SFPD). The project site is within the Bayview Police District that covers the southeastern part of the city, extending along the eastern edge of McClaren Park (Cambridge Street) to the Bay and south from Channel Street to the San Mateo County line. The Bayview police station is located at 201 Williams Avenue, approximately 0.7 miles from the project site. The proposed ISE facility would incrementally increase demand for police service in the area. The ISE facility would have security personnel on-site at all times and thus, would create only a minor increase in calls for service.

Construction of the proposed electrical distribution circuits may entail the use of copper wire that has been a target of thefts within the Bay Area. However, these conduits would be located underground and would not be likely to increase demand for police services.

Given the commercial nature of the proposed project, it would not necessitate the construction of a new police station and would have a less-than-significant impact on police services.

Impact PS-2: The proposed project would not increase demand for fire protection services, and would not result in substantial adverse impacts associated with the provision of such service. (Less than Significant)

The nearest fire stations to the project site are Stations #17, #42, and #44 located at 1295 Shaffer Avenue, 2430 San Bruno Avenue, 1298 Girard Street respectively, all approximately 0.5 mile from the project site. The construction and operation of the proposed ISE facility would be required to adhere to SF Fire Code requirements and thus would only incrementally increase demand for fire suppression in the area. The SFFD has sufficient resources in the surrounding area to serve the project site. The electrical distribution circuits would be designed in compliance with all applicable local and state fire safety regulations. Therefore, the impact on fire protection services would be less than significant.

Impact PS-3: The proposed project would not directly generate school students and impacts on existing school facilities would be less than significant. (Less than Significant)

The projected 240 employees may increase the number of school students generated by potential family members of the employees. Any increase would be minor. The proposed project would not result in a substantial unmet demand for school facilities and would not necessitate new or physically altered school facilities. The electrical distribution circuits would not increase the number of PG&E employees and therefore, would not generate demand for school facilities. Therefore, the proposed project would have a less-than-significant impact on school facilities.

Impact PS-4: The proposed project would not increase the demand for government services and impacts on government facilities would be less than significant. (Less than Significant)

The proposed project may result in a minor increase in demand for governmental services due to the increase that would be generated by an 240 additional employees and the new ISE facility. The minor increase in demand for services would not be expected to necessitate the need for new or physically altered government facilities. The electrical distribution circuits would not increase the demand for government services. Therefore, the proposed project would have a less-than-significant impact on governmental facilities.

Impact C-PS-1: The proposed project, combined with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulative impact on public services. (Less than Significant)

The proposed ISE facility is expected to incrementally increase demand for public services. Cumulative development in the BVHP Area Plan would incrementally increase demand for public

services, but not beyond levels anticipated and planned for by public service providers. The BVHP FEIR¹⁵⁴ found that future growth within the Area Plan would result in a less-than-significant impact on public services. The proposed ISE facility would be within those growth estimates studied in the BVHP FEIR. Thus, the proposed project in combination with other planned growth in the BVHP Area Plan would have a less-than-significant impact on public services.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.13. 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 as defined by Section 404 of the Clean Water Act (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?	☐	☐	☐	☒	☐

154 Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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?	☐	☐	☐	☐	☒

The project site is part of the South Basin Activity Node in the BVHP FEIR¹⁵⁵ that was identified as an area without any sensitive habitat. Given the urban conditions present on the project site and in the vicinity, the proposed project would not affect any riparian habitats, sensitive natural communities, or wetlands.

Construction of the improvements associated with extending the electrical distribution circuits from the PG&E Martin substation to the proposed ISE facility would be completed within the developed substation and public streets between the substation and the proposed ISE facility at 320-400 Paul Avenue. The route of the proposed electrical circuits do not traverse any areas with identified sensitive species or habitat.

Therefore, Topics E.13.b and E.13.c are not applicable to the proposed project. Also, the proposed ISE site and the electrical distribution circuits do not fall within any local, regional or State habitat conservation plans, and, therefore, Topic E.13.f is also not applicable.

Impact BI-1: Implementation of the proposed project would not interfere with the movement of native migratory bird species or wildlife corridor; but could have a substantial adverse effect, either directly or through habitat modifications, on 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. (Less than Significant with Mitigation)

The project site and the majority of the Bayshore/Bayview area is an urbanized area with little undisturbed natural areas. Approximately 71% of the project site is covered with impervious surfaces devoid of vegetation and the remaining 29% is comprised of previously-disturbed landscape areas containing non-native ground cover (annual grasses and forbs) and trees. Because the proposed ISE site at 320-400 Paul Avenue is in a developed urban area with no native vegetation remaining, development would not affect any special-status plants. Therefore, the only native biological resources that currently exist at the project site would be limited to birds, rodents, and small mammals, e.g. skunks, raccoons, etc., adapted to the urban environment.

¹⁵⁵ Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

With respect to wildlife corridors, San Francisco's wildlife habitats are fragmented, occurring mostly in areas where there are open spaces and/or natural habitats, and the opportunity for significant wildlife movement is limited. In the highly developed Bayshore/Bayview area, there is no opportunity for native wildlife movement for species other than birds and bats, which are discussed below, or common species, such as raccoons, skunks, and squirrels.

The project site is surrounded by urban development and is not proximate to, nor does it contain, large expanses of open space or water representing potentially attractive migratory bird stopovers. Nevertheless, both resident and migratory birds are known to use San Francisco for breeding and foraging. The San Francisco Board of Supervisors adopted Standards for Bird-Safe Buildings, Planning Code Section 139, on July 14, 2011.¹⁵⁶ The Standards for Bird-Safe Buildings include guidelines for use and types of glass and façade treatments, wind generators and grates, and lighting treatments. The project would be subject to the Standards for Bird-Safe Buildings. The project would also be required to comply with the California Fish and Game Codes and the Migratory Bird Treaty Act (MBTA) which protect special-status bird species.

During construction of the proposed ISE facility at 320-400 Paul Avenue, ten existing trees would be removed from the Paul Avenue site that may contain nesting birds. Nesting birds and their nests and eggs are fully protected by California Fish and Game Code (Sections 3503, 3503.5) and the Migratory Bird Treaty Act (MBTA). The MBTA protects over 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species. Destruction or disturbance of a nest would be a violation of these regulations and would be considered a potentially significant impact, in that the potential exists that special-status bird species (although not observed at the site) could be affected. Compliance with the MBTA would ensure that impacts to resident and migratory birds would be less than significant.

The three existing buildings on the proposed ISE site have been vacant for a number of years. Broken windows and other openings in the exterior of the buildings have permitted pigeons to roost and bird materials, such as guano, dead birds, and feathers, to accumulate within the structures. Pigeons (*Columba livia*) are not an indigenous bird species and are not covered by the Migratory Bird Act. As discussed in greater detail in Topic 16. – Hazards and Hazardous Materials, prior to any construction or renovation activities, the openings in the buildings would be closed and the accumulated pigeon waste abated to protect construction workers and future ISE employees.

Vacant buildings provide potential roosting habitat for bats. All bat species are protected under California Fish and Wildlife Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as otherwise provided in the code or in accordance with regulations adopted by the California Fish and Wildlife Commission. Therefore, demolition of the existing building and renovation of the 320 and 250 Paul Avenue buildings may result in a significant impact if bat roosts are present. However, implementation of the following **Mitigation Measure M-BI-**

156 San Francisco Planning Department, *Standards for Bird-Safe Buildings*, July 2011. Available online at http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf. Accessed September 7, 2011.

1 – Pre-Construction Special-Status Bat Survey would require that a pre-construction bat survey of the vacant buildings and any tree over 12-inch diameter proposed for removal be completed to determine whether any bat roosts are present. In order to prevent any interference with any potential bats and their roosting activities, the bat survey and any necessary follow-up action would need to be completed prior to the commencement of the pigeon abatement work. Implementation of this mitigation measure would ensure that impacts to bats would be less than significant.

Mitigation Measure M-BI-1: Pre-Construction Special-Status Bat Survey

A pre-construction special-status bat survey of the vacant buildings at 320–400 Paul Avenue and any 12-inch diameter or greater trees shall be completed by a qualified bat biologist and a written report detailing the results of the bat survey, and any recommended follow-up actions, shall be submitted for review and approval by the San Francisco Planning Department Environmental Review Officer prior to the issuance of a permit for any site-disturbing activity, building/demolition permit, or vermin abatement. If active day or night roosts are found, the bat biologist shall take actions to make such roosts unsuitable habitat prior to building renovation/demolition or tree removal. A no-disturbance buffer shall be created around active bat roosts being used for maternity or hibernation purposes at a distance to be determined in consultation with the California Department of Fish and Wildlife. Bat roosts initiated during construction are presumed to be unaffected, and no buffer would be necessary.

Impact BI-2: Implementation of the proposed project would not conflict with local tree protection and landscaping regulations. (No Impact)

The SF Planning Department, SF DBI, and SF DPW have established guidelines to ensure that legislation adopted by the SF Board of Supervisors governing the protection of trees, including street trees, is implemented. SF Public Works Code Section 8.02-8.11 requires disclosure and protection of Landmark, Significant and Street trees, collectively known as protected trees, located on private and public property. A landmark tree has the highest level of protection and must meet certain criteria for age, size, shape, species location, historical association, visual quality, or other contribution to the character of San Francisco and has been found worthy of Landmark status after public hearings at both the Urban Forestry Council and the SF Board of Supervisors. A significant tree is either on property under the jurisdiction of the SF DPW, or on privately owned land within ten feet of the public right-of-way which satisfies certain criteria. Removal of a landmark, significant, or a street tree requires a permit from SF DPW. A tree report was prepared for the proposed ISE facility detailing the location, conditions, and suitability for preservation of 35 non-native trees on the project site. All of the existing on-site trees are introduced landscape species. Thirty-one trees are honey locust (*Gledistia tricanthos*), two are Mexican fan palms (*Washingtonia robusta*), one is a white fig (*Ficus genoa*), and another is a Monterey cypress (*Cupressus acrocarpa*). None of the trees qualified as protected trees under the San Francisco Tree Protection Ordinance. A total of 25 trees were deemed suitable for preservation and have been incorporated into the site plan for the proposed ISE facility.

The ten existing trees on the project site that are proposed to be removed either due to poor health or potential damage to an adjacent structure do not meet the landmark, significant, or street tree

definition outlined in the legislation as they are too small and are not located within ten feet of a public roadway. New landscaping, including trees and shrubs, are proposed to be planted at the ISE facility site. The project would be required to comply with the San Francisco Green Landscaping Ordinance which would require street trees be added along the site's street frontage.

No street trees would be removed as part of the construction of the planned 12kV electrical distribution circuits within the public roadways extending from the proposed ISE facility at 320-400 Paul Avenue to the PG&E Martin substation. Additionally, no trees would be removed during construction of the circuit breakers within the substation.

Therefore, the proposed project would comply with local ordinances protecting trees and applicable landscape ordinances and would not have an impact on trees or other landscaping regulated by City ordinance.

Impact C-BI-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the site, would not have a cumulatively considerable contribution to a significant cumulative impact on biological resources. (Less than Significant)

The project site is in an area of intense urbanization with minimal on-site vegetation comprised entirely of introduced plant species and is not adjacent to any open space area with known sensitive plant or animal species. Past projects, including the development of infill mixed-use projects and reuse and replacement of vacant commercial and industrial uses for new tenants, and public transit and utility infrastructure, have caused substantial adverse cumulative impacts on biological resources in the vicinity of the project site. There are no remaining natural communities within the vicinity of the project site and wildlife diversity is, consequently, greatly reduced from that found in areas with natural vegetation and less human activity.

Implementation of cumulative projects, such as the expansion of the 200 Paul Avenue ISE and the addition of a senior center and new residential units at 5800 Third Street, would not adversely affect important habitat areas or inhibit migratory routes as the project area is fully urbanized. Nonetheless, these cumulative development projects would be subject to the SF Urban Forestry Ordinance, SF Public Works Code Section 8.02-8.11, which requires a permit from SF DPW to remove any protected trees and tree replacement or payment of in-lieu fees. Further, SF Planning Code Section 132, the SF Green Landscaping Ordinance, requirements would apply to new development projects or significant alterations to existing developments, resulting in healthier and more plentiful plantings through landscaping controls; increased permeability through front yard and parking lot controls; responsible water use through increasing climate-appropriate plantings; and improved screening by creating an ornamental fencing requirement and requiring screening for newly defined vehicle use areas. The combination of the SF Urban Forestry Ordinance and the SF Green Landscaping Ordinance would maintain the biological resources in the context of San Francisco's urban environment.

As previously concluded, the proposed project would result in less-than-significant impacts related to migratory birds due to compliance with the Migratory Bird Treaty Act and compliance with existing

tree protection and landscaping regulations. All cumulative projects would similarly be subject to these regulations. Potential effects to bat species would be site specific and dependent on available habitat. Any proposed projects that could affect bat roosts would be subject to similar mitigation requirements as the proposed project. As discussed above, implementation of **M-BI-1 – Pre-Construction Special-Status Bat Survey** would reduce any impact of the project on special-status bat species to a less-than-significant level. When considered relative to the existing cumulative impact on biological resources caused by past, present, and reasonably foreseeable projects, the proposed project would not result in a considerable contribution to a significant cumulative biological resource impact. Therefore, the cumulative impact of the proposed project on biological resources with implementation of **M-BI-1** would be less than significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.14. Geology and Soils					
Would the project:					
a) Expose people or structures to 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, creating substantial risks to life or property?	☐	☐	☒	☐	☐

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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 wastewater?	☐	☐	☐	☐	☒
f) Change substantially the topography or any unique geologic or physical features of the site?	☐	☐	☒	☐	☐

The proposed project would connect to San Francisco's sewer and stormwater collection and treatment system and would not use a septic water disposal system. Therefore, Topic E.14.e is not applicable to the proposed project.

Impact GE-1: The proposed project would not result in exposure of people and structures to substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, expansive soils, seismic ground-shaking, liquefaction, or lateral spreading. (Less than Significant)

The project site is not located within an Earthquake Fault Zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no known or potentially active fault exists on the project site. In a seismically active area, such as the San Francisco Bay Area, the possibility exists for future faulting in areas where no faults previously existed. A geotechnical analysis has been completed for the proposed project.¹⁵⁷ The analysis examined underlying soils of the project site and made preliminary geotechnical recommendations related to excavation operations on the project site. The analysis indicates that the project site is suitable for the construction of the proposed project and found no evidence of active faulting on the project site.

The SF General Plan Community Safety Element contains maps that show areas of San Francisco subject to geologic hazards. The project site is located in an area that may be subject to moderate damage from earthquakes along the San Andreas Fault (Map 2 of the Community Safety Element) and non-structural damage from earthquakes along the Northern Hayward Fault (Map 3 of the Community Safety Element).¹⁵⁸ No active faults are known to pass through the site based on the most

¹⁵⁷ Engeo, 2011.

¹⁵⁸ San Francisco Planning Department, *Community Safety Element of the San Francisco General Plan*, 2012. Available online at http://www.sf-planning.org/ftp/General_Plan/Community_Safety_Element_2012.pdf. Accessed February 11, 2014. (Community Safety Element, 2012).

recent compilation of Quaternary-active faults prepared by the USGS.¹⁵⁹ A site-specific seismic design analysis¹⁶⁰ considered the nature and extent of soils underlying the site in its determination that significant ground shaking could result from a major seismic event on the San Andreas fault (10 kilometers (km) northeast), the San Gregorio fault (17.5 km northeast), or the Hayward fault (20 km southwest). Therefore, it is likely that the site would experience periodic minor or major earthquakes associated with a regional fault. The 2007 Working Group on California Earthquake Probabilities estimates that there is a 63 percent chance that a magnitude 6.7 or greater earthquake will occur in the San Francisco Bay Area within 30 years. Like the entire San Francisco Bay Area, the project site is subject to groundshaking in the event of an earthquake.

Groundshaking associated with an earthquake on one of the regional faults around the project site may result in ground failure, such as that associated with soil liquefaction,¹⁶¹ lateral spreading,¹⁶² and differential compaction. The project site is located in an area of probable liquefaction potential, as shown in the Community Safety Element of the SF General Plan (Map 4, titled "Hazards Study Zones—Areas of Liquefaction Potential"). Preliminary site exploration included an auger boring and four cone penetration tests (CPTs) completed in August 2011.¹⁶³ Based on the analyses of the boring and CPTs conducted during the geotechnical investigation of the site, while the soil was relatively dense, there was a 5-foot layer of medium dense sand at a depth of approximately 13 to 19 feet bgs. Based on a liquefaction analysis of this material, the medium sand was determined to be potentially liquefiable. Consequently, the site was determined to be susceptible to less than 1 inch of localized liquefaction-induced settlement during a major earthquake. Differential settlement from liquefaction was judged to be low and estimated to be less than ½ inch over a distance of 150 feet.

The project site is not in an area of potential landslide hazards (Map 5)¹⁶⁴ based on the official State of California Seismic Hazards Zone Map for San Francisco prepared under the Seismic Hazards Mapping Act of 1990.¹⁶⁵

159 Graymer, R.W. Bryant, C.A. McCabe, S. Hecker, C.S. Prentice, 2006, Map of Quaternary Active Faults in the San Francisco Bay region. U.S. Geological Survey Scientific Investigation Map 2919, Google Earth digital version.

160 Kleinfelder, 2000.

161 Liquefaction is a phenomenon in which saturated, cohesionless soil experiences a temporary loss of strength due to the buildup of excess pore water pressure, especially during cyclic loading such as that induced by earthquakes. Soil most susceptible to liquefaction is loose, clean, saturated, uniformly graded, fine-grained sand and silt of low plasticity that is relatively free of clay.

162 Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.

163 Engeo, 2011.

164 Community Safety Element, 2012.

165 The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazards zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones.

The project geotechnical report found the site suitable for the proposed project and includes the following recommendations: (1) After demolition of the existing 400 Paul Avenue building, all debris and loose soils should be removed from the site. (2) Then, due to the presence of areas of undocumented fill, the area under the proposed data center building foundation would need to be overexcavated a minimum of 2 feet in depth. (3) The surface would then be scarified to a depth of 12 inches, before 8-inch lifts of clean moisture-conditioned and compacted fill (onsite soil may be used if free of oversized material and construction debris) are used to rebuild the subgrade to the desired elevation prior to constructing the rigid mat building foundation. (4) The 320 and 350 Paul Avenue existing building foundations would be upgraded to current seismic standards through the construction of concrete shear walls supported on spread footings and interconnected with steel grade beams.

The final building foundation plans would be reviewed by SF DBI. In reviewing building plans, SF DBI refers to a variety of information sources to determine existing hazards and assess requirements to address these hazards. Sources reviewed include maps of Special Geologic Study Areas and known landslide areas in San Francisco as well as the building inspectors' working knowledge of areas of special geologic concern. Potential geologic hazards would be addressed during the permit review process. To ensure compliance with all Building Code provisions regarding structure safety, when SF DBI reviews the geotechnical report and building plans for a proposed project, they will determine the adequacy of necessary engineering and design features. Past geological and geotechnical investigations would be available for use by SF DBI during its review of building permits for the site. Also, SF DBI could require that additional site-specific soils report(s) be prepared in conjunction with permit applications, as needed. Therefore, potential damage to structures from geologic hazards on the project site would be avoided through SF DBI's requirement for a geotechnical report and review of the building permit application pursuant to SF DBI implementation of the Building Code, and this impact would be less than significant.

The proposed electrical distribution circuits would be designed and constructed in accordance with the specifications in the PG&E Green Book and local regulations. The proposed plans for the conduits would be subject to plancheck review by SF DPW and DC DPW and would ensure compliance with each city's adopted standards enacted to prevent damage from known geotechnical conditions and hazards.

Impact GE-2: The proposed project would not result in substantial loss of topsoil or erosion. (Less than Significant)

The proposed project would not substantially change the general topography of the site, with excavation limited to construction of the new data center building foundation and related site improvements, including the driveway, EVA, and parking areas. A maximum excavation depth of five feet or less is anticipated with a total excavation of approximately 1,000 cubic yards. Much of the existing native topsoil has been either removed during the construction of previous site improvements, or covered by up to 13 feet of historic, undocumented fill.

The project site is greater than one acre and therefore, the project sponsor would be required to obtain a General Construction NPDES permit. The project sponsor would be required to develop and comply with a Stormwater Pollution Prevention Plan (SWPPP) including Best Management Practices (BMPs) as required by the General Construction permit. Implementation of erosion control BMPs, such as use of sandbags, straw bales, soil stabilizers, and avoiding soil disturbance during wet weather, would minimize the impacts of erosion during construction. Installation of landscaping and pervious pavement would prevent loss of topsoil and erosion on the project site upon completion of construction. Implementation of the erosion and sedimentation control BMPs combined with the on-site stormwater collection system (on-site drains with grates, concrete culvert, and sheet drainage over landscaped and paved areas) would minimize short-term construction-related erosion impacts and long-term operational impacts and ensure that they would be less than significant.

The installation of the electrical circuits would occur entirely within existing roadways where topsoil has previously been removed during the roadway paving. Also, erosion would not occur as excavation trenches would be covered except during construction activities. Upon completion of construction, the trenches would be filled and the impervious roadway surface restored to its original condition. Therefore, there would be no topsoil loss or erosion as a result of the installation of the electrical circuits.

Impact GE-3: The proposed project would not result in impacts to site topographical features. (Less than Significant)

The project site itself slopes northerly from Paul Avenue with an approximately 25-foot difference in elevation between the project site's Paul Avenue frontage and the rear property line. Most of the grade change occurs within the front half of the site with the three buildings at different elevations due to terracing of the site at the time of initial construction of the Link Belt manufacturing facility in the 1930s. The 320 Paul Avenue building is approximately 10 feet lower than the elevation of Paul Avenue and 10 to 15 feet higher than the existing 350 and 400 Paul Avenue buildings. No changes would be made to the existing slopebank except for a limited area along the west side of the property where minor grading will be necessary to construct the proposed emergency vehicle access. The proposed data center building would be built at the same elevation as the building it replaces on the relatively flat portion of the site. Therefore, the proposed project's impacts on the project's site topographical features would be less than significant.

Impact C-GE-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not result in a significant cumulative geologic and soils impact. (Less than Significant)

Geologic impacts are generally site specific and in this setting would not combine with other nearby projects to result in cumulative effects. Therefore, the project including construction of the 12kV electrical conduits and other reasonably foreseeable projects would not result in a cumulative geology and soils impacts. In addition, the building plans of proposed and foreseeable projects would be reviewed by SF DBI, and potential geologic hazards would be avoided during the SF DBI permit review process. Therefore, cumulative impacts related to geology, soils, and seismicity would be less than significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.15. Hydrology and Water Quality					
Would the project:					
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐	☐
e) 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?	☐	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	☐	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☐	☒

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐	☐
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐

The project would not include the construction of housing and is not located within a 100-year flood hazard area. Therefore, Topics E.15.g and E.15.h do not apply.

Impact HY-1: The proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, violate water quality standards or otherwise substantially degrade water quality. (Less than Significant)

Operation and Design of the ISE Facility. As discussed in Topic E.11, Utilities and Service Systems, the wastewater and stormwater generated at the proposed ISE facility site at 320-400 Paul Avenue would be discharged into the San Francisco's combined stormwater and sewer system which is then treated in accordance with the NPDES Permit effluent discharge standards for the SEWPCP prior to discharge into the San Francisco Bay. Stormwater runoff from the proposed ISE facility would include water collected from the roof drains and paved parking and driveway areas. The project would be required to comply with San Francisco's Stormwater Management Ordinance that would regulate the volume and quality of stormwater discharged from the site into the public combined stormwater and sewer collection system. As the project would involve activity disturbing more than 5,000 square feet of ground surface, a Stormwater Control Plan would be required to be submitted demonstrating how the project would meet the stormwater control criteria in the City's Stormwater Control Design Guidelines. For sites with greater than 50 percent impervious area, the Design Guidelines currently require that the stormwater runoff rate and volume be decreased by 25 percent from the existing conditions for a two-year 24-hour storm. The project would need to incorporate a combination of structural and/or non-structural BMPs to accomplish this. These measures would be required to be shown on a Stormwater Control Plan that is required to be submitted to the SFPUC as part of the building permit review process.

The proposed design for the project site includes a decrease in the amount of impervious area on the existing site of approximately 82,300 square feet, primarily due to the replacement of asphalt paving with a hyrdroseeded ground cover at the rear of the site. Permeable asphalt paving would be used for the EVA along the western side of the property as well as for the on-site parking spaces. As a result,

the anticipated volume of stormwater runoff from the site would be expected to decrease from existing conditions after construction of the proposed ISE facility.

The volume of wastewater generation would increase due to the occupancy of the facility by approximately 240 employees, though this increase is within the 5,308 anticipated new employees in the project area that was analyzed for potential wastewater impacts in the BVHP FEIR.

The proposed ISE facility includes the installation of 18 diesel backup diesel generators in a gravel service yard along the east side of the new data center building. Double-walled aboveground fuel tanks would be used to hold fuel at the base of each generator and each generator would have leak detection and monitoring features to prevent accidental spills into the City's stormwater collection system. Additionally, the refueling process would be required to adhere to all applicable regulations, including the temporary covering of storm inlets during refueling, in order to prevent the accidental discharge of diesel fuel into the stormwater collection system. Measures to prevent accidental spills would be included in the ISE facility's Spill Prevention, Control & Countermeasures Plan (SPCC) required by Section 311(j)(1)(c) of the Federal Water Pollution Control Act (Clean Water Act) to be approved by the SFDPH prior to operation of the facility.¹⁶⁶ The proposed project would be required to comply with all local wastewater discharge and water quality requirements and would have a less-than-significant impact on water quality.

In light of the above, the operation of the proposed ISE facility would not result in the creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems and would have a less-than-significant impact on the City's combined stormwater and sewer system.

Construction Phase. During the construction phase, there would be a potential for erosion and the transport of soil particles during site preparation and excavation. Once in surface water runoff, sediment and other pollutants could leave the construction site and drain into the combined sewer and stormwater system, necessitating treatment at the SEWPCP prior to discharge into the Bay. To minimize sediments and other pollutants from entering the combined sewer and stormwater system, a SWPP and Erosion and Sediment Control Plan would be required to be prepared for the project in accordance with the SF Public Works Code Section 147.2 to minimize stormwater runoff and erosion impacts from construction-related project activities. All cleaning products and waste generated during the renovation of the building exteriors would be collected and physical barriers erected to prevent any from discharging into the stormwater and waste collection system.

Construction of the electrical distribution circuits would not increase or otherwise alter the volume of stormwater runoff as there would not be any increase in impervious area created by the installation of the two 12kV electrical distribution circuits. Excavation and other construction activities would be

¹⁶⁶ San Francisco Department of Public Health. *Tier 1 Qualified Facility SPCC*. Available online at <http://www.sfdph.org/dph/files/EHSdocs/ehsHMUPAdocs/TIERIQFSPCCPlan.pdf>. Accessed May 23, 2014.

subject to all soil erosion control practices for projects within the public right-of-way as required through the conditions of excavation permits required for work in both San Francisco and Daly City.

Any groundwater encountered during construction of the proposed project in areas within San Francisco would be subject to requirements of the SF Public Works Code Article 4.1 (Ordinance Number 19-92, amended 116-97), as supplemented by DPW Order No. 158170, requiring a permit from the Wastewater Enterprise Collection System Division of the SFPUC. A permit would be issued to allow dewatering during construction if an effective pretreatment system is maintained and operated to ensure that the discharge meets specified water quality standards. Also, SF Public Works Code Article 4.1 incorporates and implements San Francisco's NPDES permit that requires the development of a SWPPP. The SWPPP would include an erosion and sediment control plan, subject to the review by SFPUC, with measures to ensure that construction effluent would not affect water quality.

Any groundwater encountered during construction of the underground electrical distribution circuits in Daly City roadways would be subject to the requirements concerning water quality during dewatering activities as identified in the Stormwater Pollution Prevention section of the Daly City Encroachment Permit issued for the project. Prior to issuance of an encroachment permit, the contractor would be required to outline measures that would be undertaken to prevent sediment-laden water from entering Daly City's stormwater collection system during construction. Implementation of these best practices would prevent the runoff of polluted and sediment-laden water into the municipal stormwater collection system.

As described in Topic E.16 Hazards and Hazardous Materials, a portion of the planned route for the 12kV electrical distribution circuits within Bayshore Boulevard is adjacent to the Schlage Lock Operational Unit (OU) site under the oversight by the Department of Toxic Substances Control (DTSC). The final location of the proposed electrical circuits within Bayshore Boulevard has not been determined. However, given the relatively shallow groundwater level in this area, if dewatering of the excavation trench is necessary during construction, PG&E is required to comply with established DTSC regulations for the Schlage Lock OU during any dewatering activities adjacent to the OU so as to not alter the otherwise easterly gradient flow of any contaminated groundwater within the Schlage Lock OU during dewatering of excavation trenches in Bayshore Boulevard. Therefore, the proposed project's impact on water quality standards and any substantial degradation of water quality would be less than significant.

In light of the above, both during construction and operation of the proposed ISE facility and electrical circuits, the proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, violate water quality standards or otherwise substantially degrade water quality. Therefore, the project's impact on the stormwater and wastewater capacity and water quality from the proposed project would be less-than-significant.

Impact HY-2: The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

Currently, groundwater is not used as a drinking water supply in San Francisco. Approximately 227,800 sf, or 71 percent, of the project site is covered with impervious surfaces, including the buildings and asphalt and concrete sidewalk, driveway, and parking lot pavement surfaces. As reported in the geotechnical investigation, groundwater on the project site was encountered at an elevation of 5 to 13 feet bgs.¹⁶⁷ Based on historic groundwater levels maintained for the area as part of the California Geologic Survey (CGS), the highest groundwater level recorded within the project area is 10 ft. bgs. Fluctuations in groundwater elevations may occur due to factors such as weather conditions, time of year, and irrigation practices. Thus, the geotechnical report assumes a groundwater level of 10 ft. bgs for design purposes.

The geotechnical report assumes that based on this historic groundwater level and a maximum anticipated excavation depth of 5 feet bgs, that dewatering would not be necessary. However, based on the Engeo's boring and CPTs encountering groundwater at 5 feet bgs, the proposed project's excavation has the potential to encounter groundwater.¹⁶⁸ If dewatering is required during construction, any effects related to lowering the water table would be temporary and would not be expected to substantially deplete groundwater resources. The operation of the ISE facility would not require long-term, continuous dewatering following construction. The underground structure would be waterproofed to prevent groundwater seepage and constructed to withstand hydrostatic pressure of the groundwater. The specifications for construction dewatering and protection against long-term groundwater intrusion are outlined in the geotechnical investigation for the proposed project and would be reviewed by the SF DBI as part of the building permit process.

Due to the proposed decrease in impervious surface on the site, there would be a potential for an increase in the amount of groundwater recharge, or replenishment, on the site.

The construction of the proposed electrical circuits would occur within existing roadways and PG&E Martin substation that are covered with impervious surface and do not currently facilitate any groundwater recharge. Upon completion of construction, these impervious surfaces would be restored. Any dewatering of the proposed six-foot-deep trenches during installation of the conduit is anticipated to be minimal. Therefore, the installation of the electrical circuits would not alter groundwater recharge and would not deplete groundwater supplies.

In light of the above, the proposed project would not deplete groundwater or adversely impact groundwater recharge on the project site. This impact would be less than significant.

¹⁶⁷ Engeo, 2011.

¹⁶⁸ Engeo, 2011.

Impact HY-3: The proposed project 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 substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site or result in substantial erosion or siltation on- or off-site. (Less than Significant)

The proposed project would alter drainage patterns on the 320-400 Paul Avenue project site, yet in a manner that would reduce the rate and potential volume discharged into San Francisco's combined storm and sanitary sewer system. As discussed above, the SF Stormwater Management Ordinance would require a 25 percent reduction in stormwater volume from existing conditions for a two-year 24-hour storm and a reduction in the amount of impervious surface. The project would be required to implement and install appropriate stormwater management systems and/or BMPs that retain runoff on-site in a controlled manner and without the risk of on- and off-site flooding. Additionally, preparation and implementation of a Sediment and Erosion Control Plan would be required as part of the site permit process and would reduce the potential for on- and off-site siltation and erosion.

The electrical distribution circuits would be constructed within existing roadways and upon completion of construction, the impervious surface of the roadways would be restored.

Therefore, the project would have a less-than-significant impact on the amount of surface runoff on and off site and would not result in flooding or substantial erosion or siltation.

Impact HY-4: The proposed project would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow. (No Impact)

The project site (320-400 Paul Avenue and 12kV electrical circuits route) is not on the San Francisco 20-foot Tsunami Runup Map (Map 6 in the Community Safety Element of the SF General Plan)¹⁶⁹ and, therefore, no significant tsunami hazards exist at the project site (320-400 Paul Avenue and 12kV electrical conduits). A seiche is an oscillation of a water body, such as a bay, which may cause local flooding. A seiche could occur on the Bay due to seismic or atmospheric activity. However, based on the historical record, seiches are rare and there is no significant seiche hazard at the site. Mudflows consist of rapid landslides with high volumes of water that can be associated with dam releases or volcanic eruptions. The project topography and geologic environment does not include characteristics that are generally subject to mudflows. Thus, there would be no impacts from mudflow hazard. There is no mudslide hazard at the project site because the site and vicinity are fully-developed with no erosion-prone slopes. Thus, there would be no project-related significant impacts from seiche, tsunami or mudflow hazard.

¹⁶⁹ Community Safety Element, 2012.

Impact C-HY-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the site, would not have a significant cumulative impact to hydrology and water quality. (Less than Significant)

Approved projects and reasonably foreseeable future projects within a quarter-mile radius of the project site are identified in Table 2 on p. 57. As discussed above, the proposed project would not have a significant impact on water quality standards, groundwater, drainage, or runoff and would not contribute considerably to cumulative impacts in this area. The approved and future projects would be subject to the City's Stormwater Management Ordinance, NPDES effluent limits and requirement for preparation of a SWPPP, and SF Public Works Code Article 4.1 regulating any construction dewatering activities. As a result, these regulations would minimize potential impacts on water quality standards, groundwater, drainage, or runoff. Flood and inundation hazards are site-specific; thus, the proposed project would not have the potential to contribute to any cumulative impacts. However, other developments in the project area, in combination with the proposed project, could result in more intense uses and a cumulative increase in wastewater generation, which would increase pollutant loads at San Francisco's wastewater treatment facilities. As discussed in Topic E.11, Utilities and Service Systems, the SFPUC, which provides wastewater treatment in San Francisco, has accounted for projected growth in its service projections. Thus, cumulative impacts on hydrology and water quality would be less-than-significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.16. Hazards and Hazardous Materials					
Would the project:					
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?	☐	☒	☐	☐	☐

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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 for people residing or working in the project area?	☐	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving fires?	☐	☐	☒	☐	☐

The project site (320-400 Paul Avenue and the route of the 12kV electrical circuits) is not within the vicinity of a private airstrip; therefore, Topic E.16.f does not apply to the proposed project.

Existing Conditions

Extensive investigations into the historic use of hazardous materials on the 320-400 Paul Avenue site have been completed. A Phase I Environmental Site Assessment (ESA)¹⁷⁰ was prepared for the property in 1990 that evaluated potential environmental concerns from both on- and off-site chemical use, storage, handling, spillage, and disposal, with particular focus on potential degradation of on-site soil and groundwater quality based on the former uses conducted on the property. The site was owned by the Southern Pacific Railroad Company prior to the 1920s and then used by sulfur and manufacturing companies later in the 1920s. In 1930 the property was acquired by the Link Belt Company and used as a manufacturing facility for transmissions and conveyor machines until 1973. Subsequently, the site was occupied by Sonoco that produced paper tube containers in a process that

¹⁷⁰ Harding Lawson Associates, *Phase 1 Preliminary Hazardous Materials Site Assessment for 320, 350, and 400 Paul Avenue*, June 6, 1990. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E.

included use of sodium silicate glue. In the 1990s, the site was occupied by clothing manufacturer, Eber, and then, several smaller construction contractors that used the site to store equipment. State, federal, and local regulatory databases were reviewed to identify potential sources of hazardous substances that could affect the soil and/or groundwater quality at the project site.

Evidence of potential contamination by these prior uses was found at several on-site locations concentrated around the 400 Paul Avenue building. Areas identified for further investigation included stained soil with an unknown material suspected to be glue, an acetylene generator, several electrical transformers, an underground storage tank (UST), sumps associated with hydraulic machinery pits, suspected leakage of hydrocarbons, and an acid/water washing solution.

Based on the findings of the Phase 1 ESA Report, a Phase II ESA Report¹⁷¹ was commissioned. This report analyzed 14 soil borings and sampled the suspected glue material identified in the Phase I Report. The results of the soil analysis indicate the presence of moderate concentrations of petroleum hydrocarbon compounds and high concentrations of lead in a number of locations, particularly adjacent to the former sump pits. The concentration of total and soluble lead at several locations near the sumps exceeded allowable levels. The analyses for chemical compounds from borings in the areas of the suspected UST and acetylene generator found levels below laboratory detection limits. A geophysical survey at the location of the suspected UST confirmed there was no UST in that location. The report recommended that additional soil samples be collected at greater depths to determine the vertical extent of the elevated lead levels. In 1999, an Environmental Site Assessment Report Update was prepared by Terra Firma¹⁷² that assessed off-site potential hazardous material releases and determined there were no active cases within one-half mile of the project site in a hydraulically upgradient direction. A concurrent Phase II report prepared by Terra Firma included the collection and analysis of three additional soil borings to determine the vertical extent of the lead contamination detected in an earlier study and whether any lead had migrated into the groundwater.¹⁷³ Some lead was detected in groundwater at a depth of 10 feet at a boring in the southwest corner of the 400 Paul Avenue building.

In 2011, the Denali Group reviewed the previous ESAs prepared for the site and conducted an on-site survey of the property for any changes that may have occurred since the preparation of the earlier

171 Harding Lawson Associates, *Phase 2 Hazardous Materials Site Assessment 320, 350, 400 Paul Avenue*, August 28, 1990. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E.

172 Silverhame, Cabe C., Terra Firma Consulting LLC, *Environmental Site Assessment Report Update 320-400 Paul Avenue San Francisco, CA*, December 6, 1999. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E.

173 Silverhame, Cabe C., Terra Firma Consulting LLC, *Subsurface Investigation Report [Phase II Environmental Site Assessment] 320-400 Paul Avenue San Francisco CA*, December 6, 1999. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E.

studies. No new areas of concern were identified.¹⁷⁴ Based on its review of the previous document, a work plan was developed outlining additional on-site testing in the areas surrounding the sumps and subsequently approved by the SFDPH in accordance with Article 22A of the San Francisco Health Code, commonly referred to as the Maher Ordinance.

Impact HZ-1: The proposed project would not create a significant hazard through routine transport, use, disposal, and handling of hazardous materials. (Less than Significant)

The ongoing operation of the proposed ISE facility would include IT and administrative support services. The data center building would have lead-acid back-up battery systems inside the facility located in battery rooms. The battery systems would be installed in accordance with all Uniform Fire Code requirements (UFC Article 64) and any disposal or replacement of the batteries would be in accordance with all applicable regulations. Intact batteries are recyclable and most battery distributors provide for their handling and transport to approved recycling facilities in a manner compliant with local and state regulations.¹⁷⁵ The handling and disposal of any damaged batteries would be subject to the regulations of the Office of Hazardous Materials Safety, in addition to state and local regulations.¹⁷⁶

The proposed ISE facility would have 18 diesel backup generators with integrated fuel tanks in a secured generator service yard along the east side of the data center building. These 4,000-gallon concrete-encased diesel fuel tanks would be aboveground in a double containment system with a two-hour fire-rated enclosure in order to conform with state and local codes. Diesel fuel for the generators would be delivered to the site by operators licensed in the handling of diesel fuel. A Spill Prevention, Control and Countermeasures Plan (SPCC) is required by Section 311(j)(1)(c) of the Clean Water Act to be prepared for the facility which would outline how hazardous materials, including the refueling of the diesel tanks, would be performed to conform with all applicable oversight regulations. SPCC Plans are reviewed by the SFDPH and are required to be updated when any material changes are made to the facility and must be revised every five years. Therefore, the proposed project would be required to develop a SPCC Plan in compliance with federal regulations and to ensure that all potential discharge of hazardous materials would be minimized.

San Francisco ensures fire safety primarily through provisions of the SF Building Code and the SF Fire Code. The design of the ISE facility and generator service yard would be reviewed by the SFFD and SF DBI in order to ensure conformance with these code provisions. In this way, emergency measures to

174 Kuykendall, Robert G., The Denali Group, *Updated Phase I Environmental Site Assessment Former Industrial Facility 320, 350 & 400 Paul Avenue San Francisco, California 94124*, August 9, 2011. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E.

175 Lizotte, Raymond, *Data Center VRLA Battery End-of-Life Recycling Procedures*, 2008. Available on at: <http://www.apcdistributors.com/white-papers/Power/WP-36%20Data%20Center%20VRLA%20Battery%20End-of-Life%20Recycling%20Procedure.pdf>. Accessed December 23, 2013.

176 United States Department of Transportation - Office of Hazardous Materials Safety website. Available at: <http://www.phmsa.dot.gov/hazmat/regs>. Accessed December 23, 2013.

respond to potential fire hazards, such as appropriate placards and emergency access, would be established as part of the permit review process.

The operation of the ISE facility would also involve the use of common hazardous materials, such as cleaners and paint. These products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. Most of these materials are consumed through use, resulting in relatively little waste. Businesses are required by law to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers who handle hazardous materials, and adequately training workers. For these reasons, hazardous materials used during operation of the ISE would not pose any substantial public health or safety hazards.

The ongoing use of the electrical distribution circuits would not require the routine transport, use, or disposal of hazardous materials.

In light of the above, the proposed project would have a less-than-significant impact on hazards produced by the routine use, disposal, and handling of hazardous materials.

Impact HZ-2: Construction and operation of the proposed project would not expose the public or the environment to reasonably foreseeable upset and accidental conditions involving the release of hazardous materials and is located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, would not create a significant hazard to the public or the environment. (Less than Significant)

Potentially hazardous materials such as fuels, lubricants, and solvents would be used during construction of the proposed ISE facility and electrical distribution circuits. The transport, use, and storage of hazardous materials during the construction of the project would be conducted in accordance with all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22.

The following information on asbestos-containing materials, lead-based paint, polychlorinated biphenyls light ballasts, mercury lamps and switches, smoke detectors, and pigeon decontamination is based on a plan prepared for the removal of hazardous materials from the project site.¹⁷⁷

Asbestos-Containing Materials. Due to the age of the buildings on the 320-400 Paul Avenue site, the structures were surveyed for potential building materials that may contain asbestos.^{178, 179} Building

177 The Denali Group, *Draft - Hazardous Materials Specification for 320 – 350 – 400 Paul Avenue Buildings*. May 21, 2014. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E. (The Denali Group, 2014)

178 Zamb, Eric J., North Tower Environmental, *Suspect Asbestos-Containing Material Inspection 320, 350 and 400 Paul Avenue San Francisco, California*, September 8. 1999. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E.

179 The Denali Group, 2014.

components in all three buildings, including floor tile, sheetrock, joint compound, wall texture, sealant, caulking, and roofing, either were tested or are presumed to contain asbestos-containing material (ACM). Pipe insulation in the 320 and 350 Paul Avenue buildings and boiler insulation in the 350 Paul Avenue building were also tested and found to contain ACM. Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with the notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or abatement work.

Notification of asbestos removal includes the names and addresses of operations and persons responsible; description and location of the structure to be demolished/altered including size, age and prior use, and the approximate amount of friable asbestos; scheduled starting and completion dates of demolition or abatement; nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used. The BAAQMD randomly inspects asbestos removal operations. In addition, the BAAQMD will inspect any removal operation when a complaint has been received.

Also, the local California OSHA office must be notified prior to asbestos remediation. Asbestos abatement contractors must follow State regulations contained in 8 California Code of Regulations (CCR) 1529 and 8 CCR 341.6 through 341.14 where there is asbestos-related work involving 100 or more square feet or linear feet of asbestos-containing materials (ACMs). Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The abatement workers are required to have received EPA-accredited training and be certified asbestos abatement work. The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with the California Department of Health Services in Sacramento. The contractor and hauler of the material are required to file a Hazardous Waste Manifest that details the hauling of the material from the site and appropriate disposal. Pursuant to California law, the SF DBI would not issue a required permit until an applicant has complied with the notice and abatement requirements described above. These regulations and procedures, already established as part of the permit review process, would reduce potential impacts of ACMs to a less-than-significant level.

Lead-based Paint. It is also anticipated that due to the age of the buildings that paint within the structures may contain lead. Any construction activities, including renovation and demolition, would be required to be completed in accordance with federal, state, and local regulations governing the proper handling and disposal of hazardous building materials. Demolition of the 400 Paul Avenue building and renovation of the 320 and 350 Paul Avenue buildings would need to comply with SF Building Code Section 3425, which applies to buildings and steel structures on which original construction was completed prior to 1979, and regulates any disturbance of lead-based paint. The Code requirements include provisions to eliminate the off-site migration of lead contamination and

potential on-site soil contamination. Also, notification is required to be given to SF DBI of the removal, as well as signs must be posted advising adjacent properties of the lead-based paint removal. Any penetrations through or removal of various fixtures from substrates painted with lead-based or lead-containing paint is required to be performed by workers trained in accordance with the California Division of Occupational Safety and Health (Cal/OSHA) Lead in Construction Standard, Title 8, Section 1532.1 training requirements. These existing regulations and abatement procedures would reduce potential impacts of lead paint to a less-than-significant level.

Polychlorinated Biphenyls (PCB's) Light Ballasts. All light ballasts manufactured through 1978 are magnetic ballasts which contain PCBs. Installation of ballasts manufactured prior to 1978 continued for several more years. As a result it can be expected that any building constructed before 1980 which has not had a complete lighting retrofit is likely to have PCB containing ballasts. Therefore, unless the ballast is electronic (this type is PCB free), determined by testing not to contain PCBs, or the manufacturers label on the ballast states "No PCBs", it is assumed all light ballasts on this site contain PCB's, and must therefore be handled as a hazardous waste. Any ballast containing PCBs is considered a hazardous waste and is required to be removed by personnel trained in PCB-related work (inspection, removal, clean-up). All workers must also follow OSHA regulations governing the removal and handling of PCB products including Code of Federal Regulations (CFR) Title 29 Section 1910.120 – Hazardous Waste Operations and Emergency Response and 8 CCR Title 8 Section 5192 - Hazardous Waste Operations and Emergency Response as well as other applicable federal, state and local laws and regulations. These existing regulations and abatement procedures would reduce potential impacts of light ballasts with PCBs to a less-than-significant level.

Mercury Lamps and Switches. Fluorescent tubes and several other types of lamps (not incandescent light bulbs) contain a small amount of mercury that is necessary for their operation. Currently, most fluorescent lamps contain enough mercury to be a hazardous waste. Spent lamps typically contain concentrations of mercury exceeding the established Total Threshold Limit Concentration and/or the Soluble Threshold Limit Concentration values. Therefore, these lamps must be sent to an authorized recycle facility or to a universal waste consolidator for shipment to an authorized recycling facility. Any lamp which is not designated for recycling or continued use in a different fixture for which the lamp is manufactured for use in must be handled, managed, and disposed of as a hazardous waste in accordance with Cal/EPA Title 22. Thermostat switches that contain mercury are considered a hazardous waste if removed and must also be disposed of in accordance with Cal/EPA Title 22. These existing regulations and abatement procedures would reduce potential impacts of mercury to a less-than-significant level.

Radioactive Smoke Detectors. Smoke detectors may contain a radioactive element that may be present in older buildings. These types of detectors are easily identified by reviewing the label found on the back of the detector. Older units may display the international radiation symbol (three bladed propeller) and the radioactive content. Newer units state the radioactive content and their Nuclear Regulatory Agency (NRC) license number. The California Department of Toxic Substance Control (DTSC) has stated that it is a condition of the smoke detector manufacturer's NRC license that they

must accept returned units for disposal. Any qualifying units would be removed and shipped back to the manufacturer in compliance with the manufacturer's policies and procedures. These existing regulations and abatement procedures would reduce potential impacts of radioactive smoke detectors to a less-than-significant level.

Pigeon Decontamination. The three existing buildings have exterior openings, such as broken windows and missing roofing, that have allowed pigeons to roost and live within the buildings for a number of years. The resultant buildup of dead birds, guano (excrement), feathers, and nesting materials provide a suitable environment for the presence of a bird-related fungus, histoplasmosis capsulatum. According to the Center for Disease Control (CDC), formaldehyde is the only biocide capable of destroying the fungus and fungal spores associated with histoplasmosis capsulatum. Since the use of formaldehyde would, at a minimum, increase the workers and building occupants potential exposure to a confirmed carcinogen (agent likely to cause cancer), there would be very few instances in which this material would be used. Rather, decontamination of the guano during removal would be completed using a biocide approved as a tuberculocidal, such as bleach in a 1/10 to 1/100 dilution, sufficient to destroy most organisms associated with guano. The following interior areas would be decontaminated: floors, walls, ceilings, doors and frames, support beams and columns (concrete and wood), cross members, horizontal and vertical surfaces of beams, window frames and sill areas around windows, stairways (walls, steps, railings and handholds), elevator interiors, and elevator mechanical area. After decontamination, some porous surfaces (old beams, wood floors, etc.) may be encapsulated after a thorough cleaning. The abatement contractor would be required to provide all material safety data sheets (MSDS) for the biocides and encapsulant to the project sponsor as part of a written hazard communication program. All abatement workers would be required to wear personal protective equipment and high efficiency particulate air personnel (HEPA) respirators with National Institute of Occupational Safety & Health (NIOSH) approved particulate filters in accordance with OSHA standard 29 CFR 1910.134. The abatement contractor would comply with applicable federal, state, and local laws, regulations and ordinances regarding use of pesticides (biocides) and worker and work place safety (Cal/OSHA). These existing regulations and abatement procedures would reduce potential impacts of biocides and encapsulant to a less-than-significant level.

Hazardous Materials in Soil and Groundwater. The proposed project would involve excavation and other construction activities on a former industrial site with known soil and groundwater contamination. Therefore, the project is subject to the Maher Ordinance, administered and overseen by the SFDPH. The Maher Ordinance requires the project sponsor to retain the services of a qualified professional to prepare a Phase I ESA that meets the requirements of Article 22.A.6. of the SF Health Code. The Phase I would determine the potential for site contamination and level of exposure risk associated with the project. Based on that information, SFDPH determines whether the project sponsor would be required to conduct soil and/or groundwater sampling and analysis. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project sponsor is required to submit a site mitigation plan (SMP) to SFDPH or other appropriate state or federal agency(ies), and to remediate any site contamination in accordance with an approved SMP prior to the issuance of any building permit.

The project sponsor has submitted a Maher Application to SFDPH and all prior ESAs prepared for the project site. As mentioned above, both lead and hydrocarbon contaminants have been found on site. A work plan has been approved by SFDPH that requires additional soil borings, with one extending to the groundwater level, and the sampling of any liquids in the sumps. The borings and samples would then be tested for the presence of total petroleum hydrocarbons (TPH), volatile organic compounds (VOC), semi volatile organic compounds (SVOC), and leaking underground fuel tank (LUFT) 5 heavy metals.¹⁸⁰ Based on the findings, the project sponsor would be required to prepare a SMP to address the testing and management of contaminated soils and sump cleaning. The SMP would also include, or address by reference, contingency response actions, a worker health and safety plan, a dust control plan, stormwater-related controls, and odor and noise controls.¹⁸¹

Additionally, PG&E owns on-site deenergized transformers located along the eastern property line at 320-400 Paul Avenue. In February 2013, PG&E representatives found that the transformers had been opened by vandals in order to remove the copper components. In the process, 240 gallons of transformer oil from inside the transformers was spilled onto the surrounding ground and a concrete pad and culvert. PG&E collected 25 soil samples that were then analyzed for TPH and polychlorinated biphenyls (PCB). Both TPH and PCB were found in the samples. In May 2013, the concrete platform, 40 feet of concrete and approximately 350 cubic yards of soil were removed, containerized, and transported to an approved disposal site. SFDPH has reviewed the Incident Description and Response Action memo from PG&E and accepted the cleanup of the transformer location as complete for PCB.¹⁸² All detectable PCB compounds have been removed, though additional soil will need to be removed in that location due to remaining concentrations of oil. A subsequent report from PG&E to DPH in February 2014 provided information on further soil removal and restoration of the concrete culvert.¹⁸³

With continued oversight by the SFDPH and conformance with the Maher Ordinance as well as compliance with federal, state, and local regulations concerning the proper handling of hazardous materials, including ACMs, lead paint, PCB light ballast, mercury lights and switches, and radioactive smoke detectors, any impacts resulting from hazardous materials on the project site would be reduced to a less-than-significant level.

12kV Electrical Distribution Circuits

The construction of the electrical distribution circuits would require excavation within existing roadways in San Francisco and Daly City, as well as within the PG&E Martin substation in Brisbane.

180 LUFT 5 Heavy metals are cadmium, chromium, nickel, lead, and zinc.

181 Nakamura, Scott, DPH, *Request for Work Plan Revision 320, 350, 400 Paul Avenue (sic), Planned Data Center, San Francisco SMED914*, September 19, 2013. This document is available at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103 as part of Case File No. 2011.0408E.(Nakamura, 2013)

182 Nakamura, Scott, DPH, 2013.

183 PG&E, *Remedial Action & Site Restoration Report*, February 13, 2014. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

Similar to the cleanup of hazardous soils at the proposed ISE facility at 320-400 Paul Avenue, all excavation within the public right-of-way within San Francisco would be subject to oversight by the SFDPH in accordance with the Maher Ordinance.¹⁸⁴ A workplan would be required to be submitted for review and approval by the SFDPH for the planned excavation and utility work prior to the commencement of construction.

Any hazardous materials encountered during excavation work within Daly City roadways would be required to be reported to both DC DPW as well as the San Mateo County of Public Health per the DC DPW Encroachment Permit *General Conditions of Approval for Work within the City Street Right-of-Way*.¹⁸⁵ In accordance with the encroachment permit for the excavation work, the project sponsor would be responsible for the proper containment and disposition of any hazardous material found during the construction activities for the electrical distribution circuits.

The DTSC maintains an online database, the Hazardous Waste and Substances Sites (Cortese) List,¹⁸⁶ for use by the State and local agencies and developers to obtain information about the location of hazardous materials release sites. A portion of the planned route for the electrical circuits, on Bayshore Boulevard between Sunnysdale and Geneva Avenues, is adjacent to one of the sites on the Hazardous Waste and Substances Site List, the Schlage Lock Company,¹⁸⁷ identified as EnviroStor ID #38340157. The 15.4-acre site is located along the east side of Bayshore Boulevard with portions of the site in both San Francisco (northern area) and Brisbane (southern area). In 1994, an Imminent and Substantial Endangerment Determination and Remedial Action Order was issued to responsible parties to conduct further investigation and remediation of identified as hazardous materials. On-site hazardous materials were found in the soil, soil vapor, and groundwater and included detectable levels of volatile organics (8260B VOCs) including 1,1,1-Trichloroethane, 1,2-Dichloroethylene, 1,2-Dichloroethylene, Chloroform, Tetrachloroethylene, Trichloroethylene, and Vinyl chloride.

With DTSC as the lead agency the site has undergone testing, implementation of various pilot programs, and public outreach apart from and in conjunction with CEQA review for future development of the portion of the site within San Francisco by the former San Francisco

184 Email from Elysie Heilshorn to Heidi Kline, PG&E Trenching, dated August 21, 2013. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

185 DC DPW, 2010.

186 DTSC, *Hazardous Waste and Substances Site List*. Available online at: <http://www.calepa.ca.gov/SiteCleanup/CorteseList/default.htm>. Accessed on January 17, 2014.

187 Schlage Lock Company manufactured door hardware and lock parts from 1926 to 1999. It started its operation in a building known as Plant 1. The size of the facility was expanded by the acquisition of Plant 2 in 1942, Plant 1-X in 1964, and lastly Plant 3 in 1950. Schlage Lock was acquired by Ingersoll-Rand Corporation in 1974. The manufacturing process included stamping and machining metal alloys; deburring brass, bronze, nickel, silver and steel parts; and cleaning brass and bronze parts with Safety Kleen 150, a petroleum naphtha solvent. The parts were electroplated using a non-chrome clear coat process to prevent corrosion. Zinc dichromate was formerly used in the electroplating process. The facility closed operation in December 1999. In 1980, Plant 3 was sold to Pacific Lithograph Company. They used products containing trichloroethane and stoddard solvent in lithographic processing.

Redevelopment Agency¹⁸⁸ in an EIR certified on December 18, 2008. Then, on November 12, 2009, the DTSC prepared an Addendum to the EIR¹⁸⁹ to reflect its proposed remedial action plan (RAP) for the property. The RAP was circulated for comment in 2009 and approved in 2013.¹⁹⁰ The RAP provides for the excavation and off-site disposal of 6,000 cubic yards (cy) of VOC-contaminated soil, excavation and treatment by aeration of 15,000 cy of VOC-contaminated soil, excavation and capping of 22,000 cy of metal-impacted soil, in situ treatment of VOC-contaminated groundwater, and imposition of land use controls on the future use of the property.

The Schlage Lock OU site records do not identify the presence of any hazardous soil or groundwater extending from the Schlage Lock site off-site into Bayshore Boulevard and the general gradient of groundwater in the area is easterly towards the San Francisco Bay, in the opposite direction from Bayshore Boulevard. However, on-site borings in the Schlage Lock OU records indicate that groundwater in the area has been detected at depths as shallow as seven feet.¹⁹¹ Under consultation with the DTSC Project Manager for the Schlage Lock site,¹⁹² it was indicated that dewatering activities within Bayshore Boulevard would have the potential to affect the existing easterly gradient flow of the groundwater in the immediate area, including the contaminated groundwater under portions of the site, and that DTSC should be notified prior to any dewatering to coordinate its activities with DTSC. While details on the actual location of the excavation for the electrical circuits in Bayshore Boulevard are unknown, if dewatering of the excavation trench is needed, PG&E would be required to comply with the existing DTSC-regulated land use controls for the Schlage OU to ensure excavation would not affect contaminated groundwater in the area. Any dewatering activities along the Schlage Lock OU within San Francisco would also be subject to the oversight of the Wastewater Enterprise Collection System Division of the SFPUC, as described in Topic E.15, Hydrology and Water Quality, in accordance with the SF Public Works Code Article 4.1 (Ordinance Number 19-92, amended 116-97), as supplemented by DPW Order No. 158170. Adherence to these existing regulations would reduce the project's potential to disturb contaminated groundwater in the vicinity of the Schlage Lock OU as a result of any dewatering activities in excavation trenches in Bayshore Boulevard to a less-than-significant level.

188 City of San Francisco Redevelopment Agency, *Visitacion Valley Redevelopment Program Final EIR*. Available online at: <http://www.sfredevelopment.org/index.aspx?page=137>. Accessed on January 17, 2014.

189 DTSC, *Addendum to the Visitacion Valley Redevelopment Program Final EIR*. Available online at: http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/7752380192/Addendum%20to%20EIR.pdf. Accessed on January 17, 2014.

190 Mactec Engineering and Consulting, *Final Draft Feasibility Study/Remedial Action Plan Schlage Operable Unit and San Francisco County Portion of Universal Paragon Corporation Operable Unit San Francisco, California*, September 2, 2009. Available online at: http://www.envirostor.dtsc.ca.gov/public/community_involvement/5133161246/Final%20Dr%20FS-RAP%289-2-2009%29.pdf. Accessed on December 20, 2013. (Mactec Engineering and Consulting, 2009)

191 Mactec Engineering and Consulting, 2009.

192 Phone Conversation record with Chip Gribble, DTSC and Heidi Kline, SF Planning Department on December 23, 2013. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

The PG&E Martin substation is also listed as a hazardous materials release site, EnviroStor ID#41360093, on DTSC's EnviroStor website. The site has been identified as a hazardous materials cleanup site due to benzene, polynuclear aromatic hydrocarbons (PAH), TPH-Diesel, and TPH – motor oil from the site's former use as a gas manufacturing plant using oil as its feedstock in the early 1900s. In 1993, DTSC approved a RAP dividing the property into two operational units, OU1 – western portion and OU2-eastern portion. The area of the proposed conduit excavation and circuit breaker installation would be located within OU2.

In 1998 a RAP was finalized for OU2 that included ongoing groundwater monitoring, land use restrictions, construction of a groundwater interceptor trench along the east side of OU2, and on-site treatment of contaminated soils. In 2000, a modification to the RAP was approved to allow the disposal of some excavated soil at an off-site disposal facility. The RAP was completed in 2002 and an Operation and Maintenance Plan (O&M) was approved to allow for ongoing monitoring activities on the site.

In compliance with the RAP, a document outlining the land use restrictions for the property was enacted limiting site uses and future site activities.¹⁹³ It requires that a SMP be prepared and approved by DTSC prior to engaging in activities that will disturb soil on the site (e.g. excavation, grading, removal, trenching, filling, or other earth movement) within a restricted area. Therefore, the project sponsor would be required to consult with the DTSC prior to excavating and installing the proposed 100-foot-long extension of conduit between the transformers and the existing conduit connection to Geneva Avenue. Based on information in the RAP, it does not appear that the proposed excavation would occur within a restricted area. However, plans would be required to be submitted to DTSC showing the area of excavation in compliance with the O&M for the site. If excavation were to be determined to fall within a restricted area in the OU2, a SMP would need to be provided for the review and approval of DTSC prior to construction activities. The SMP would establish procedures for the handling and management of soils that are protective of construction workers and persons in the site vicinity during the earthwork activities and would also need to address dust control, spoils and stockpile management, stormwater runoff, groundwater management, and other handling, storage, and transport procedures. Standards would need to be provided demonstrating that site workers and off-site receptors are not exposed to elevated levels of toxins. The SMP would also provide for wind speed monitoring, groundwater monitoring, and personnel and perimeter exposure monitoring. Some or all of the soil and other fill material exported from the site may require handling and disposal as hazardous waste. The SMP would therefore address the handling and disposal of soil that meets hazardous waste criteria, in accordance with California Health and Safety Code, Chapter 6.5. Adherence to the existing DTSC regulations regarding environmental restrictions on the site during

193 *Covenant to Restrict Use of Property Environmental Restriction Re: PG&E Martin Service Center Brisbane and Daly City State Board of Equalization Parcel Numbers 135-41-28 Parcel 1, 135-41-28 Parcel 2, 135-41-28B Parcel 3, 135-41-28B Parcel 4, and 135-41-3A Parcel 3*, recorded October 17, 2002. This document is available for public review at the Planning Department, 1650 Mission Street, Suite 400, as part of Case No. 2011.0408E.

any construction for the proposed electrical circuits would minimize the potential for an accidental release of hazardous materials into the environment as a result of the project.

With adherence to DTSC regulations for construction adjacent to the Schlage Lock OU and construction within the PG&E Martin substation OU2, as well as compliance with San Francisco's Maher Ordinance and SF Public Works Code Article 4.1 (Ordinance Number 19-92, amended 116-97), as supplemented by DPW Order No. 158170, requiring a permit from the Wastewater Enterprise Collection System Division of the SFPUC, and compliance with other local, states, and federal regulations, impacts associated with the release of hazardous materials through site disturbance would be less than significant.

Impact HZ-3: The proposed project 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 with Mitigation)

There are a number of public and private schools within one-quarter mile of the proposed ISE facility at 320-400 Paul Avenue. Public schools include El Dorado Elementary School, Bret Harte Elementary School, Dr. Charles Drew Elementary School, ER Taylor Elementary School, Phillip and Sal Burton High School, and Dr. Martin Luther King Jr. Middle School. Private schools within one-quarter mile of the proposed facility include St. Elizabeth's Elementary school, S.R. Martin Preparatory, and KIPP Bayview Academy.

The route for the proposed construction of the electrical distribution circuits would be within one-quarter mile of the abovementioned public and private schools, as well as within one-quarter mile of Robertson Intermediate School and Jefferson Union High School in Daly City.

During construction of the proposed ISE facility there would be a potential for hazardous materials to be released or emitted into the air. The project would be required to comply with the existing federal, state, and local regulations governing the handling and disposal of hazardous materials. In compliance with the Maher Ordinance, a site mitigation plan would be required to be approved by DPH to ensure that all hazardous soil and groundwater are removed in a manner in compliance with Article 22A of the SF Health Code, and would not have an adverse impact on the health and safety of surrounding land uses.

Diesel backup generators would have the potential to emit hazardous diesel particulate matter and toxic air contaminants. A discussion of potential hazardous emissions of DPM and resultant increase in excess cancer risks is included in Topic 7- Air Quality. Implementation of **Mitigation Measure M-AQ-3 - Diesel Backup Generator Specifications** would reduce emissions of criteria air pollutants to below the significance threshold for operational criteria pollutants and reduce the project-level increase in excess cancer risk to a level below the significance threshold.

As previously discussed, the operation of the proposed ISE facility at 320-400 Paul Avenue would involve the use of diesel fuel for the backup diesel generators. The diesel fuel would be stored in integrated 4,000-gallon fuel tanks (UL2085-rated, double-containment) incorporated into the base of

each generator. Diesel fuel for the generators would be delivered to the site by operators licensed in the handling of diesel fuel. A SPCC is required to be prepared for the facility which would outline how hazardous materials, including the refueling of the diesel tanks, would be performed to conform with all applicable oversight regulations. The SPCC Plan would ensure that any accidental discharge of hazardous materials would be minimized. No storage and handling of significant quantities of any other hazardous materials would occur.

The proposed electrical circuits would not result in the direct emissions or use of hazardous substances. Adherence to existing DTSC land use controls for the Schlage Lock OU and PG&E Martin Service Center OU would reduce the potential impact of hazardous materials release within the two Cortese-listed areas as part of the installation of the proposed electrical circuits. Therefore, the proposed electrical circuits would have a less-than-significant effect on the release of hazardous materials within a quarter of a mile of a school.

Therefore, with implementation of **M-AQ-3** during operation of the ISE facility, the impact related to hazardous emissions or materials within a quarter of a mile of a school would be less-than-significant.

Impact HZ-4: The proposed project would not physically interfere with an adopted emergency response plan or evacuation plan. (Less than Significant)

A total of 50 employee vehicle trips (one shift) would be added to the roadways in the immediate area in the event of an emergency evacuation. This would be a negligible increase within the dense urban setting of the project site, and traffic would be dispersed within the existing street grid such that there would be no significant adverse effects on nearby traffic conditions potentially impeding emergency response vehicles. The proposed EVA along the west side of the property would provide vehicular access for emergency vehicles as well as provide an alternative means of evacuation from the site. A lockbox or other mechanism to provide access to emergency personnel would be provided so that emergency vehicles could use this driveway. In addition, the project would be subject to the SFFD's Administrative Bulletin 2.11 requiring the posting of evacuation route signage. Therefore, the proposed project would have a less-than-significant impact on the impairment and implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan.

Impact HZ-5: The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving fires. (Less than Significant)

San Francisco ensures fire safety and emergency accessibility within new and existing developments through provisions of its Building and Fire Codes. The proposed ISE facility would conform to these standards that would include development of an emergency procedure manual and an exit drill plan for the proposed development. The proposed site plan includes an EVA along the west side of the property in order to allow emergency vehicles to access both sides of the buildings. Potential fire hazards (including those associated with emergency diesel backup generators and emergency access points) would be addressed during the permit review process. Conformance with the SF Fire Code would ensure appropriate life safety protections are included in the project.

The proposed electrical distribution circuits would be constructed within an existing paved public right-of-way. Adequate emergency vehicle access would be required to be maintained throughout excavation and installation of the proposed electrical circuits as required by local ordinances and the conditions of permit approvals. In San Francisco, excavation in the public right-of-way requires a permit from SF DPW. Provisions in the SF Public Works Code regarding excavation (Article 2.4, Section 2.4.52) prohibit excavations greater than 1,200 feet in length without prior written approval of the Director of SF DPW, in part to ensure that construction projects do not create significant barriers to emergency response vehicles. SF DPW may also add conditions to excavation permits in order to protect public health and safety (Article 2.4, Section 2.4.20). As part of its permit review, SF DPW provides notice to other City agencies, such as the SFFD.

Adherence to the SF Public Works Code and SF DPW encroachment permit conditions would ensure that construction of the electrical circuits within San Francisco roadways do not expose persons or structures to significant impacts from increased fire risks or interfere with emergency response during construction.

Chapter 12 of the Daly City Municipal Code requires that any excavation in the public right-of-way obtain an encroachment permit from the City prior to the commencement of work. As part of the permit conditions, the contractor is required to adhere to the Manual of Traffic Controls for Construction and Maintenance Work Zones issued by Caltrans, including appropriate warning signs, lights, and safety devices and other measures to ensure the public safety.¹⁹⁴

After construction of the electrical distribution circuits is complete, no routine use of flammable materials or potential interference with emergency response would be anticipated as there would be no aboveground structures and the roadways would be returned to their existing condition. Consequently, the project would have a less-than-significant impact related to fire hazards.

Impact HZ-6: A portion of the project is located within an airport land use plan area, but would not result a safety hazard for people residing or working in the project area. (No Impact)

The portion of the project within San Francisco, including the proposed ISE facility at 320-400 Paul Avenue and the northern 7,500-foot route for the electrical distribution circuits, is not within an airport land use plan area. The approximately 2,500-foot-long portion of the proposed route for the electrical distribution circuits in San Mateo County would be within an approved airport land use plan area, the *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport* (ALCUP) prepared by the City/County Association of Governments of San Mateo County.¹⁹⁵ The ACLUP includes policies to minimize airport-related safety hazards by limiting development within the airport land use plan area; thereby reducing exposure of people to airport-related safety hazards, including aircraft accidents, consistent with the objectives of the State Aeronautics Act. Safety zones

¹⁹⁴ DC DPW, 2010.

¹⁹⁵ City/County Association of Governments of San Mateo County, 2012. P. IV-20.

are delineated around the runways in accordance with the Caltrans Airport Land Use Planning Handbook, with some adjustments to reflect the specific operating characteristics of the airport. The construction activities necessary to install the 2,500-foot-long portion of the proposed electrical distribution circuits within San Mateo County would not be within an identified safety zone. Therefore, there would be no impact to the proposed project from hazards associated with the location of a portion of the route of the electrical circuits within an approved airport land use plan area.

Impact C-HZ-1 The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the site, would not have significant cumulative hazards and hazardous materials impact. (Less than Significant)

The context for cumulative hazards and hazardous materials for the proposed ISE facility at 320-400 Paul Avenue is the list of approved projects and reasonable foreseeable future projects within the vicinity, as identified in Table 2 on p. 57. It's not likely that there would be any cumulative hazards and hazardous materials impacts from the construction and operation of the proposed ISE facility at 320-400 Paul Avenue as impacts from hazards are generally site-specific, and typically do not result in cumulative impacts. Any hazards present at or near the cumulative project sites would be subject to the same safety requirements discussed above for the proposed project, which would reduce any cumulative hazard effects to less than significant levels.

With adherence to DTSC regulations for construction adjacent to the Schlage Lock OU and construction within the PG&E Martin substation OU2, as well as compliance with San Francisco's Maher Ordinance and SF Public Works Code Article 4.1 (Ordinance Number 19-92, amended 116-97), as supplemented by DPW Order No. 158170, requiring a permit from the Wastewater Enterprise Collection System Division of the SFPUC, impacts associated with the release of hazardous materials during construction of the electrical circuits would be less than significant. In other areas along the route of the planned electrical distribution, all construction activities occurring in the same general location within the right-of-way would be subject to the requirements of SF Public Works Code Article 2.4, in San Francisco, and Chapter 12 of the Daly City Municipal Code in Daly City, which require the coordination of excavation and construction activities. Ongoing use of the electrical distribution circuits would not result in any significant impacts related to hazards and hazardous materials. No impacts were identified that would be compounded by additional development projects implemented within the right-of-way because hazards and hazardous materials impacts are generally limited to the immediate vicinity of the use, storage, disposal, or release of the hazardous materials. Therefore, construction of the proposed project and operation of the proposed ISE facility in combination with other reasonably foreseeable projects would not result in cumulative impacts from hazards and hazardous materials, and cumulative impacts would be less than significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
E.17. Mineral and Energy 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?	☐	☐	☐	☒	☐
c) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	☐	☐	☒	☐	☐

Impact ME-1: The proposed project would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. (No Impact)

All land in San Francisco, Brisbane, and Daly City, including the project site, is in an urbanized area and is designated Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology (CDMG) under the Surface Mining and Reclamation Act of 1975 (CDMG, Open File Report 96-03 and Special Report 146 Parts I and II). This designation signifies that there is inadequate information available for assignment to any other MRZ, and the project site is not a designated area of significant mineral deposits. Since the project site does not contain any known mineral resources and the proposed project would involve excavation up to four feet in depth in limited areas, the proposed project would not adversely affect mineral resources, either directly or indirectly as no known mineral resources are present at the site at these depths. Moreover, the project 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. Implementation of the proposed project would not result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Impact ME-2: The proposed project would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (Less than Significant)

The proposed ISE would include the construction and operation of energy-using facilities that would consume energy resources. While an ISE consumes large amounts of energy when factoring in IT and HVAC equipment, this facility would be designed to incorporate state-of-the-art energy efficiency features in both the office buildings (320 and 350 Paul Avenue) and the data center (400 Paul Avenue) to prevent the wasteful use of electricity. These energy efficiency measures are detailed on pp. 37-39 and include measures specific to IT and HVAC equipment and electrical distribution components in data centers.

The project sponsor has calculated that as a result of its implementation of the proposed efficiency measures, the facility would operate with an estimated annualized PUE of 1.22 to 1.28, which is less than its industry peers' average self-reported PUE of 1.8 to 1.89 for existing multi-customer and multi-story data centers.¹⁹⁶ Additionally, the project sponsor plans to install and offer roof-top evaporative coolers, thereby eliminating the need for compressors. With this option, the supply air temperature setting would be raised to 80°F and electricity use would be minimized, thereby saving up to 2,400 kW per year. Water would be needed for the evaporative cooling system. The peak water demand that would occur only on the hottest days would be approximately 105 gpm for 61 hours a year. Therefore, the proposed ISE would not encourage activities that use fuel, water, or energy in a wasteful manner, and the project would have a less-than-significant impact on the use of large amounts of fuel and energy.

Other water usage associated with the project would be for use by the anticipated 240 employees in the facility's restrooms and eating areas. The project would be required to comply with the SF Green Building Ordinance that requires water-conserving measures be incorporated into the project. Therefore, the project would not involve the use of large amounts of water in a wasteful manner.

Impact C-ME-1: The proposed project in combination with other past, present or reasonably foreseeable projects in the site vicinity would not result in a significant impact related to mineral and energy resources. (Less than Significant)

As discussed in Impact ME-1, above, no known minerals exist at the proposed ISE facility site at 320-400 Paul Avenue or along the route of the planned electrical distribution circuits, and therefore, the proposed project would not contribute to cumulative impacts to mineral resources.

In December 2002, San Francisco adopted the Electricity Resource Plan, which includes strategies for maximizing energy efficiency, developing renewable power, and ensuring reliable power. In response to the SF Board of Supervisors' guidance in its 2009 Ordinance 94-09, the SFPUC has developed an updated Electricity Resource Plan.¹⁹⁷ This update identifies proposed recommendations to work towards achieving the broad policy goals laid out in the 2002 Plan. These efforts, together with conservation, will be part of the statewide effort to achieve energy sufficiency. As described above, while the project would generate demand for electricity by enabling the establishment of an ISE facility, an inherently energy-intensive use, energy efficiency measures have been identified for the operation of the proposed ISE in order to minimize energy use. Although other energy-intensive uses are planned within the immediate area, such as the ISE facility expansion at 200 Paul Avenue, similar energy efficiency measures are proposed for use in that facility as well. Additionally, the BVHP FEIR¹⁹⁸ evaluated the consumption of energy needed for both the construction and operation of new buildings resulting from the rezoning that allowed for an additional 2.4 million square feet of

¹⁹⁶ USEPA, 2007.

¹⁹⁷ SFPUC, *San Francisco's Updated Electricity Resource Plan, Draft*, March 2011, Executive Summary, pp. 1-20.

¹⁹⁸ Bayview Hunters Point Redevelopment Projects and Rezoning Final EIR, 2006.

commercial, office, and industrial use and 3,700 dwelling units. That analysis found that due to the required compliance of these new buildings with the Title 24 Energy Efficiency Standards, the additional energy consumption would not require significant additional energy resources in the area and would not result in an adverse effect on the environment.

Thus, the proposed project in combination with other reasonably foreseeable projects would not result in a cumulative impact on energy resources and this impact would be less than significant.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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E.18. Agriculture and Forest 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 Dept. 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? | ☐ | ☐ | ☐ | ☒ | ☐ |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)? | ☐ | ☐ | ☐ | ☒ | ☐ |
| 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 which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ | ☐ |

Impact AF-1: The proposed project would not convert farmland or forest land to non-farm or non-forest use, nor would it conflict with existing zoning for agricultural uses or forest land. (No Impact)

The proposed project is located within a developed and wholly urbanized area of San Francisco, Daly City, and Brisbane. The California Department of Conservation's Farmland Mapping and Monitoring Program identifies the site and all of these cities as "Urban and Built-up Land."¹⁹⁹ There are no farmlands or forest land identified in San Francisco, Daly City, and Brisbane; thus, the project site has no agriculture and forest resources. Because the project site does not include agricultural uses and is not zoned for such uses, the proposed project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. The proposed project would not conflict with existing zoning for agricultural uses or a Williamson Act contract. In addition, the proposed project would not conflict with existing zoning for forest land or timberland or result in the rezoning of forest land or timberland. The proposed project would not involve other changes to the existing environment that could result in conversion of farmland or forest use to non-forest use.

Because the proposed project would have no impact on agricultural or forest resources, it would not have the potential to contribute to any cumulative impacts with regard to this resource topic.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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E.19. Mandatory Findings of Significance

Would the project:

- | | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a) Have the potential to 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, 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? | ☐ | ☒ | ☐ | ☐ | ☐ |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|

199 California Department of Conservation, Farmland Mapping and Monitoring Program, *Bay Area Region Important Farmland 2004 and Urbanization 1984–2004*. Available at ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2006/fmmp2006_08_11. Accessed on April 24, 2012.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
b) Have impacts that would be 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 that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	☐

As discussed in this Initial Study, the proposed project, as mitigated, would have a less-than-significant impact on the environment. The foregoing analysis identifies significant impacts related to land use planning, cultural resources, air quality, biological resources, hydrology and water quality, and hazardous materials that would be reduced to a less-than-significant level through implementation of mitigation measures as described below.

- a. The proposed project would not have the potential to degrade the quality of the environment for topics such as aesthetics, noise, greenhouse gas emissions, geology and soils, hydrology and water, mineral and energy resources, and agriculture and forest resources. All impacts would be less than significant. With regards to land use planning (Impacts LU-2 and C-LU-1), cultural resources (Impacts CP-2 and CP-4), air quality (Impacts AQ-2, AQ-3, AQ-4, AQ-5, and C-AQ-1), biological resources (Impacts BI-1), and hazardous materials (Impact HZ-3) with the incorporation of the identified mitigation measures (**M-CP-2**, **M-AQ-2**, **M-AQ-3**, and **M-BI-1**), all impacts would be reduced to a less-than-significant level.

As discussed in Topic E.1, Land Use and Land Use Planning, the proposed project would not be consistent BAAQMD’s 2010 Clean Air Plan and California Fish and Wildlife regulations for protected bat species. Any potential impacts would be reduced to a less-than-significant level through implementation of **Mitigation Measure M-AQ-3: Diesel Backup Generator Specifications** and **Mitigation Measure M-BI-1: Pre-Construction Special-Status Bat Survey**. **M-AQ-3** specifies best available control technology for diesel generators that would bring the project into compliance with the 2010 Clean Air Plan. **M-BI-1** would require a pre-construction bat survey to prevent any significant impacts to special-status bats in compliance with California Fish and Wildlife regulations. Accordingly, with mitigation, the proposed project would result in a less-than-significant impact. (Impacts LU-2 and C-LU-1)

As discussed in Topic E.4, Cultural Resources, it is possible that below-ground archaeological resources may be present. Any potential adverse effect to CEQA-significant archaeological resources resulting from soils disturbance from the proposed project would be reduced to a less-than-significant level by implementation of **Mitigation Measure M-CP-2: Archeological**

Testing Plan, which requires testing for archaeological resources. Accordingly, with mitigation, the proposed project would result in a less-than-significant impact to archaeological resources. (Impacts CP-2 and CP-4)

The proposed project would require construction activities for the approximate 12-month construction phase. Project construction activities would result in short-term emissions of diesel particulate matter and other toxic air contaminants that would add emissions to areas already adversely affected by poor air quality. **Mitigation Measure M-AQ-2: Construction Emissions Minimization** requires specific technology that would reduce construction emissions to a less-than-significant level. Because the project site is located in an area that already experiences poor air quality, the proposed emergency backup generator has the potential to expose sensitive receptors to substantial concentrations of diesel emissions. Operation of the proposed emergency backup generators would be located within one-quarter mile of public and private schools. **Mitigation Measure M-AQ-3: Diesel Backup Generator Specifications** specifies best available control technology for diesel generators that would reduce this impact to a less-than-significant level. (Impacts AQ-2, AQ-3, AQ-4, AQ-5, C-AQ-1, and HZ-3)

In addition, the proposed project could result in a significant impact to a special-status bats. However, implementation of **Mitigation Measure M-BI-1: Pre-Construction Special-Status Bat Survey** would require a pre-construction bat survey to prevent any significant impacts to special-status bats. Accordingly, implementation of this mitigation measure would reduce the impact to a less-than-significant level. (Impact BI-1)

- b. Cumulative impacts are described under each topic in this Initial Study. As noted in the above analysis, the proposed project would not result in significant cumulative impacts associated with any of the topics except land use and land use planning and, air quality. However, this cumulative impact for land use and land use planning (Impact C-LU-1) would be reduced to a less-than-significant level with incorporation of the identified mitigation measures, **M-AQ-3** and **M-BI-1**. The cumulative impact for air quality (Impact C-AQ-1) would be reduced to a less-than-significant level with incorporation of **M-AQ-3**.
- c. As identified in this Initial Study, the proposed project would not directly or indirectly cause adverse effects to human beings after implementation of the mitigation measures. Impacts on topics that could affect the human environment such as population and housing, transportation and circulation, wind and shadow, recreation, utilities and service systems, and public services would be less than significant. DPM emissions would affect humans but would be reduced to less than significant with implementation of **M-AQ-3**.

F. MITIGATION AND IMPROVEMENT MEASURES

The project sponsor has agreed to implement the following mitigation and improvement measures. Mitigation measures identified below are necessary to reduce the significant effects of the proposed project to a less-than-significant level.

Mitigation Measure M-CP-2: Archaeological Testing Plan

Based on a reasonable presumption that archeological resources may be present within the proposed ISE project site and along the route of the proposed 12kV electrical distribution circuits, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried archeological resources. The project sponsor shall retain the services of an archaeological consultant from the rotational Department Qualified Archaeological Consultants List (QACL) maintained by the Planning Department archaeologist. The project sponsor shall contact the Department archaeologist to obtain the names and contact information for the next three archeological consultants on the QACL. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by 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 (a)(c).

Consultation with Descendant Communities. On discovery of an archeological site an appropriate representative of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to consult with ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group.

Archeological Testing Plan. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological

monitoring, and/or an archeological data recovery program. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or

B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions:

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils-disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work and shoring, site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context;
- The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation /construction activities and equipment until the deposit is evaluated. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project

sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected 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 historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP 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 and Deaccession Policy.* Description of and rationale for field and post-field discard and deaccession policies.
- *Interpretive Program.* Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
- *Security Measures.* Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- *Final Report.* Description of proposed report format and distribution of results.
- *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.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of 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. In instances of high public interest in or the high

interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Mitigation Measure M-AQ-2: Construction Emissions Minimization

This mitigation measure shall be implemented for all project construction activities that occur on the proposed ISE facility site at 320-400 Paul Avenue and is not required to be implemented for construction activities associated with the installation of the electrical distribution circuits.

A. *Construction Emissions Minimization Plan.* Prior to issuance of a construction permit, the project sponsor shall submit a Construction Emissions Minimization Plan (Plan) to the Environmental Review Officer (ERO) for review and approval by an Environmental Planning Air Quality Specialist. The Plan shall detail project compliance with the following requirements:

1. All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

a) Where access to alternative sources of power are available, portable diesel engines shall be prohibited;

b) All off-road equipment shall have:

- i. Engines that meet or exceed either U.S. Environmental Protection Agency (USEPA) or California Air Resources Board (CARB) Tier 2 off-road emission standards, and
- ii. Engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS).²⁰⁰

c) Exceptions:

- i. Exceptions to A(1)(a) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that an alternative source of power is limited or infeasible at the project site and that the requirements of this exception provision apply. Under this circumstance, the sponsor shall submit documentation of compliance with A(1)(b) for on-site power generation.
- ii. Exceptions to A(1)(b)(ii) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that a particular piece of off-road equipment with an ARB Level 3 VDECS is: (1) technically not feasible, (2) would not produce desired emissions reductions due to expected operating modes, (3) installing the control device would create a safety hazard or impaired visibility for the operator, or (4) there is a compelling emergency need to use off-road equipment that are not retrofitted with an ARB Level 3 VDECS and the sponsor has submitted

²⁰⁰ Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement, therefore a VDECS would not be required.

documentation to the ERO that the requirements of this exception provision apply. If granted an exception to A(1)(b)(ii), the project sponsor must comply with the requirements of A(1)(c)(iii).

- iii. If an exception is granted pursuant to A(1)(c)(ii), the project sponsor shall provide the next cleanest piece of off-road equipment as provided by the step down schedules in Table 10.

Table 10 – Off-Road Equipment Compliance Step-down Schedule

Compliance Alternative	Engine Emission Standard	Emissions Control
1	Tier 2	ARB Level 2 VDECS
2	Tier 2	ARB Level 1 VDECS
3	Tier 2	Alternative Fuel*

If the requirements of (A)(1)(b) cannot be met, then the project sponsor would need to meet Compliance Alternative 1. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 1, then Compliance Alternative 2 would need to be met. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 2, then Compliance Alternative 3 would need to be met.

2. The project sponsor shall require the idling time for off-road and on-road equipment be limited to no more than two minutes, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment. Legible and visible signs shall be posted in multiple languages (English, Spanish, Chinese) in designated queuing areas and at the construction site to remind operators of the two minute idling limit.
3. The project sponsor shall require that construction operators properly maintain and tune equipment in accordance with manufacturer specifications.
4. 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. Off-road equipment descriptions and information 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 usage and hours of operation. For VDECS installed: technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date. For off-road equipment using alternative fuels, reporting shall indicate the type of alternative fuel being used.
5. The Plan shall be kept on-site and available for review by any persons requesting it and a legible sign shall be posted at the perimeter of the construction site indicating to the public

the basic requirements of the Plan and a way to request a copy of the Plan. The project sponsor shall provide copies of Plan to members of the public as requested.

- B. *Reporting.* Quarterly reports shall be submitted to the ERO indicating the construction phase and off-road equipment information used during each phase including the information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used. Within six months of the completion of construction activities, the project sponsor shall submit to the ERO a final report summarizing construction activities. The final report shall indicate the start and end dates and duration of each construction phase. For each phase, the report shall include detailed information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.
- C. *Certification Statement and On-site Requirements.* Prior to the commencement of construction activities, the project sponsor must certify (1) compliance with the Plan, and (2) all applicable requirements of the Plan have been incorporated into contract specifications.

Mitigation Measure M-AQ-3 - Diesel Backup Generator Specifications

All 18 diesel backup generators shall have (1) engines that meet or exceed a California Air Resources Board (CARB)-certified oxides of nitrogen plus a non-methane hydrocarbon emission factor of 3.8 grams per brake-horsepower-hour (g/bhp-hr) and a particulate matter emission factor of 0.09 g/bhp-hr using diesel fuel with less than 15 parts per million sulfur and that are retrofitted with a CARB Level 3 VDECS; (2) exhaust stack heights of 34 feet, as measured from the top of the generator pad to the top of the stack; and (3) annual maintenance testing limit of 28 hours, if feasible, and up to a maximum of 32 hours per engine. For each diesel backup generator or generator pad permit submitted for the 320-400 Paul Avenue site, engine and filter specifications shall be submitted to the San Francisco Planning Department for review and approval prior to issuance of a permit for the generator from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators and VDECS shall be maintained in good working order in perpetuity and any future replacement of the diesel backup generators and Level 3 VDECS filters shall be required to be consistent with these emissions specifications. The operator of the facility shall maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and provide this information for review to the Planning Department annually for the first three years, starting with the first submittal in 2017. Thereafter, this information may be provided on a less frequent schedule as approved by the SF Planning Department. No more than one diesel backup generator shall be tested at any given time and all testing shall only be conducted between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.

Mitigation Measure M-BI-1: Pre-Construction Special-Status Bat Survey

A pre-construction special-status bat survey of the vacant buildings at 320–400 Paul Avenue and any 12-inch diameter or greater trees shall be completed by a qualified bat biologist and a written report detailing the results of the bat survey, and any recommended follow-up actions, shall be

submitted for review and approval by the San Francisco Planning Department Environmental Review Officer prior to the issuance of a permit for any site-disturbing activity, building/demolition permit, or vermin abatement. If active day or night roosts are found, the bat biologist shall take actions to make such roosts unsuitable habitat prior to building renovation/demolition or tree removal. A no-disturbance buffer shall be created around active bat roosts being used for maternity or hibernation purposes at a distance to be determined in consultation with the California Department of Fish and Wildlife. Bat roosts initiated during construction are presumed to be unaffected, and no buffer would be necessary.

Improvement Measure IM-AQ-3a – Load Bank Testing

The project sponsor should endeavor to develop and implement a load bank testing program for the diesel backup generators that would utilize a load at or greater than the level recommended by the manufacturer at which the particulate matter emissions rate would be minimized as compared to the generators' horsepower range of operation. All routine testing of the on-site diesel backup generators should be completed using this load banking procedure.

Improvement Measure IM-AQ-3b – Trees for Improving Air Quality

The project sponsor should plant trees along the eastern property line of the project site, generally northeast of the generator yard, for the purpose of improving air quality by removing particulate matter. Tree species should be recommended by a certified arborist as suitable for the site's conditions and for improving air quality. Any change to the on-site parking configuration required to accommodate additional on-site trees shall be submitted for the review and approval of the Planning Department prior to the issuance of a building or grading permit for the project.

Improvement Measure I-GHG-1: Reduce GHG Emissions

The project sponsor or property owner should annually measure and disclose greenhouse gas (GHG) emission estimates to the San Francisco Planning Department. The annual disclosure of GHG emission estimates should be submitted to and reviewed and approved by the Environmental Review Officer of the San Francisco Planning Department and should include GHG emissions from indirect electricity consumption and direct stationary source usage. As part of the conditional use authorization disclosure requirements,²⁰¹ the project sponsor or property owner should identify any measures taken that have resulted in a reduction in GHG emissions. Measures the project sponsor or property owner should consider to reduce GHG emissions include the following:

- Consider alternative types of backup power that would result in less GHG emissions than diesel generators;
- On-site co-generation (i.e., using waste heat for cooling);
- On-site renewable energy (e.g., solar panels);
- Enroll in PG&E's Green Option program;

201 The project sponsor or property owner would be required to comply with the conditions of approval per Planning Code 303(h), which requires, among other things, annually measuring energy performance and disclosing that information to the San Francisco Department of Environment and San Francisco Planning Department.

- Contract/enroll with another electricity provider with lower electricity emissions factors (e.g., SFPUC, CleanPowerSF);
- Purchase renewable energy credits/certificates that can be tracked.

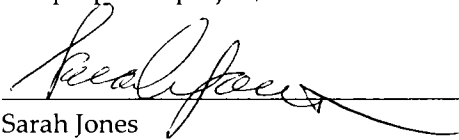
G. PUBLIC NOTICE AND COMMENT

A “Notification of Project Receiving Environmental Review” was mailed on March 1, 2012, to the owners of properties within 300 feet of the project site, to adjacent property occupants, and to neighborhood groups. Residents from the residential neighborhood on the south side of Paul Avenue provided comments concerning construction and operational noise, vibration during demolition, potential wind and feng shui impacts due to massing, traffic, and the potential impact on air quality from the diesel generators. Noise and vibration are addressed in Topic E.6. Noise on p. 91, aesthetics in Topic E.2 Aesthetics on p. 61, wind impacts are addressed in Topic E.9. Wind and Shadow on p. 156, traffic in Topic E.5. Transportation on p. 79, and air quality in Topic E.7. Air Quality on p. 102. Impacts on feng shui are not considered an environmental impact under CEQA.

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.



Sarah Jones
Environmental Review Officer
for John Rahaim
Director of Planning

DATE June 11, 2014

I. INITIAL STUDY PREPARERS

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