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Small Power Plant Exemption Application

Trade Zone Boulevard Technology Park



December 2021

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SECTION 1.0 INTRODUCTION AND EXECUTIVE SUMMARY

STACK Infrastructure (STACK) files this Application for a Small Power Plant Exemption (SPPE Application) pursuant to Public Resources Code Section 25541 and Section 1934 et seq. of the California Energy Commission (Commission) regulations for the SVY Backup Generating Facility (SVYBGF). STACK is proposing to develop the Trade Zone Boulevard Technology Park (Trade Zone Park) which will include an Advanced Manufacturing Building (AMB) and the SVY Data Center (SVYDC), a parking garage and related utility infrastructure. The SVYBGF will be a small part of the overall development.

The SVYBGF will be an emergency backup generating facility with a generation capacity of up to 90 MW to support the need for the SVYDC to provide uninterruptible power supply for its tenant's servers. The SVYBGF will consist of thirty-six (36) 3 MW and (2) 1MW diesel-fired backup generators arranged in two generation yards, each designed to serve one of the two data center buildings (SVYDC 05 and SVYDC 06) that make up the SVYDC. All of the generators would be dedicated to replace the electricity needs of the data center buildings in case of a loss of utility power (with redundancy).

The Trade Zone Park will be located on two parcels of land at the corner of Trade Zone Boulevard and Ringwood Avenue in San Jose, California. Figure 2.2-4 shows the General Arrangement and Site Layout.

Unlike the typical electrical generating facility reviewed by the Commission, the SVYBGF is designed to operate only when electricity from Pacific Gas and Electric Company (PG&E) is unavailable to the SVYDC. The SVYBGF will not be electrically interconnected to the electrical transmission grid or the AMB. Rather, it will consist two generation yards electrically interconnected solely to each of the SVYDC buildings (SVYDC05 and SVYDC06) it serves.

Section 2.0 of the SPPE Application provides a detailed description of the construction and proposed operation of the SVYBGF. To describe the context of the SVYBGF and its role in serving the SVYDC, Section 2.0 also includes a general description of the SVYDC and the AMB, parking garage and related utility infrastructure.

Section 3.0 of the SPPE Application provides project information such as the project title, lead agency contact, project applicant, project location, assessor's parcel number, and general plan and zoning designations in the same format used in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA).

Section 4.0 of the SPPE Application includes environmental information and analyses in sufficient detail to allow the Commission to conduct an Initial Study and Mitigated Negative Declaration or an Environmental Impact Report consistent with CEQA Guidelines.

Section 5.0 of the SPPE Application includes a discussion of Alternative backup generation configurations, technology, and alternative fuels considered by STACK.

Section 6.0 of the SPPE Application contains a list of applicable agencies and contact information that have jurisdiction over laws, ordinances, regulations, and standards (LORS) that may be applicable to the SVYBGF as required by Subsection (i) of Appendix F of the CEC SPPE Regulations.

Section 7.0 provides a list of those who assisted in the preparation of this SPPE Application.

1.1 NEED FOR BACKUP GENERATION

The primary goal of the Trade Zone Boulevard Technology Park (Trade Zone Park) is to develop a site within the technology core area of San José to include Advanced Manufacturing and data centers necessary to serve the technology needs of the region. The Trade Zone Park will consist of the SVY Data Center (SVYDC) each with backup generation identified as the SVY Backup Generating Facility (SVYBGF) and an Advanced Manufacturing Building (AMB).

The AMB will be a state-of-the-art incubation space that includes training facilities to develop employees for the region's growing demand. The primary objective of the AMB is to serve specific demand within the San Jose region for highly trained employees with the technical skills necessary for the growing demand for Advanced Manufacturing workers.

The SVYDC has been designed to reliably meet the increased demand of digital economy, its customers and the continued growth of the cloud. The SVYDC's purpose is to provide its customers with mission critical space to support their servers, including space conditioning and a steady stream of high-quality power supply. Interruptions of power could lead to server damage or corruption of the data and software stored on the servers by STACK's clients. The SVYDC will be supplied electricity by PG&E through a new transmission switching station constructed on the SVYDC site and owned and operated by PG&E.

To ensure a reliable supply of high-quality power, the SVYBGF was designed to provide backup electricity to the SVYDC only in the event electricity cannot be supplied from PG&E and delivered to the SVYDC building. To ensure no interruption of electricity service to the servers housed in the SVYDC building, the servers will be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from input power interruptions. However, to provide electricity during a prolonged electricity interruption, the UPS systems will require a flexible and reliable backup power generation source to continue supplying steady power to the servers and other equipment. The SVYBGF provides that backup power generation source.

The Trade Zone Park's Project Objectives are as follows:

- Develop a state-of-the-art data center large enough to meet projected growth;
- Locate the Data Center near technology infrastructure and near existing STACK data centers to minimize latency and optimize for customer regional economies of scale;
- Develop an Advanced Manufacturing building that facilitates the growth of the advanced manufacturing sector in North San José and continues a presence of advanced manufacturing activities in this market;
- Develop the Data Center and Advanced Manufacturing Building as a mixed-use campus on land with zoning consistent with these uses and at a location acceptable to the City of San José;

- Develop a Data Center that can be constructed in phases which can be timed to match projected growth;
- To incorporate the most reliable and flexible form of backup electric generating technology into the SVYBGF considering the following evaluation criteria.
 - **Reliability**. The selected backup electric generation technology must be extremely reliable in the case of an emergency loss of electricity from the utility.
 - The SVYBGF must provide a higher reliability than 99.999 percent in order for the SVYDC to achieve an overall reliability of equal to or greater than 99.999 percent reliability.
 - The SVYBGF must provide reliability to greatest extent feasible during natural disasters including earthquakes.
 - The selected backup electric generation technology must have a proven built-in resilience so if any of the backup unit fails due to external or internal failure, the system will have redundancy to continue to operate without interruption with no single point of failure.
 - The selected backup electric generation technology must include achieved in practice engineering methods, procedures and equipment.
 - The SVYDC must have on-site means to sustain power for 24-hours minimum in failure mode, inclusive of utility outage.
 - **Commercial Availability and Feasibility**. The selected backup electric generation technology must currently be in use and proven as an accepted industry standard for technology sufficient to receive commercial guarantees in a form and amount acceptable to financing entities. It must be operational within a reasonable timeframe where permits and approvals are required and with a supply of fuel that is within service level agreement thresholds to sustain customers and server uptime.
 - **Technical Feasibility**. The selected backup electric generation technology must utilize systems that are compatible with one another and be maintainable in a reasonable fashion achieving timely switch outs, repairs and maintenance. Warranty and support must be within practical means to achieve optimum uptime during failures within the utility power supply. The back up solution must also achieve industry standard start times in the event of an outage in order to avoid interruption of power to the equipment within the data center.

1.2 COMMISSION SPPE JURISDICTION

STACK acknowledges that the Commission's authorizing statute grants exclusive authority for the Commission to issue licenses for the construction and operation of thermal power plants with generating capacities in excess of 50 MW.¹ For thermal power plants with generating capacities greater than 50 MW but less than 100 MW, the Commission can grant an exemption from its licensing authority². The SVYBGF is not a typical power generating facility in that it consists of generators that can operate independently. In addition, the generators are arranged to support individual portions of the buildings within the data center. None of the generators will be

¹ Public Resources Code (PRC) Section 25500.

² PRC Section 25541 and Title 20 California Code of Regulations (CCR) Section 1934.

interconnected to the electrical transmission system and therefore no electricity can be delivered off site.³

1.2.1 Data Center Facilities Not Within Scope of SPPE

The overall Trade Zone Park including the AMB, the SVYDC and the related infrastructure is not within the scope of the Commission's jurisdiction because the facilities are not a thermal power plant. The SVYDC is the sole consumer of the electricity produced by the SVYBGFF. STACK is submitting an application for a Master Plan to construct the Trade Zone Park to the City of San Jose (City) for review. The City began its review of STACK's Preliminary Application in May 2021 and this SPPE Application incorporates the City's comments into the design and analysis.

STACK believes that although the CEC is the lead agency for making a determination of whether the SVYBGF is a thermal power plant that can qualify for a SPPE, the ultimate decision does not extend to the Trade Zone Park facilities that are part of the Master Plan. STACK does acknowledge that the CEC should include the potential effects of the SVYDC and the Trade Zone Park facilities in its CEQA analysis, but the ultimate determination of whether the Trade Zone Park facilities should be approved, denied, or subject to mitigation measures is solely within the City's jurisdiction. To assist the CEC in preparing its analysis STACK provides a description of the Trade Zone Park facilities in Section 2.0. The potential effects of the Trade Zone Park facilities are considered in the environmental analyses of Section 4.0 in a manner to assist the Commission in evaluating combined impacts from the co-location of the SVYBGF, the SVYDC, the AMB, the parking garage and related utility infrastructure.

To enable the City to timely conduct its review of the modified SVYDC, STACK requests the Commission complete its review of the SVYBGF within the Commission's statutory 135-day obligation.

1.3 PROJECT BENEFITS

The SVYDC provides much needed data center infrastructure for an increasingly more internet and data driven society in the heart of Silicon Valley. The SVYDC has been designed to:

- Use minimal water use for cooling;
- Repurpose a brownfield site
- Optimize extension of underground electrical lines;
- Incorporate Noise minimization measures; and
- Incorporate Energy and Water Efficiency Measures

Due to the heat generated by the data center equipment, cooling is one of the main uses of electricity in data center operations. In order to reduce GHG emissions and reduce the use of energy related to building operations, the project proposes to implement the following efficiency measures.

- Daylight penetration to offices
- LED lighting fixtures and occupancy sensors

³ The Commission Staff has determined that notwithstanding these facts, the Commission has jurisdiction over the SVYBGF. STACK reserves all its rights regarding whether or not the Commission has jurisdiction over the SVYBGF and the filing of this SPPE Application is not an admission by STACK that the Commission has exclusive jurisdiction over the SVYBGF or the SVYDC.

- Reflective roof surface
- Meet or exceed Title 24 requirements
- Electric vehicle (EV) parking
- Low flow plumbing fixtures
- Landscaping would meet City of San Jose requirements for low water use

SECTION 2.0 PROJECT DESCRIPTION

2.1 OVERVIEW OF MASTER PLAN DEVELOPMENT

STACK Infrastructure (STACK) is proposing to develop the Trade Zone Boulevard Technology Park (Trade Zone Park) which will include an Advanced Manufacturing Building (ABM), the SVY Data Center (SVYDC) and the SVY Backup Generating Facility (SVYBGF).

The SVYBGF will be an emergency backup generating facility with a generation capacity of up to 90 MW to support the need for the SVYDC to provide uninterruptible power supply for its tenant's servers. The SVYBGF will consist of thirty-six (36) 3 MW and (2) 1MW diesel-fired backup generators arranged in two generation yards, each designed to serve one of the two data center buildings (SVYDC 05 and SVYDC 06) that make up the SVYDC. All of the generators would be dedicated to replace the electricity needs of the data center buildings in case of a loss of utility power (with redundancy). The larger generators are designed to replace the electricity needed to serve the data halls, and both of smaller generators would be used to support redundant house critical cooling equipment and other general building and life safety services (house generators). The SVYBGF Project elements will also include switchgear and distribution cabling to interconnect the generators to their respective portions of the buildings.

The SVYBGF will serve only the SVYDC and is described in detail in Section 2.2. The SVYDC will consist of two buildings and is described in Section 2.3. The Advanced Manufacturing facilities will not be served by the SVYBGF, and, although part of the Trade Zone Park is not part of the SVYDC. For development processing purposes, all of the facilities proposed for the site are included in a planning application to the City of San Jose as part of a Master Plan for the site.

2.2 GENERATING FACILITY DESCRIPTION, CONSTRUCTION AND OPERATION

2.2.1 Site Description

The proposed Trade Zone Park site consists of two parcels encompassing approximately 9.8 acres. The parcels are located at 2400 Ringwood Avenue and 1849 Fortune Drive in San Jose, California, respectively (refer to Figures 2.2-1, 2.2-2, and 2.2-3). Both parcels are currently zoned for Industrial Park. A PD Zoning Application is currently being prepared and will be filed with the City of San Jose shortly after the docketing of this SPPE Application. The PD Zoning Application will request rezoning from Industrial Zoning to Planned Development (PD) for both parcels.

The site is currently developed with two existing one-story buildings. The existing building at 2400 Ringwood Avenue (Olympus Building) encompasses approximately 80,000 square feet and is currently occupied. The Olympus Building site consists of a 6.10-acre, (265,716 SF) irregular-shaped parcel identified as APN 244-17-014 and is developed with one single-story office building with a total of 80,000 square feet of net rentable area. The parcel is also improved with asphalt driveways and parking areas as well as a central driveway plaza covered in stone pavers located in the front of the building entry area. The parcel was developed in 1996 and interior improvements were recently completed throughout the building. The parking areas that surround the Olympus Building on all four sides contain parking for 320 vehicles providing a ratio of 4.0 automobiles for 1,000 square feet

of office space. The Olympus Building consists of concrete tilt-up construction with a steel deck and joist roof structure supported on steel columns on the field and concrete slab on grade, and strip footing foundations. The exterior concrete tilt-up walls are treated with of text coat paint finish and the exterior includes architectural reveals and panels.

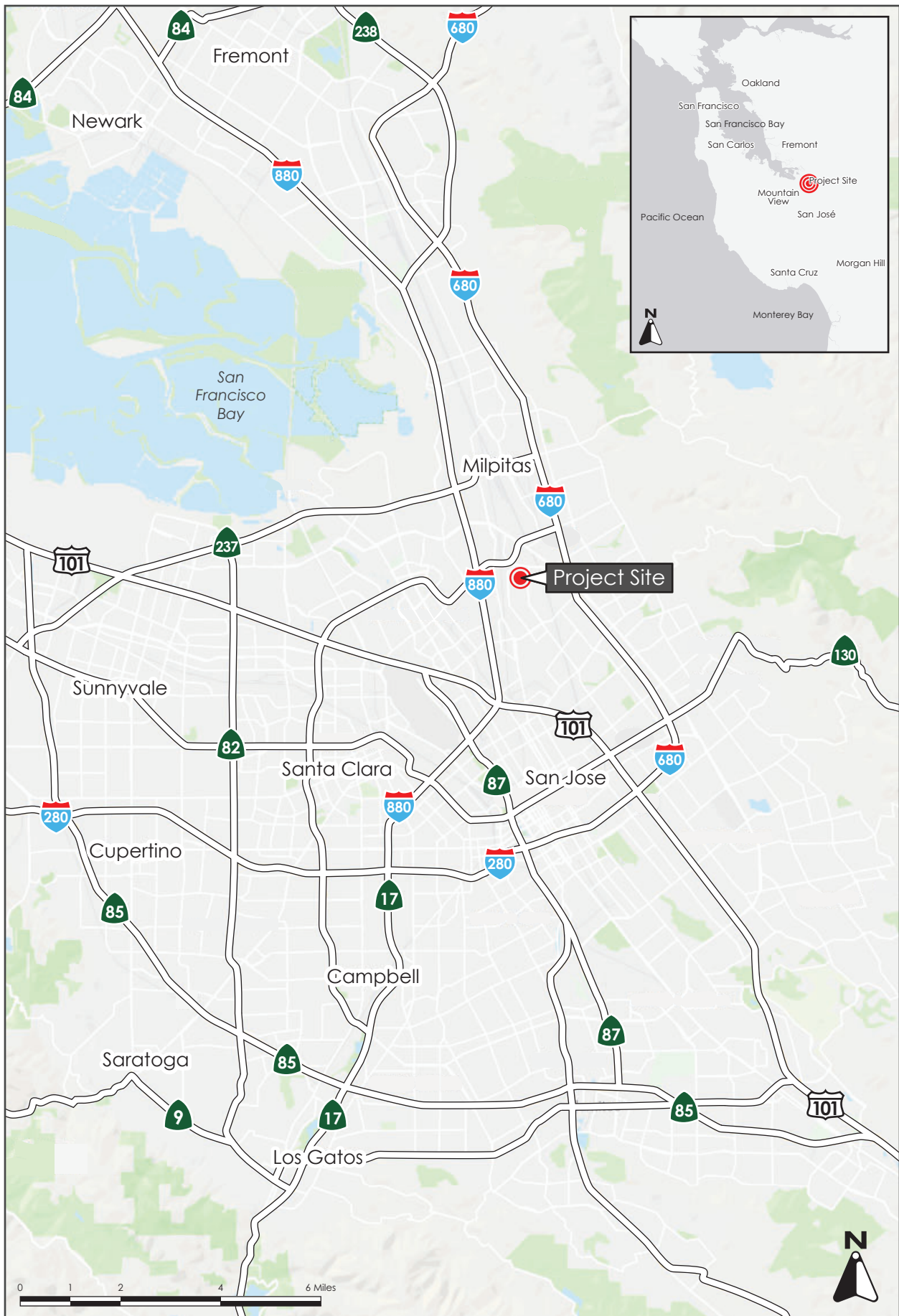
The existing building at 1849 Fortune Drive (Fortune Drive Building) encompasses approximately 55,000 square feet and is currently unoccupied. The Fortune Drive Building is located on a rectangular parcel identified as APN 244-17-09. For health safety reasons, this building is scheduled for demolition in early 2022 pursuant to a City of San Jose demolition permit.

Access to the existing Olympus Building site is from both Trade Zone boulevard on the north side of the parcel and Ringwood Avenue on the west side. Access to the existing Fortune Drive Building site is from Fortune Drive near the southwest and southeast parcel corners.

Native and non-native trees and ornamental landscaping are located along the frontage of the property, as well as the northern, western, and southern property boundaries. The project proposes to demolish the existing shrubs and groundcovers on the site, while protecting-in-place trees not in conflict with proposed utilities, grading, stormwater treatment facilities, and architectural improvements.

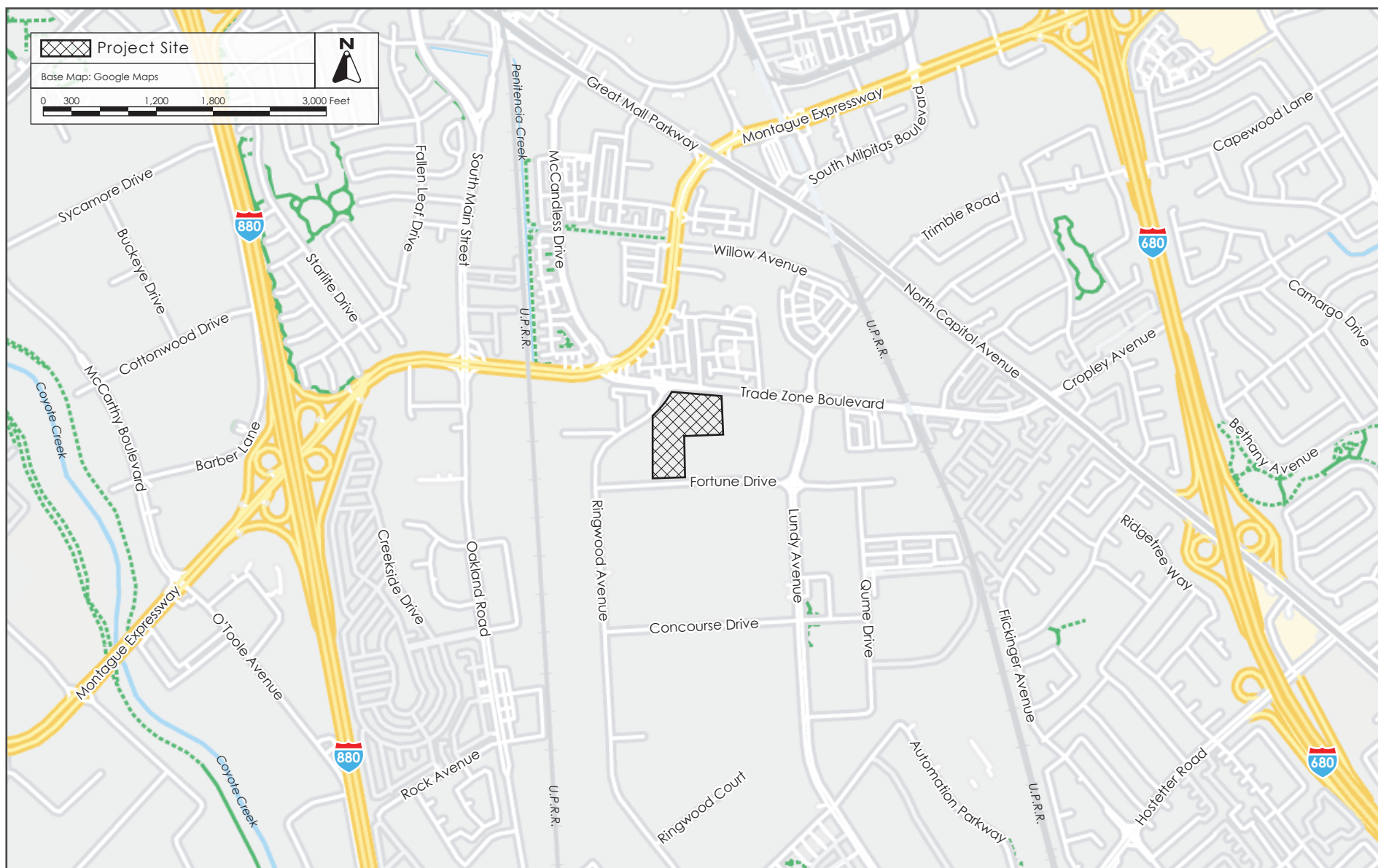
The two parcels are contiguous with the total site being generally L-shaped. The site is bound to the north by Trade Zone Boulevard, to the south by Fortune Drive, to the west by Ringwood Avenue and to the east by data center uses on parcels owned by STACK, and an existing office building owned by others.

The project area consists primarily of commercial and industrial land uses to the south, east, and west, and residential uses to the north across Trade Zone Boulevard. Buildings in the area to the south and west are similar in height and scale to the existing building on the project site. Buildings to the east are similar in height and scale to the proposed buildings. The Norman Y. Mineta San José International Airport is located approximately 3 miles southwest of the site.



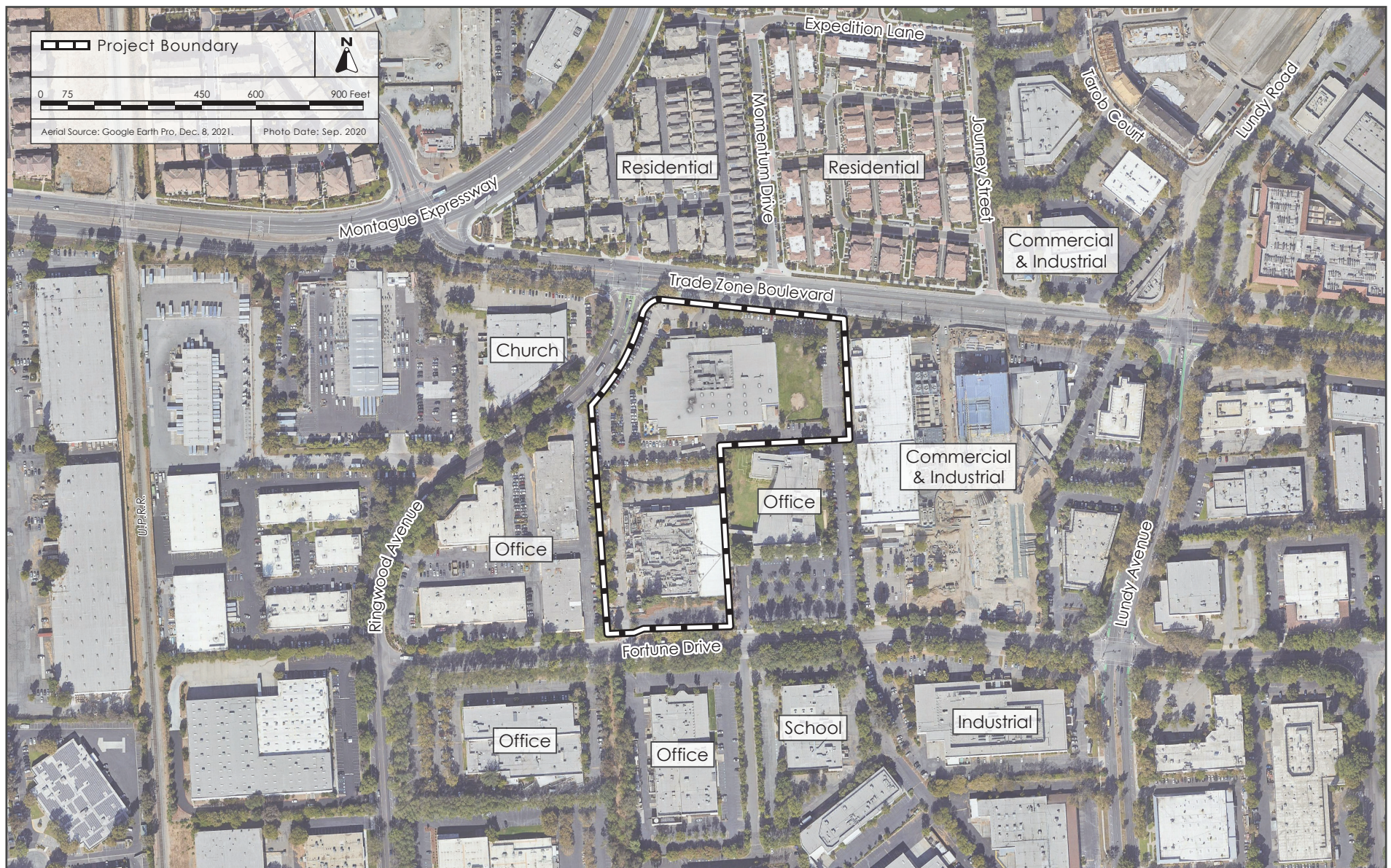
REGIONAL MAP

FIGURE 2.2-1



VICINITY MAP

FIGURE 2.2-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES

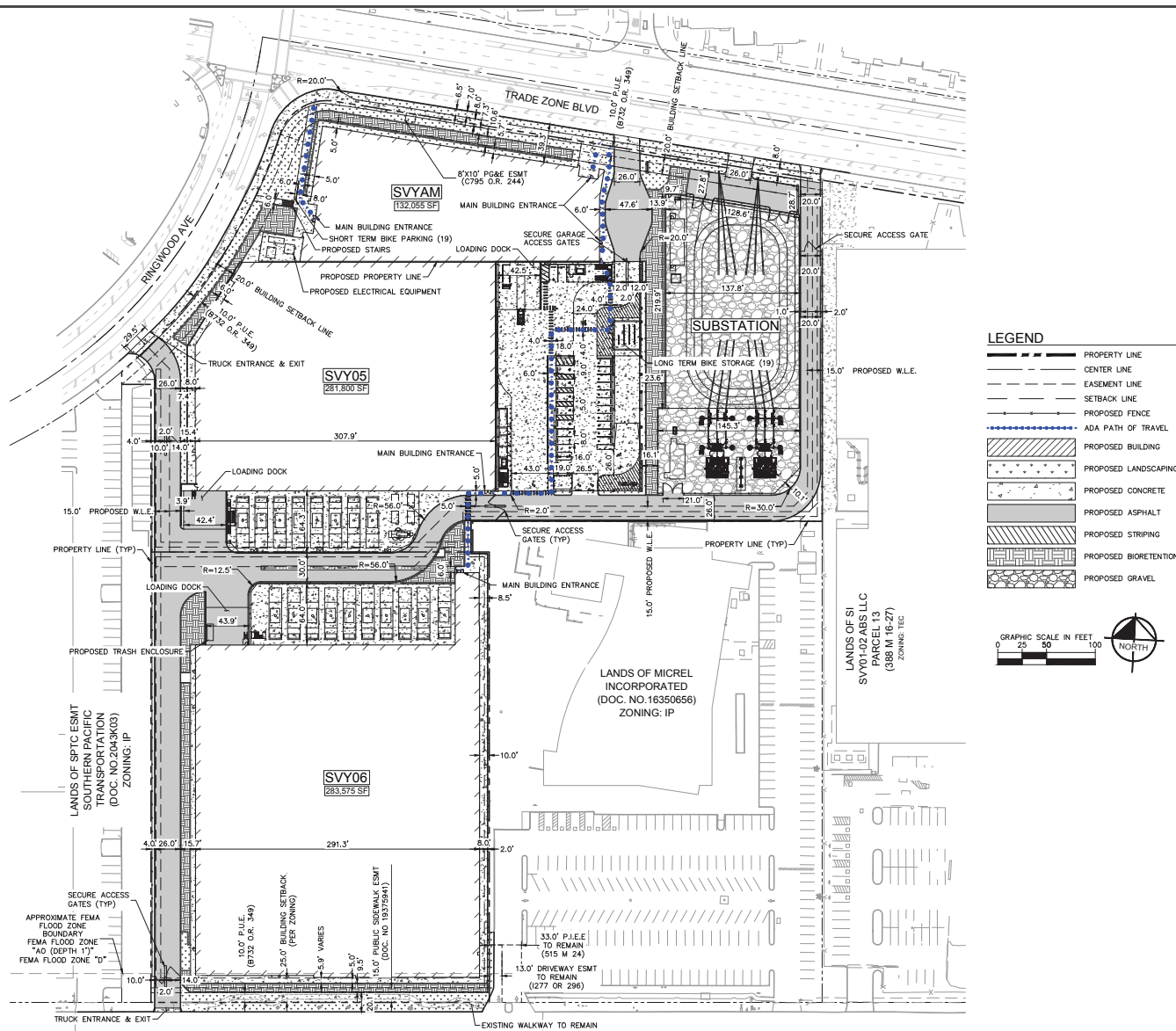
FIGURE 2.2-3

2.2.2 General Site Arrangement and Layout

The 38 emergency backup generators (36 for the data center suites and 2 house generators) will be located at the site in two generation yards adjacent to the data center building it serves. Figure 2.2-4 shows the General Arrangement and Site Layout of the SVYBGF within the SVYDC site. Data Center building SVY05 will be supported by 16 generators and Data Center Building SVY06 will be supported by 22 generators.

The generators will be installed in a stacked configuration. Each stacked pair of generators will be supported by a 12,000-gallon diesel fuel tank at the base of the stacking structure with a 500-gallon diesel fuel tank installed within the upper generator package. Each stacked pair of generators will be supported by a main urea tank installed below the lower generator. The generators packages and tanks will be enclosed in acoustical enclosures.

Each generation yard will be electrically connected to only the SVYDC building it serves through above ground conduit and wire to a location within the building that houses electrical distribution equipment.



GENERAL ARRANGEMENT AND SITE PLAN OF THE PROJECT

FIGURE 2.2-4

2.2.3 Generating Capacity

2.2.3.1 *Overview*

In order to determine the generating capacity of the SVYBGF, it is important to consider and incorporate the following critical and determinative facts.

1. The SVYBGF uses internal combustion engines and not turbines.
2. The SVYBGF internal combustion engines have a peak rating and a continuous rating.
3. The SVYBGF, through software technology and electronic devices, is controlled exclusively by the (SVYDC).
4. The SVYBGF has been designed with a block redundant system with (3) 5-to-make-4 redundancy for SVY05 and (3) 7-to-make-6 redundancy for SVY06. (1) block redundant system will serve one floor of the respective building they are associated with as described in Section 2.2.4.1.
5. There will be a total of 6 data center generators, which are redundant.
6. There will be a total of 2 house generators to provide electricity during emergencies to support portions of the admin building and features necessary for emergency response. None of these generators are redundant.
7. The SVYBGF will only be operated for maintenance, testing, and during emergency utility power outages.
8. The SVYBGF will only operate at a load equal to the demand of the SVYDC during an emergency utility outage.
9. The SVYBGF is only interconnected to the SVYDC and is not interconnected to the transmission or distribution grid.
10. The SVYBGF will not be operated to participate in load-shedding or Resource Adequacy demand response programs.

The SVYBGF will not be interconnected to the AMB and therefore, the potential electrical demand and consumption by the AMB is immaterial to the calculation methodology employed by the Commission to determine generating capacity of the SVYBGF.

2.2.3.2 *Generating Capacity and PUE*

Based on the methodology recently adopted by the Commission's Final Decisions Granting SPPEs for the last five Data Center Backup Generating Facilities, the maximum generating capacity of the SVYBGF is determined by the maximum of capacity of the load being served.

The design demand of the SVYDC, which the SVYBGF has been designed to reliably supply with redundant components during an emergency, is based on the maximum critical IT load and maximum mechanical cooling electrical load occurring during the hottest hour in the last 20 years. Such conditions are possible but extremely unlikely to ever occur. The SVYDC load on that worst-case day will be 90 MW.

The data center industry utilizes a factor called the Power Utilization Efficiency Factor (PUE) to estimate the efficiency of its data centers. The PUE is calculated by dividing the total demand of the data center infrastructure serving the critical IT spaces (including IT load) by the Critical IT load

itself. The theoretical peak PUE for the Worst Day Calculation would be 1.5 (Total 90 MW demand of Building on Worst Case Day divided by 60 MW Total Critical IT Load). The average annual PUE would be 1.3. (Total 78 MW demand of Building average conditions divided by 60 MW Design Critical IT Load). These PUE estimates are based on design assumptions and represent worst case.

2.2.4 Backup Electrical System Design

2.2.4.1 *Overview*

As discussed above there will be 9 data center suites in the SVYDC. Each data center suite will be designed to handle 8 (SVY05) to 6 (SVY06) MW (megawatts) of IT equipment load. The total maximum load of each data center suite will be 12 (SVY05) to 9 (SVY06) MW which includes the IT equipment load, mechanical equipment to cool the IT equipment load, lighting and data center monitoring equipment. The sum of the 9 data center suites will result in 60 MW of IT equipment load and 90 MW of total electrical load.

There are 9 data center suites fed from 36 electrical blocks. The redundant electrical system has been designed to replace one primary electrical block per 7-to-make-6 or 5-to-make-4 system. Each floor of the data centers is served by a dedicated redundant block. Each redundant system is designed for one primary block to be taken out of service at any moment in time (called “5-to-make-4” or “7-to-make-6”). During a complete utility outage all generators in a utility loop will start and carry load up to approximately 100% of their nameplate rating supporting the primary block they serve. If one of the generators fails or needs to be taken out of service during the emergency, the block redundant design allows the failing generator to be removed from operation automatically with the remaining primary block generators to continue to serve the lineups up to the maximum design load of the data center suites.

An electrical block consists of one 3MW generator, one 3,000kVA 20.78kV-480V medium voltage transformer, one 4,000 ampere 480-volt service switchboard and a 2,000-kW uninterruptible power supply (UPS) system.

The IT equipment will have dual cords that will take power from two different capacity groups. The dual cords are designed to evenly draw power from both cords when power is available on both cords, and automatically draw all of its power from a single cord when power becomes un-available on the other cord.

Each of the block redundant electrical systems will be designed to continue supporting all of the IT equipment load in the data center suites it serves any time one of the primary blocks is either scheduled to be out-of-service for maintenance or becomes un-available due to equipment failure. The dual corded IT equipment load gets power from two independent primary blocks. Multiple different cord configurations exist and are used to evenly balance the loads between these pairs of capacity groups.

The electrical load on each Data Hall is monitored by the building automation system. When the total demand of a Data Hall reaches 90 percent of the Data Halls capacity loading under normal operation, an alarm is activated in the engineering office. The operations staff will work with the tenants to ensure that the leased power levels are not exceeded.

2.2.4.2 *Utility-to-Generator Transfer Control Components and Logic*

During normal operation of the critical load, each primary block main switchboard (MSB) is fed from its utility source via the close-coupled medium voltage transformer. 20.78kV utility voltage is transformed down to 480V at the substation transformer. Each 4000A MSB receives power from its associated transformer and distributes power to (2) paralleled 1MW UPSs for a total of 2MW per primary block. The UPSs feed the 3000A UPS output bus on the MSB. The UPS output bus feeds (5)¹ 800A static transfer switches (STSs). Each STS feeds a single 600kVA power distribution unit (PDU). PDUs step down the supply voltage from 480V, 3 phase, 3 wire to 415/240V, 3 phase, 4 wire and are configured in a 5/4 distributed redundant scheme. PDUs distribute power to the data hall busway which distribute power to the IT racks.

The reserve block is configured like the primary blocks apart from the UPS output bus distribution. Instead of feeding STSs, the reserve block UPS output bus feeds a single common cable bus which taps off to each primary block static transfer switch distribution panel (STSDP). Each STSDP serves the alternate source on the STSs associated with its primary block. In the event of a primary block failure where the primary utility or a generator cannot supply backup power, the STSs sense of loss of power on the primary side and automatically transfer the critical load to the STSDP fed from the reserve block. A contact-based transfer inhibit system prevents other STSs from connecting to the reserve system in the event of multiple primary block failures within the same 7/6 system. When power is restored and stabilized at the primary MSB, the critical load is automatically transferred back to its primary block.

A 3MW standby generator is available per primary and reserve block. During the onset of a utility outage, the UPSs provide the ride-through power to the critical load while the generators start and provide backup power to the MSB via an open transition transfer sequence. Each MSB is powered from its dedicated generator until the utility is restored.

2.2.4.3 *Uninterruptible Power Supply (UPS) System Description*

The UPS System and Batteries are part of the SVYDC and are not part of the SVYBGF. However, the following description is provided to describe how the UPS system is intended to operate. The UPS will protect the load against surges, sags, under voltage, and voltage fluctuation. The UPS will have built-in protection against permanent damage to itself and the connected load for all predictable types of malfunctions. The load will be automatically transferred to the bypass line without interruption in the event of an internal UPS malfunction. The status of protective devices will be indicated on an LCD graphic display screen on the front of the UPS. The UPS will operate in the following modes:

- Normal - IGBT Rectifier converts AC input power to DC power for the inverter and for charging the batteries. The IGBT inverter supplies clean and stable AC power continuously to the critical load. The UPS Inverter output shall be synchronized with the bypass AC source when the bypass source is within the AC input voltage and frequency specifications.
- Loss of Main Power - When Main Power is lost, the battery option shall automatically back up the inverter so there is no interruption of AC power to the critical load.

- Return of Main Power or Generator Power - The system shall recover to the Normal Operating Mode and shall cause no disturbance to the critical load while simultaneously recharging the backup battery.
- Transfer to Bypass AC source - If the UPS becomes overloaded, or an internal fault is detected, the UPS controls shall automatically transfer the critical load from the inverter output to the bypass AC source without interruption. When the overload or internal warning condition is removed, after a preset “hold” period the UPS will automatically re-transfer the critical load from the bypass to the inverter output without interruption of power to the critical load.
- Maintenance Bypass - An optional manual make-before-break maintenance bypass panel may be provided to electrically isolate the UPS for maintenance or test without affecting load operation.

The UPS system batteries will have tab washers mounted on front terminal posts capable of accepting the wiring components of a battery monitoring system. Batteries will have an expected life of 5 to 7 years. Each battery bank will provide a minimum of five minutes of backup at 100 percent rated inverter load per 1000kW module, @ 77°F (25°C), 1.67 end volts per cell, beginning of life.

2.2.5 Generator System Description

Each of the 36 large generators for the data center suites will be Caterpillar Model 3516E standby emergency diesel fired generators equipped with Selective Catalytic Reduction (SCR) equipment and diesel particulate filters (DPF) to comply with Tier 4 emissions standards.

The maximum peak generating capacity of each generator is 3 MW for standby applications (short duration operation). Under normal operation, due to the block redundant configuration, the maximum load on each generator is designed to be less than 100 percent of the peak capacity.

Each individual generator will be provided with its own package system. Within that package, the prime mover and alternator will be automatically turned on and off by a utility-generator PLC transfer controller located in the 480-volt main switchboard located within the SVYDC. Each generator will be controlled by a separate, independent transfer controller. The generator will be turned on if the electrical utility power becomes unavailable and will be turned off after utility power has been restored and the transfer controller has returned the utility to the active source of power serving the computer and mechanical loads within the SVYDC.

Each stacked pair of generators will have an integrated dedicated base fuel tank and urea tank within the generator enclosure. The upper generator will have a smaller day fuel tank. The upper generators will be supported by a structural steel platform and the lower generators will be supported by concrete pads. The generators enclosures are approximately 13 feet wide, 53 feet long and 29 feet high as shown on Figure 2.2-5 and Figure 2.2-6. Each generator will have a stack height of approximately 57.5 feet above grade. The generators at both levels will have approximately 6’-0” clear between adjacent generators.

2.2.6 Fuel System

The backup generators will use ultra-low sulfur diesel as fuel (<15 parts per million sulfur by weight). Approximately 5,200 gallons of fuel are required for 24-hour operation of each generator. The generators would have a combined diesel fuel storage capacity of approximately 237,500 gallons, which is sufficient to provide more than 24 hours of emergency generation at full electrical worst-case demand of the SVYDC.

2.2.7 Cooling System

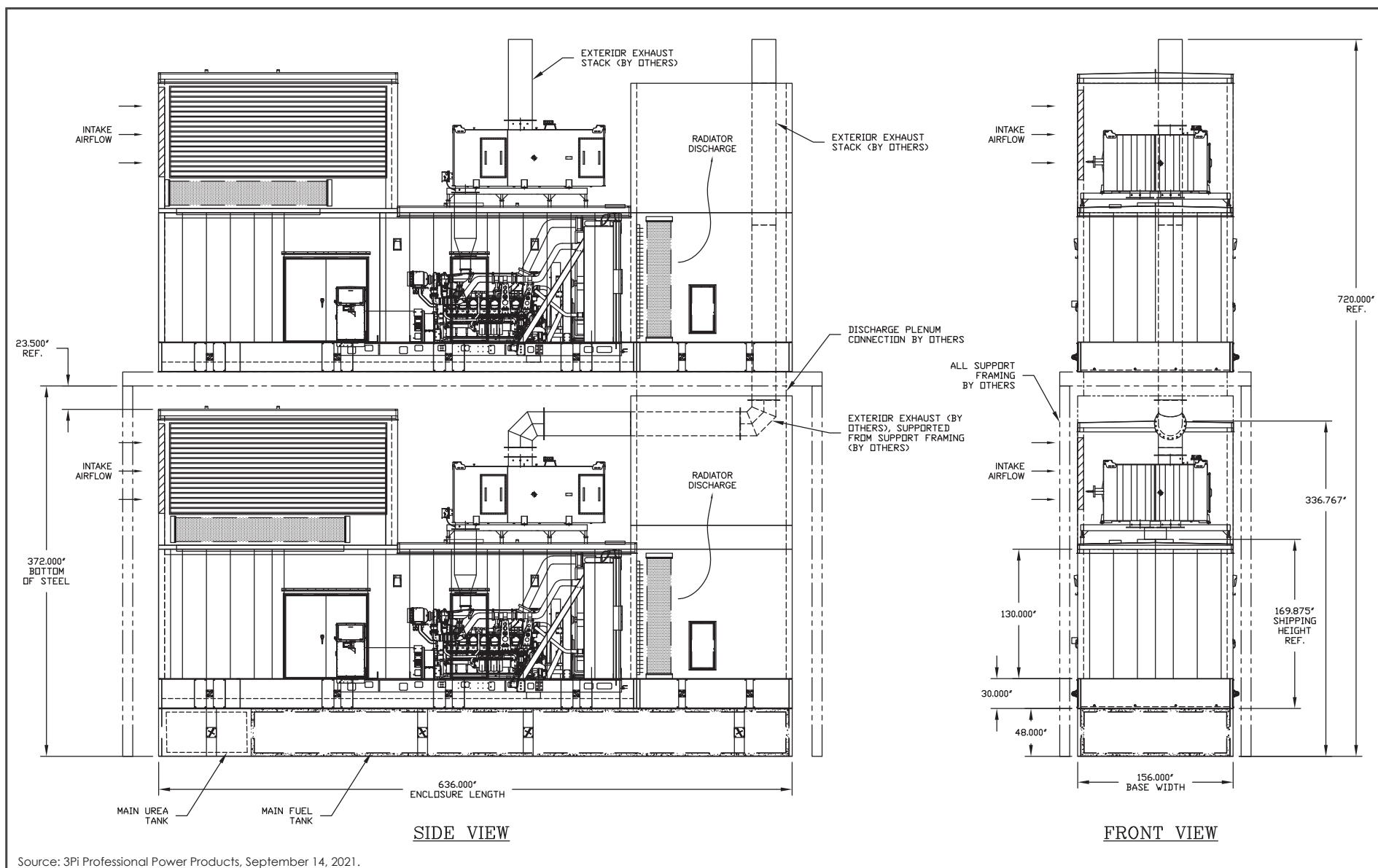
Each generator will be air cooled independently as part of its integrated package and therefore there is no common cooling system for the SVYBGF.

2.2.8 Water Supply and Use

The SVYBGF will not require any consumption of water.

2.2.9 Waste Management

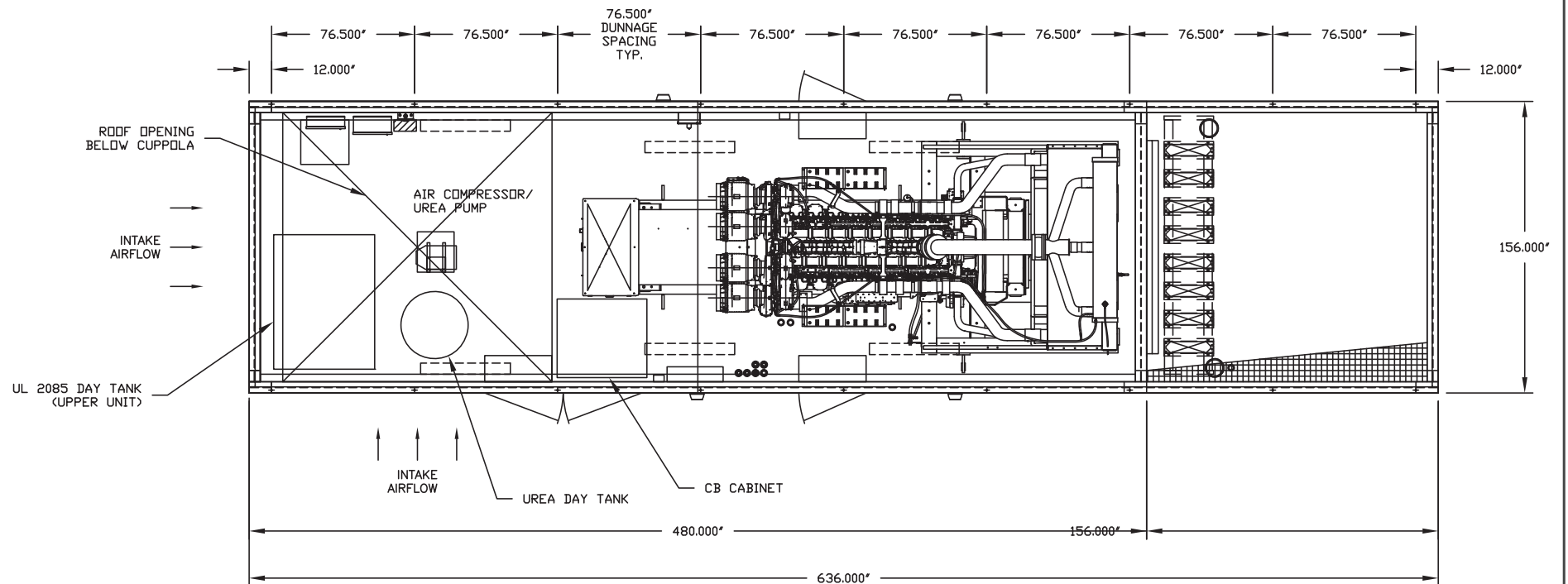
The SVYBGF will not create any waste materials other than minor amounts of solid waste created during construction and maintenance activities.



Source: 3PI Professional Power Products, September 14, 2021.

GENERATOR ENCLOSURE - SIDE AND FRONT VIEW

FIGURE 2.2-5



Source: 3Pi Professional Power Products, September 14, 2021.

GENERATOR ENCLOSURE - TOP VIEW

FIGURE 2.2-6

2.2.10 Hazardous Materials Management

The SVYBGF will prepare a Spill Prevention, Control and Countermeasure Plan (SPCC) to address the storage, use and delivery of diesel fuel for the generators.

Each generator unit and its integrated fuel tanks have been designed with double walls. The interstitial space between the walls of each tank is continuously monitored electronically for the existence of liquids. This monitoring system is electronically linked to an alarm system in the engineering office that alerts personnel if a leak is detected. Additionally, the standby generator units are housed within a self-sheltering enclosure that prevents the intrusion of storm water.

Diesel fuel will be delivered on an as-needed basis in a compartmentalized tanker truck with maximum capacity of 8,500 gallons. The tanker truck parks on the access road to the south of the generator yard and extends the fuel fill hose through one of multiple hinged openings in the precast screen wall surrounding the generator equipment yard.

There are no loading/unloading racks or containment for re-fueling events; however, a spill catch basin is located at each fill port for the generators. To prevent a release from entering the storm drain system, storm drains will be temporarily blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices will be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events.

To further minimize the potential for diesel fuel to come into contact with stormwater, to the extent feasible, fueling operations will be scheduled at times when storm events are improbable. Warning signs and/or wheel chocks will be used in the loading and/or unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed transfer lines. An emergency pump shut-off will be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures will be posted at the loading and unloading areas.

Diesel Exhaust Fluid (DEF) which contains urea is used as part of the diesel engine combustion process to meet the emissions requirements. The DEF will be stored in one approximately 400-gallon tank located within the enclosure of the lower generator in each stacked pair. These tanks can be filled in place from other drums, totes, or bulk tanker truck at the tank top.

2.2.11 SVYBGF Project Construction

Construction activities for the Trade Zone Park are expected to begin in November 2022 and are discussed in more detail in Section 2.3.4 as part of the overall construction activities at the site. Since the site preparation activities for the SVYDC will include the ground preparation and grading of the entire Trade Zone Park site, the only construction activities for the SVYBGF would involve construction of the generation yards at each SVYDC Building. This will include construction of concrete foundations and structural steel framing, fencing, installation of underground and above ground conduit and electrical cabling to interconnect to the SVYDC Building's switchgear, and placement and securing the generators.

The generators themselves will be assembled offsite and delivered to site by truck. Each generator will be placed within its respective generation yard by a crane.

Construction of the generation yards and placement of the generators is expected to take six months and is included in the overall construction schedule for the SVYDC described in section 2.3.4. Construction personnel for the SVYBGF are estimated to range from 10 to 15 workers including one crane operator.

2.2.12 SVYBGF Facility Operation

The backup generators will be run for short periods for testing and maintenance purposes and otherwise will not operate unless there is a disturbance or interruption of the utility supply. BAAQMD's Authority to Construct and the California Air Resources Board's Airborne Toxic Control Measures (ATCM) limits each engine to no more than 50 hours annually for reliability purposes (i.e., testing and maintenance). Please see Section 4.3 for a description of the testing and maintenance frequencies and loading proposed for the SVYBGF.

2.3 TRADE ZONE PARK FACILITIES DESCRIPTION

2.3.1 Overview

As described in Section 1.2, the Commission SPPE's determination is limited to solely to the SVYBGF. However, in order for the Commission to inform the decision-makers of the potential environmental effects of the SVYBGF, in combination with the SVYDC, the AMB and related facilities, STACK has included a complete description of the Trade Zone Park. A complete description of the SVYBGF is included in Section 2.1 and 2.2. The balance of the Trade Zone Park improvements is provided below.

2.3.1.1 *Site*

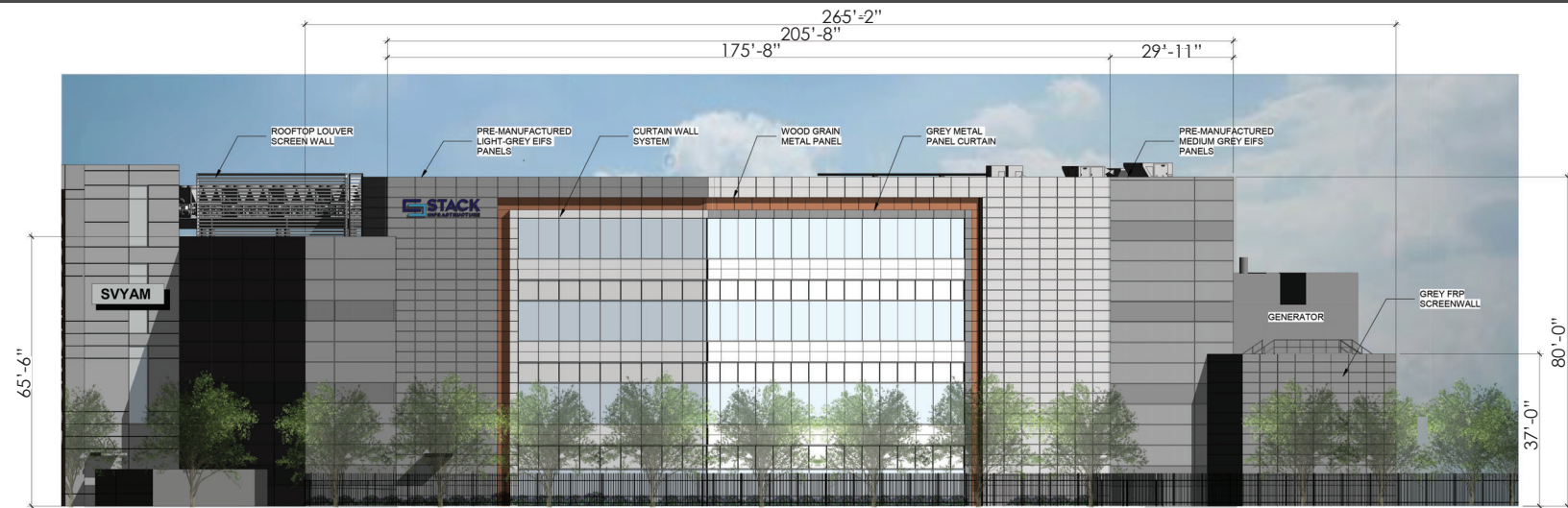
The proposed Trade Zone Park site consists of two parcels encompassing approximately 9.8 acres and is located at 2400 Ringwood Avenue and 1849 Fortune Drive in San Jose, California; Assessor Parcel Numbers 244-17-014 and 244-17-009, respectively. The property is zoned Industrial and is proposed to be modified through the City of San Jose Zoning Application Process to Planned Development (PD).

2.3.1.2 *SVYDC Buildings*

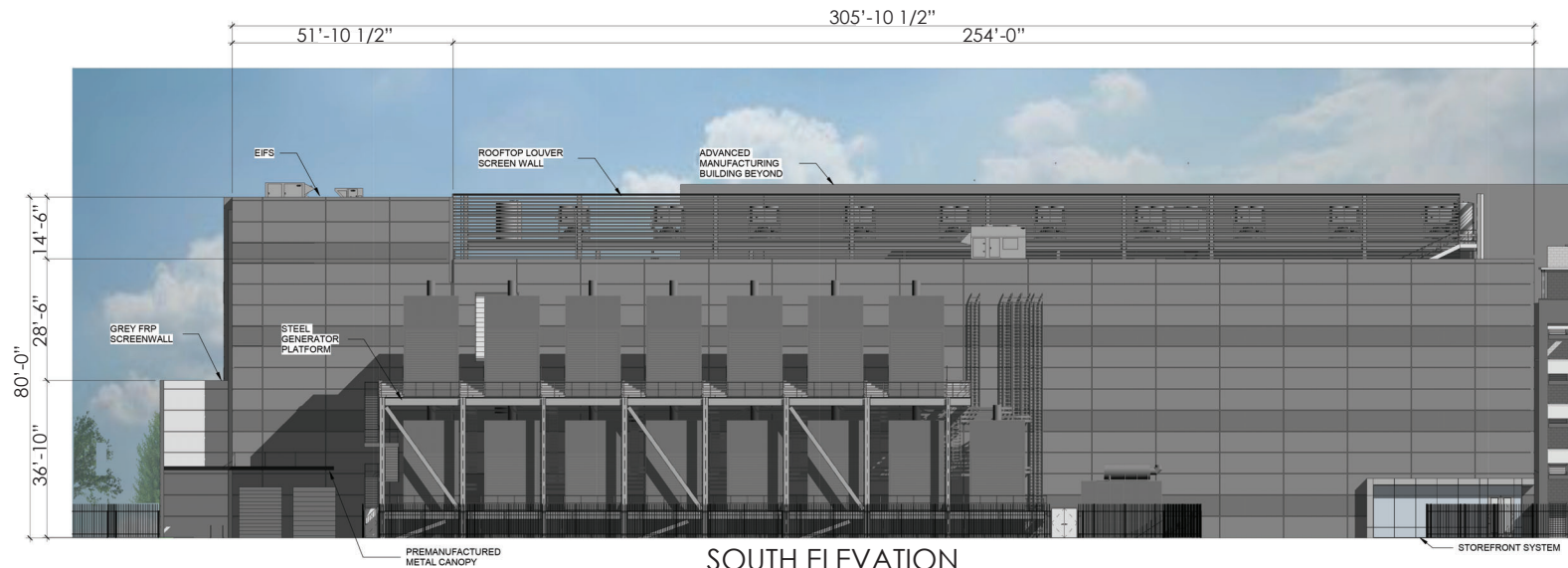
The SVYDC project will consist of construction of two three-story buildings encompassing approximately 526,800 square feet. Building SVY05 will be approximately 220,300 square feet and Building SVY06 will be approximately 306,500 square feet. The SVYDC will also include a utility substation to be owned and operated by PG&E, two generator equipment yards (the SVYBGF), surface parking, landscaping and associated pipeline for water and wastewater. The data center buildings will house computer servers for private clients in a secure and environmentally controlled structure and would be designed to provide 60 megawatts (MW) of power to information technology (Critical IT) equipment. A General Arrangement and Site Layout of the proposed development is shown on Figure 2.2-4. Figure 2.2-7 shows SVY05 Building Elevations and Figure 2.2-8 and Figure 2.2-9 show SVY06 Building Elevations.

The data center buildings will consist of two main components; the data center suites that will house client servers, and the administrative facilities including support facilities such as the building lobby, restrooms, conference rooms, landlord office space, customer office space, loading dock and storage. The data center suite components will consist of three levels of data center space. Each level of SVY05 will contain one data center suite and corresponding electrical/UPS rooms. Each level of SVY06 will contain two data center suites and corresponding electrical/UPS rooms. The data center is being designed with an average rack power rating of 8 kW.

The data center buildings are composed of admin, data hall, and loading dock masses. The admin portion is four level and clad with curtain wall and metal panel systems. The data hall portion is clad primarily with pre-manufactured stucco panels. Additionally, the north data center building façade includes a screen extending from 30 feet above grade to 76 feet above grade to shield the view of cable trays running up the façade. The top of the parapet at the data hall is at 67-1/2 feet. The top of parapet at the admin portions is 80 feet. A rooftop dunnage platform is provided at 69 feet for mechanical equipment. A sound attenuating screen topping off at 78 feet fully encloses the platform. Floor plans of each level of SVY05 are shown in Figure 2.2-10, Figure 2.2-11 and Figure 2.2-12. The roof level plan for SVY05 is shown on Figure 2.2-13. Floor plans of each level of SVY06 are shown in Figure 2.2-14, Figure 2.2-15, and 2.2-16. The roof plan for SVY06 is shown in Figure 2.2-17.



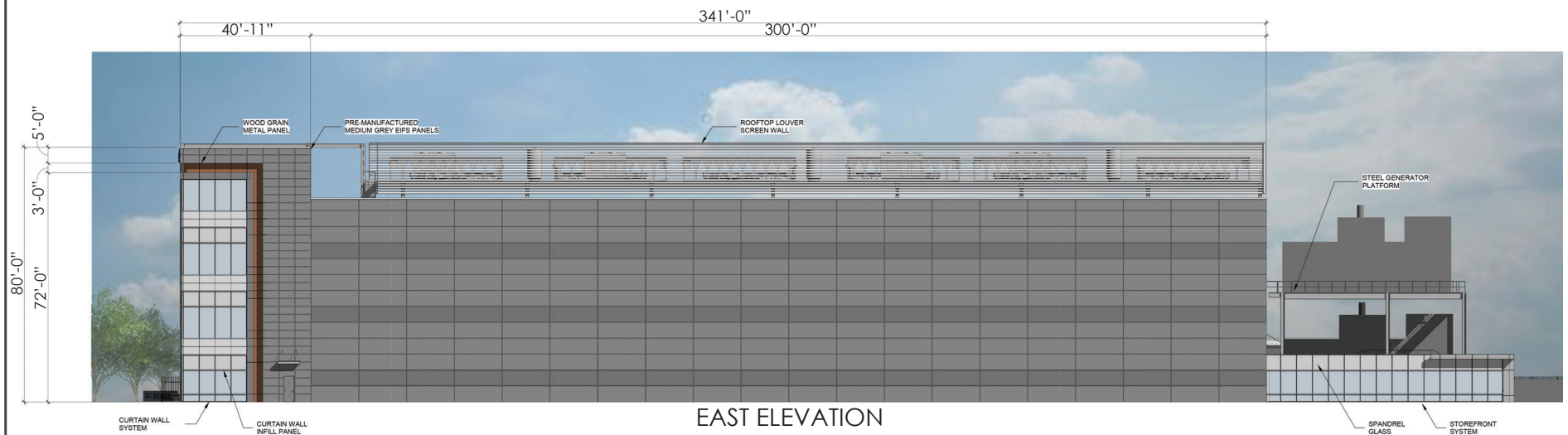
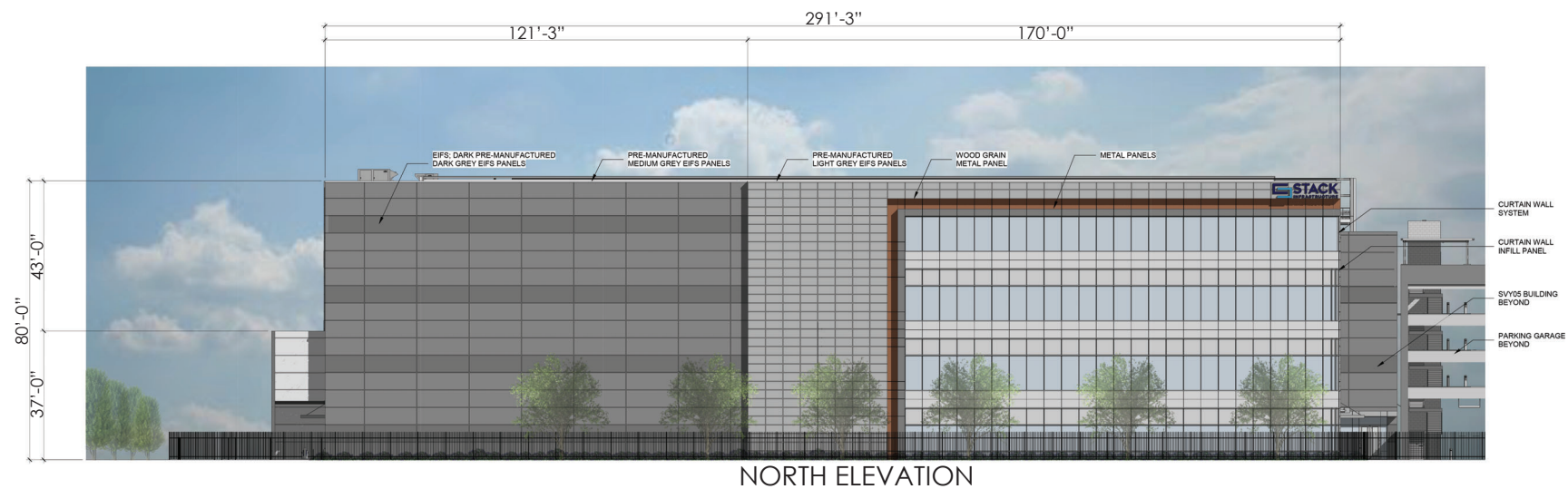
NORTH ELEVATION



SOUTH ELEVATION

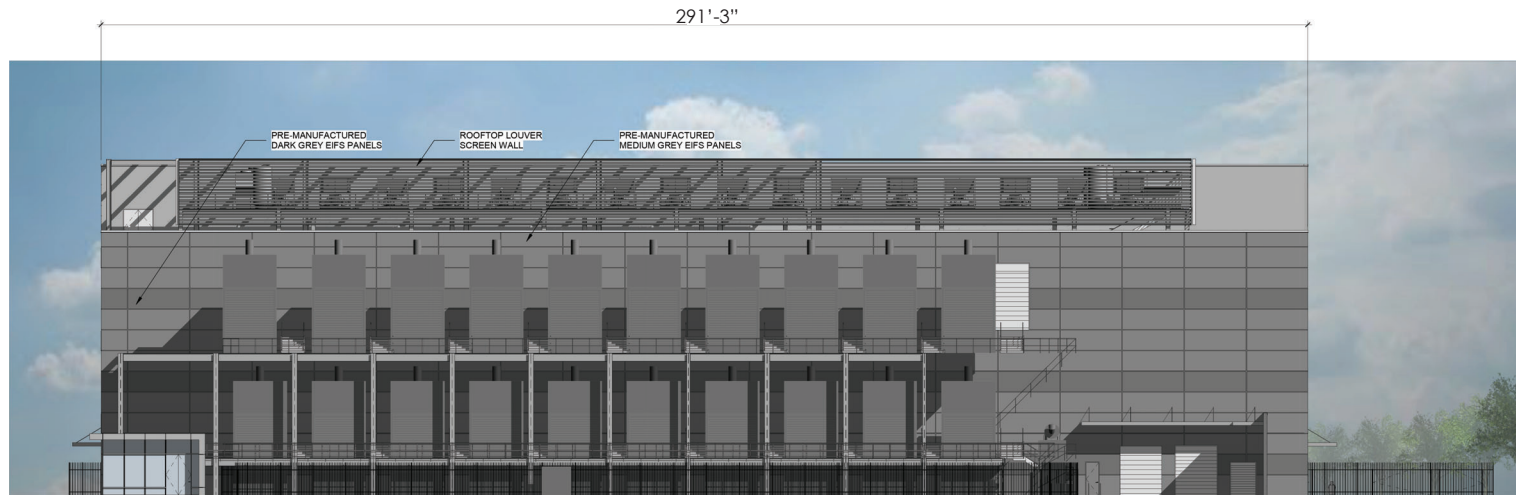
SVY05 BUILDING ELEVATIONS (NORTH AND SOUTH)

FIGURE 2.2-7

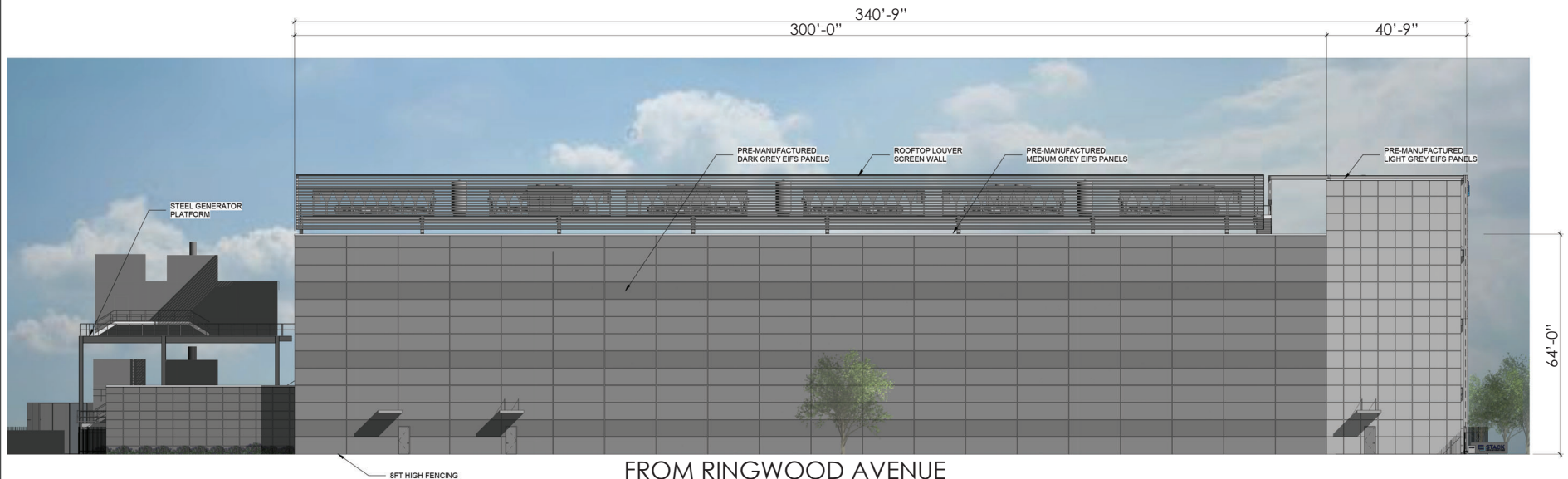


SVY06 BUILDING ELEVATIONS (NORTH AND EAST)

FIGURE 2.2-8



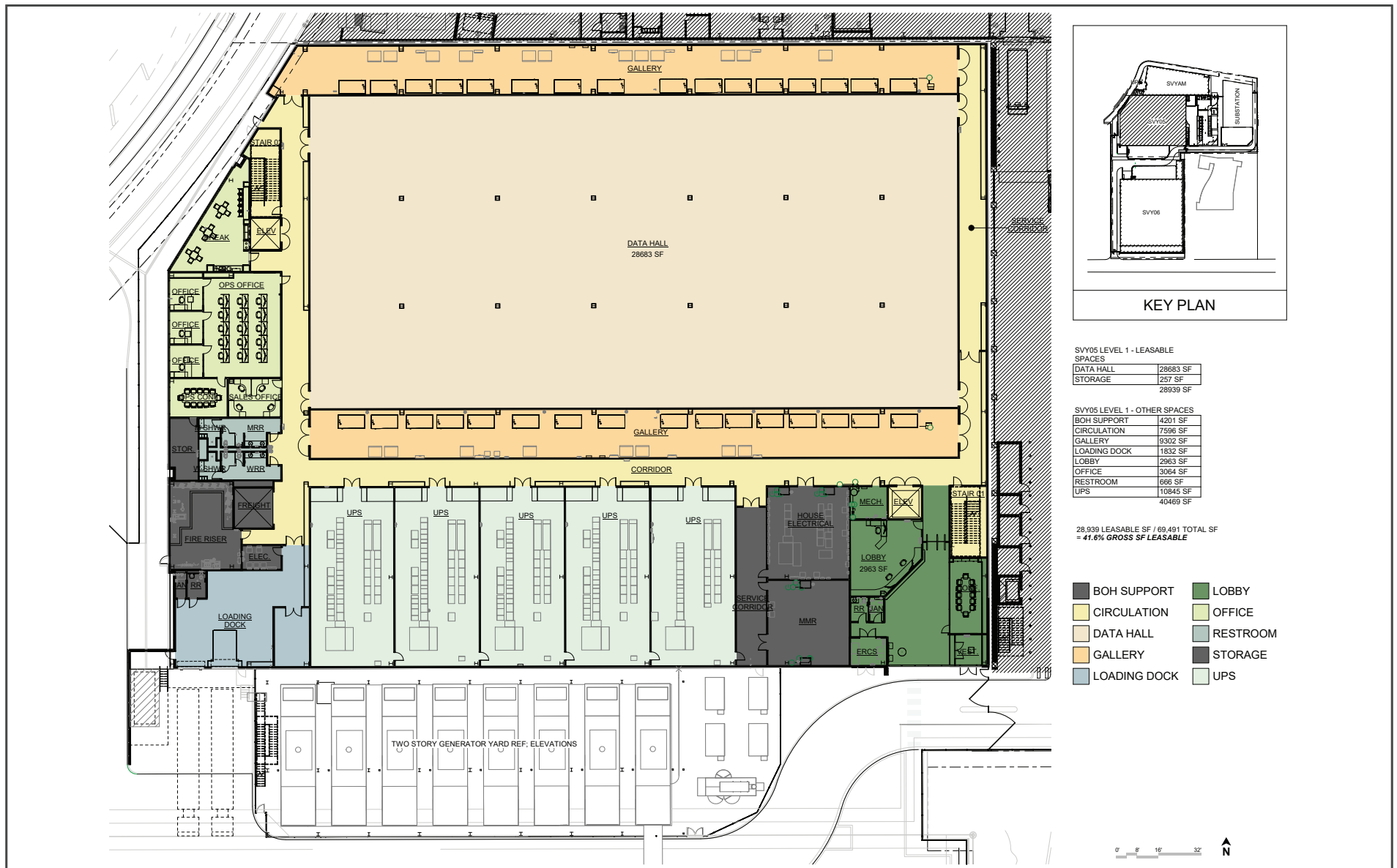
FROM THE GENERATOR YARD



FROM RINGWOOD AVENUE

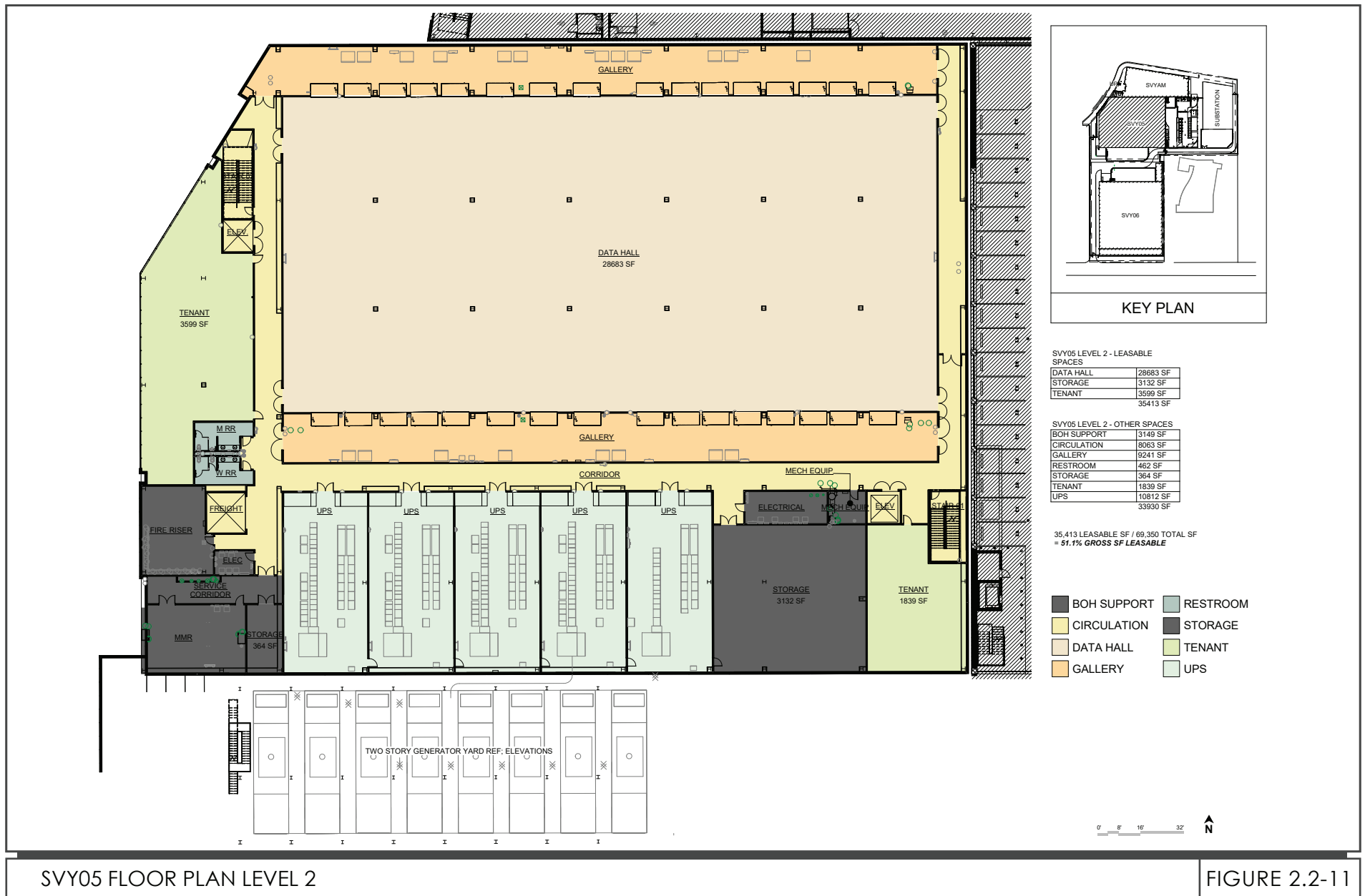
SVY06 BUILDING ELEVATIONS (FROM THE GENERATOR YARD AND RINGWOOD AVENUE)

FIGURE 2.2-9



SVY05 FLOOR PLAN LEVEL 1

FIGURE 2.2-10



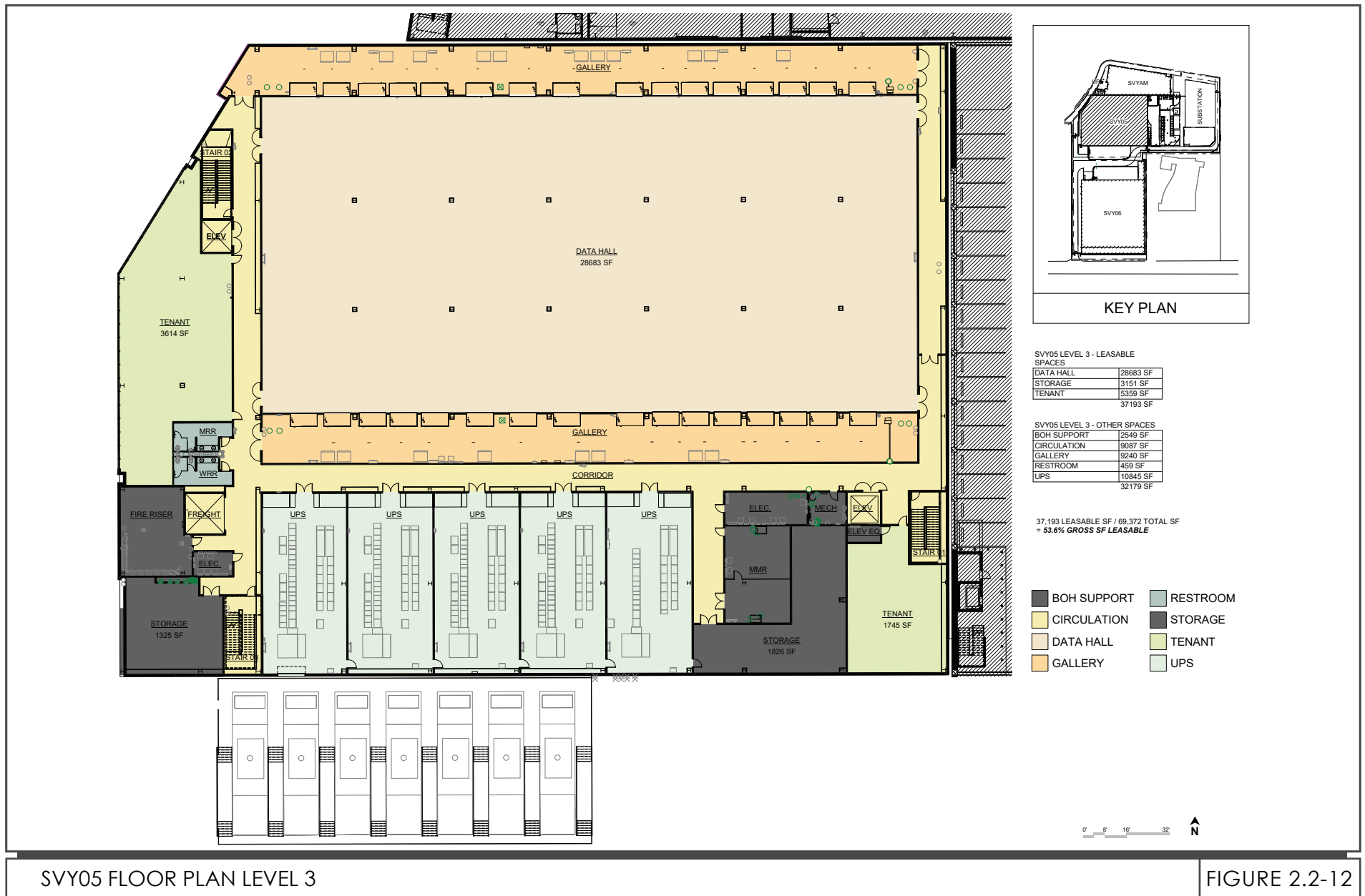
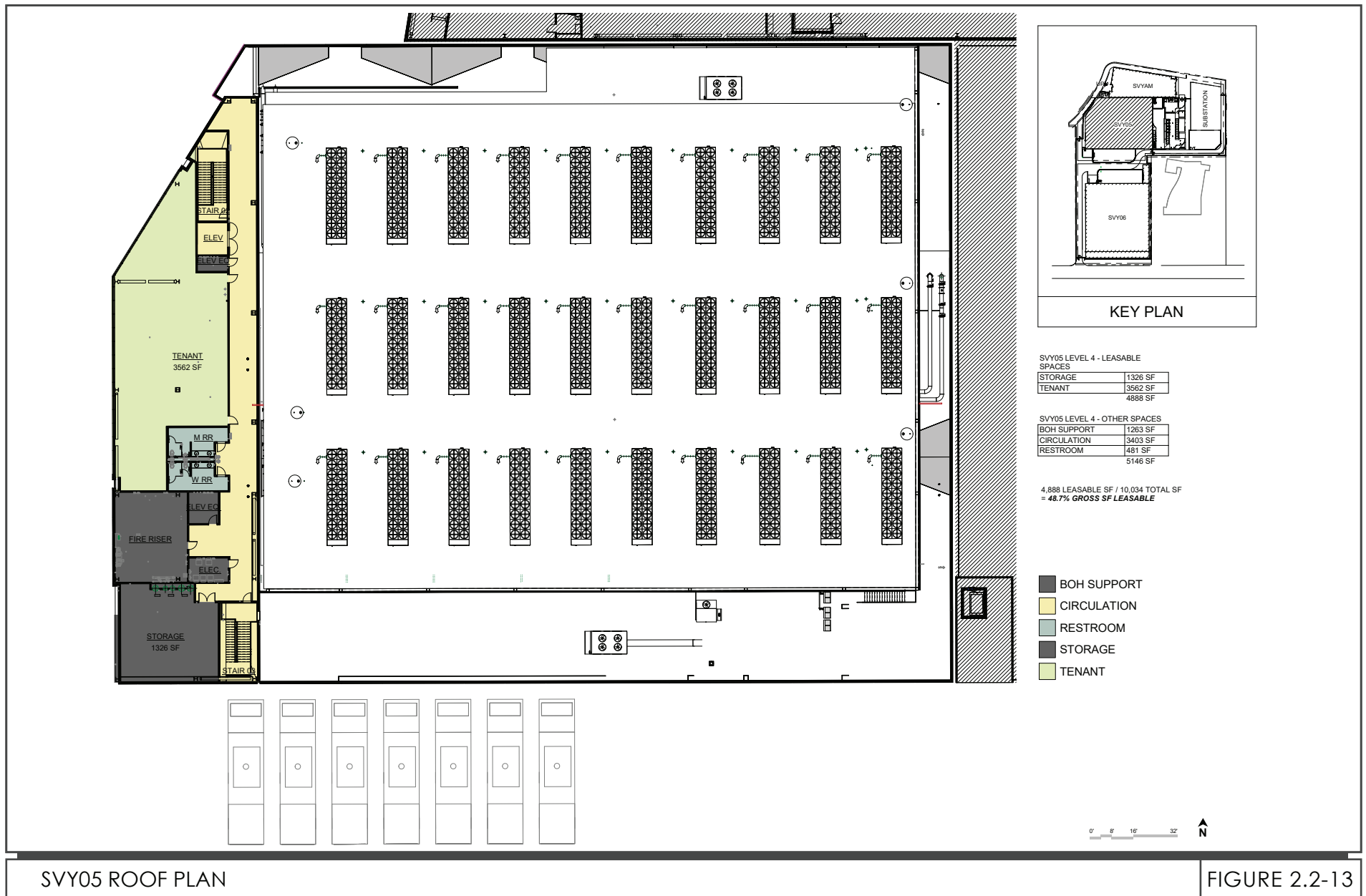
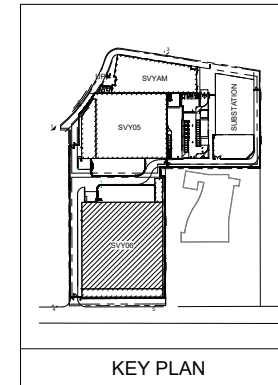
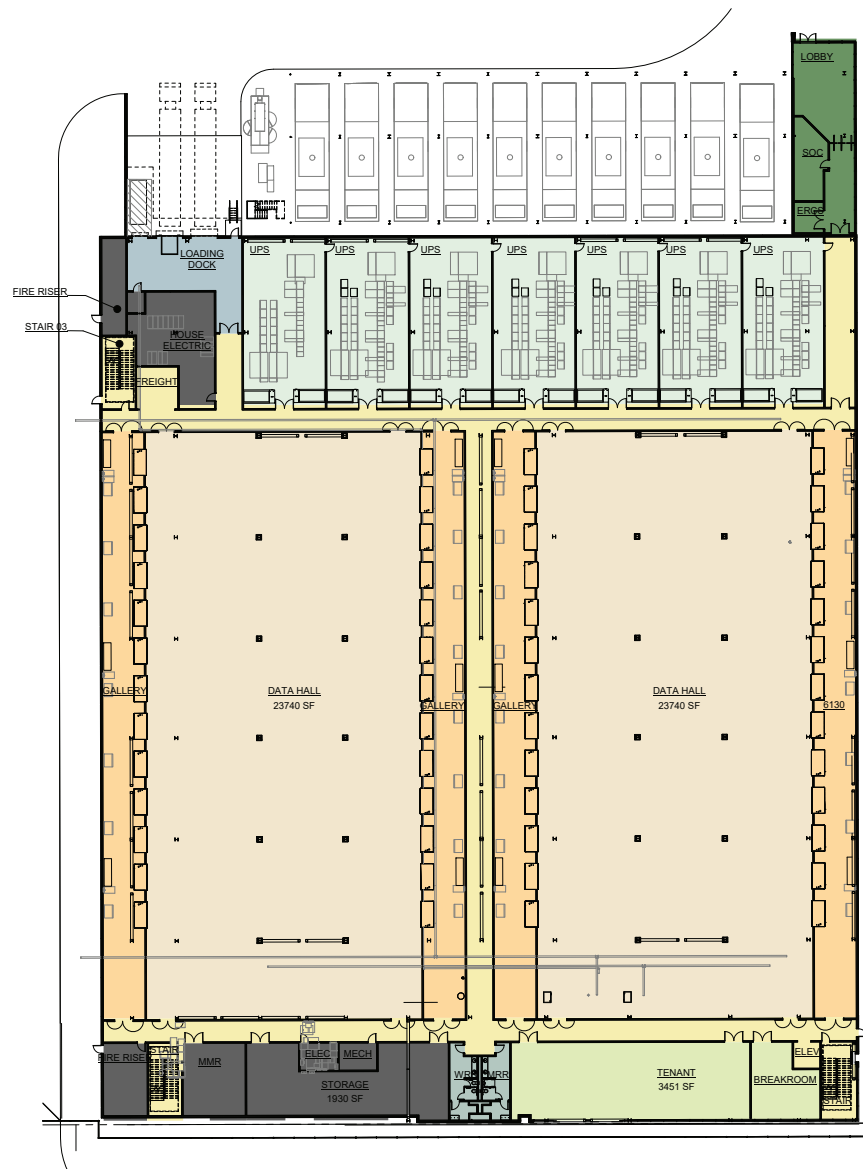


FIGURE 2.2-12





SVY06 LEVEL 1 - LEASABLE SPACES

DATA HALL	47481 SF
STORAGE	1930 SF
TENANT	3451 SF
	52862 SF

SVY06 LEVEL 1 - OTHER SPACES

BOH SUPPORT	3080 SF
CIRCULATION	10714 SF
GALLERY	15875 SF
LOADING DOCK	1096 SF
LOBBY	1874 SF
RESTROOM	661 SF
UPS	14466 SF
	47766 SF

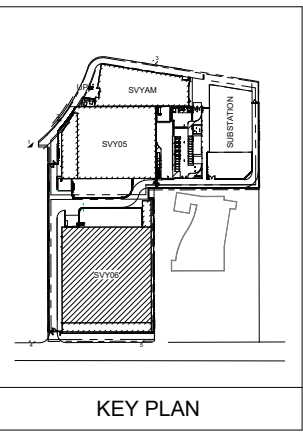
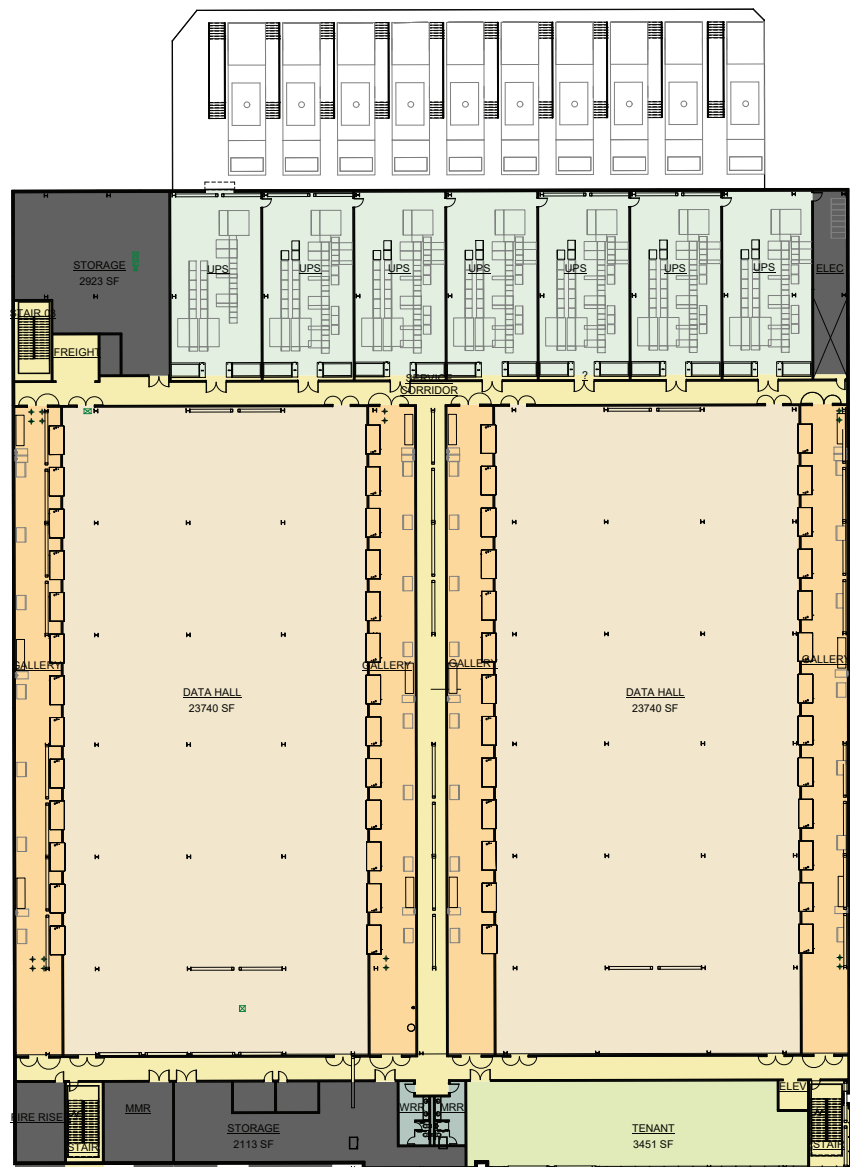
52,862 LEASABLE SF / 100,628 TOTAL SF = 52.5% GROSS SF LEASABLE

- BOH SUPPORT
- CIRCULATION
- DATA HALL
- GALLERY
- LOADING DOCK
- LOBBY
- RESTROOM
- STORAGE
- TENANT
- UPS



SVY06 FLOOR PLAN LEVEL 1

FIGURE 2.2-14



SVY06 LEVEL 3 - LEASABLE SPACES

DATA HALL	47481 SF
STORAGE	5036 SF
TENANT	3451 SF
	55969 SF

SVY06 LEVEL 3 - OTHER SPACES

BOH SUPPORT	1558 SF
CIRCULATION	9592 SF
GALLERY	15890 SF
RESTROOM	484 SF
STORAGE	793 SF
UPS	14403 SF
	42720 SF

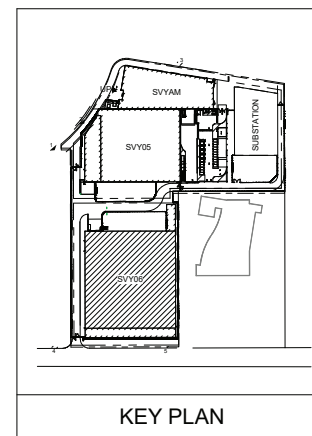
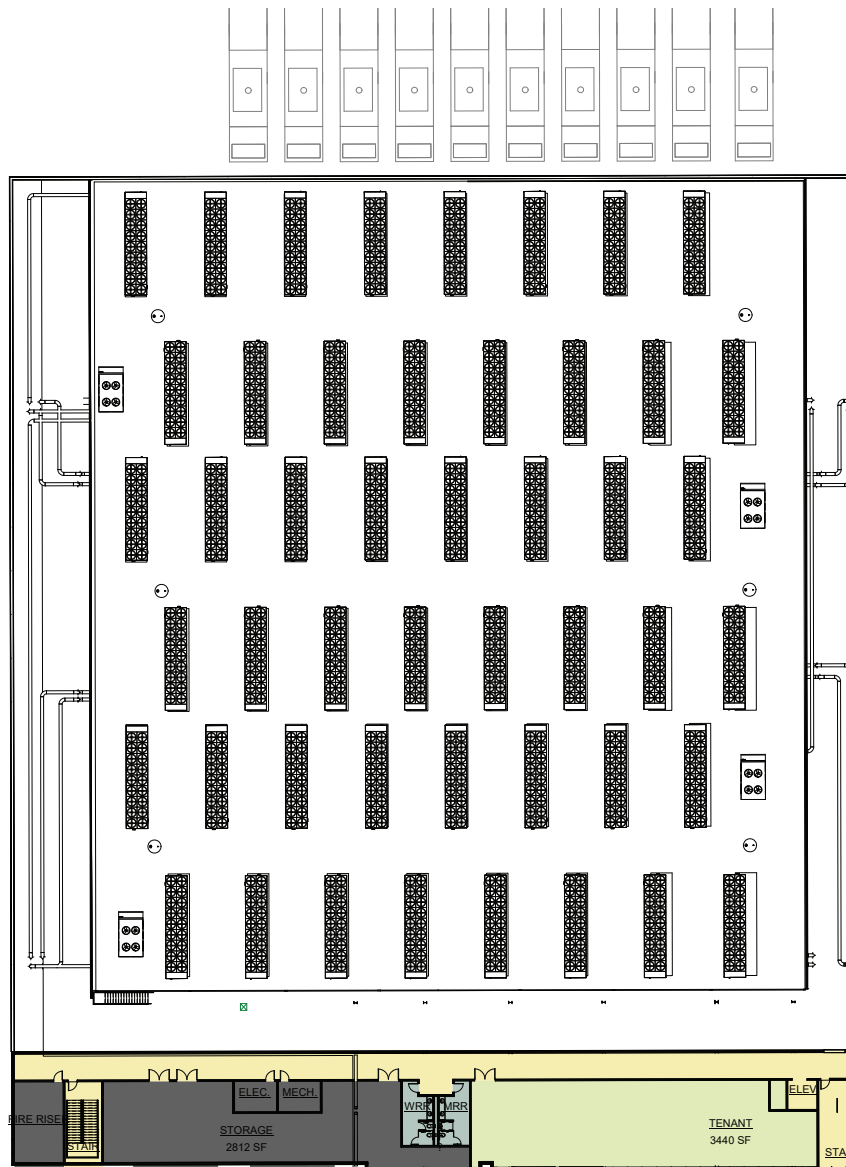
55,969 LEASABLE SF / 96,689 TOTAL SF
= **56.7% GROSS SF LEASABLE**

- BOH SUPPORT RESTROOM
- CIRCULATION STORAGE
- DATA HALL TENANT
- GALLERY UPS



SVY06 FLOOR PLAN LEVEL 3

FIGURE 2.2-16



SVY06 LEVEL 4 - LEASABLE SPACES

STORAGE	2812 SF
TENANT	3440 SF
	6252 SF

SVY06 LEVEL 4 - OTHER SPACES

BOH SUPPORT	843 SF
CIRCULATION	3864 SF
RESTROOM	480 SF
	5186 SF

6,252 LEASABLE SF / 11,438 TOTAL SF
= 54.7% GROSS SF LEASABLE

- BOH SUPPORT
- CIRCULATION
- RESTROOM
- STORAGE
- TENANT

SVY06 ROOF PLAN

FIGURE 2.2-17

2.3.1.3 Substation and Transmission Line

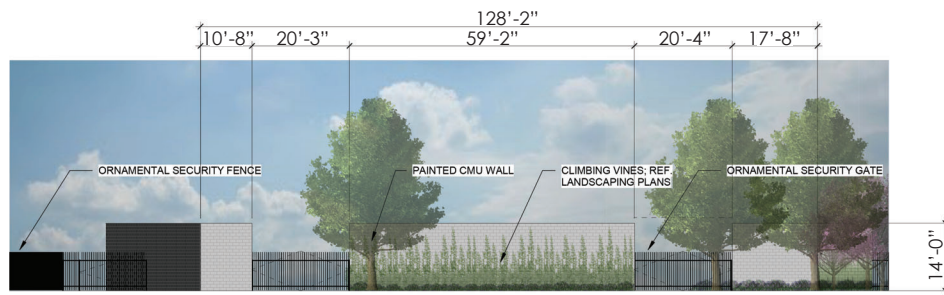
The project would construct a new 100 MVA (mega volt-ampere) electrical substation along the eastern boundary of the site. The two-bay substation (two 100 MVA 115 kV-34.5kV step-down transformers and primary distribution switchgear) will be designed to allow one of the two transformers to be taken out of service, effectively providing 100 MVA of total power (a 2-to-make-1 design). The Pacific Gas & Electric Switchyard will be built in a Breaker and a Half (BAAH) configuration. This will consist of 2 incoming 115kV circuits entering a BAAH configuration consisting of 6 115kV circuit breakers, steel structures, 115kV switches, metering devices, and a non-occupied control enclosure.

The substation will have an all-weather asphalt surface underlain by an aggregate base. A concrete masonry unit screen wall, 13 feet in height, would surround portions of the substation with the remainder of the substation protected with an 8-foot height chain link fence. Figure 2.2-18 shows the proposed substation elevations. An oil containment pit surrounding each transformer will capture unintended oil leaks. Access to the substation will be from through the project site off Trade Zone Blvd.

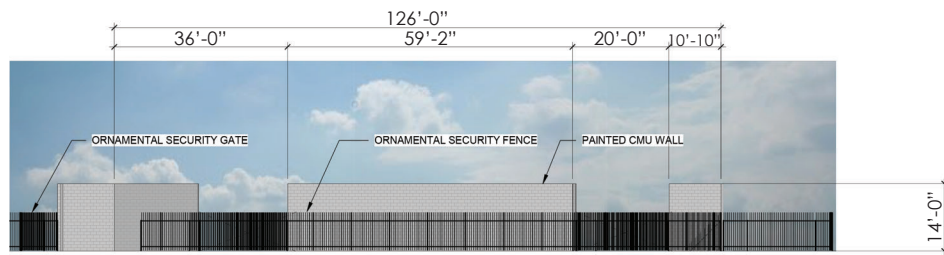
The substation will be capable of delivering electricity to the SVYDC and the AMB from a new PG&E circuit but will not allow any electricity generated from the SVYBGF to be delivered to the transmission grid. Availability of substation control systems will be ensured through a redundant DC battery backup system.

To serve the Trade Zone Project, PG&E will be constructing a “looped” transmission interconnection involving two offsite transmission line extensions as shown on Figure 2.2-19. The first extension would involve a loop line from the west that comprises a single circuit 115 kV OH (Overhead) Transmission line (T-Line) from an existing PG&E Newark-Milpitas #2 115 kV Line near existing Tower 009/149 which is located on the southwest side of the intersection of Trade Zone Boulevard and Montague Expressway. The route from Tower 09/149 to the site would be approximately 0.25 miles and would be supported on existing OH Transmission Towers and are located along the south side of Trade Zone Boulevard. It is possible that up to three of the existing seven OH Transmission Towers may need to be replaced.

The second loop would be a single circuit 115 kV UG (Underground) T-Line that would interconnect the existing PG&E Newark-Milpitas #2 115 kV Line near Tower 009/150 which is located on the southeast side of the intersection of Trade Zone Boulevard and Montague Expressway. The route from existing Tower 009/150 to the site would be approximately 0.25 miles and would be underground within the norther side of Trade Zone Boulevard right of way and then would cross from north to south to the site.



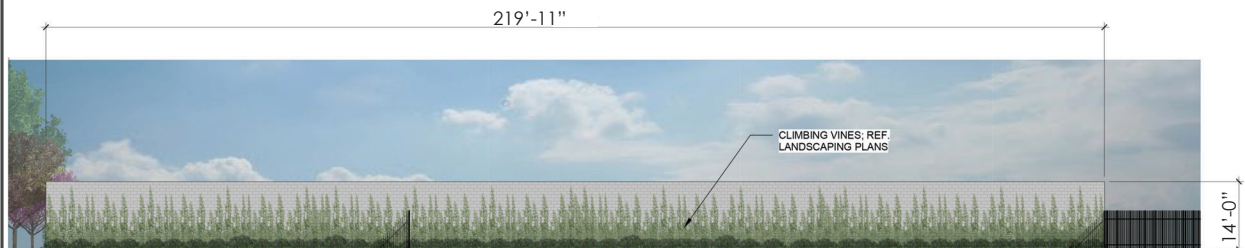
NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION



PROPOSED TRANSMISSION LINE ROUTE

FIGURE 2.2-19

2.3.1.3 *Advanced Manufacturing Building*

The Advanced Manufacturing building (AMB) will comprise a four-story building of approximately 135,000 square feet of light industrial and ancillary support uses and will be located in the northwest corner of the site. The AMB will be clad with curtain wall and metal panel systems. The height of the AMB will be approximately 83 feet to the top of parapet. Figure 2.2-20 shows the Advanced Manufacturing Building Elevations (North, West, and East). Figure 2.2-21 through Figure 2.2-24 show the floor plan for each level of the building.

2.3.2 Building Heights and Setbacks

The admin section of the data center buildings will be approximately 80 feet in height to the top of parapet and approximately 67 ½ feet for the remaining data center. The mechanical equipment screen on the roof of the building will extend to 78 feet in height from the top of the slab above the data halls.

The buildings will be located as shown on Figure 2.2-4.

The AMB will be located a minimum of 25 feet from the property line along Trade Zone Boulevard and a minimum of 20 feet from the property line along Ringwood Avenue.

Building SVY05 will be located a minimum of 20 feet from the property line along Ringwood Avenue immediately south of the AMB. Building SVY05 will be immediately adjacent and to the west of the parking structure and will be located to the north of Building SVY06.

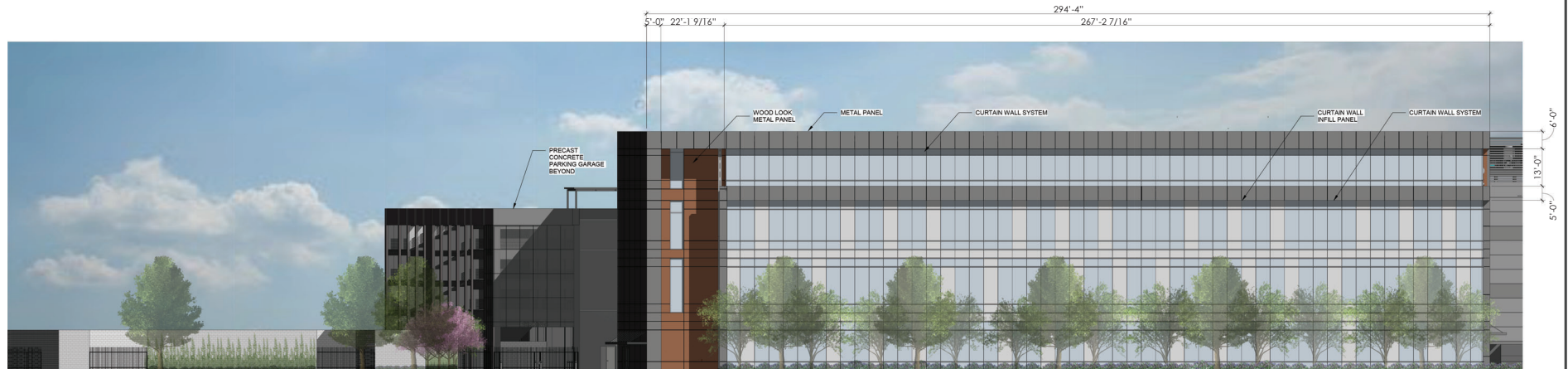
Building SVY06 will be located to the south of Building SVY05 and north of Fortune Avenue with a minimum setback of 25 feet from the property line along Fortune Avenue, a minimum setback of 10 feet from eastern property line, and approximately 45 feet from western property line.

2.3.3 Site Access, Employment and Parking

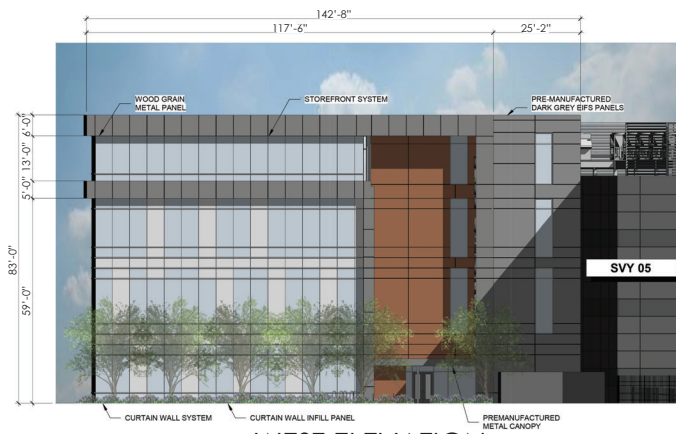
As shown on Figure 2.2-4, the overall project site will include three entrances, each at the same locations for the existing buildings. One entrance will be from Trade Zone Boulevard, one from Ringwood Avenue, and two from Fortune Avenue.

The project would provide a total of approximately 339 parking spaces in an on-site parking garage. The parking garage will serve both data centers and the advanced manufacturing buildings. As required by City Code the parking garage will include 10 accessible parking, 34 EV parking, 41 clean air parking, and 3 accessible EV parking spaces as shown on Figure 2.2-25. Figure 2.2-26 shows the parking garages proposed elevations.

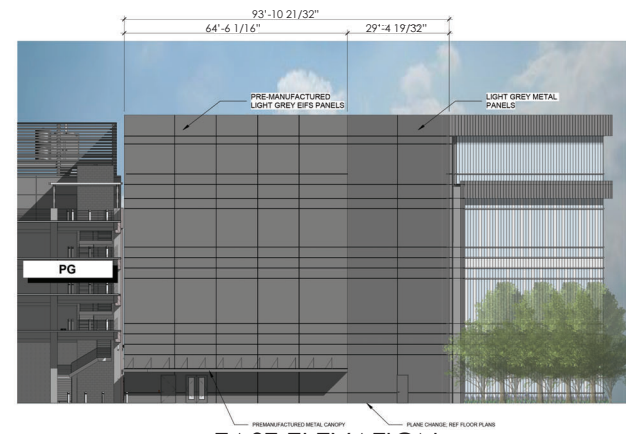
The total employment anticipated for the entire Trade Zone Park after full site buildout is expected to be approximately 198 (70 employees for the SVYDC and 128 for the AMB).



NORTH ELEVATION

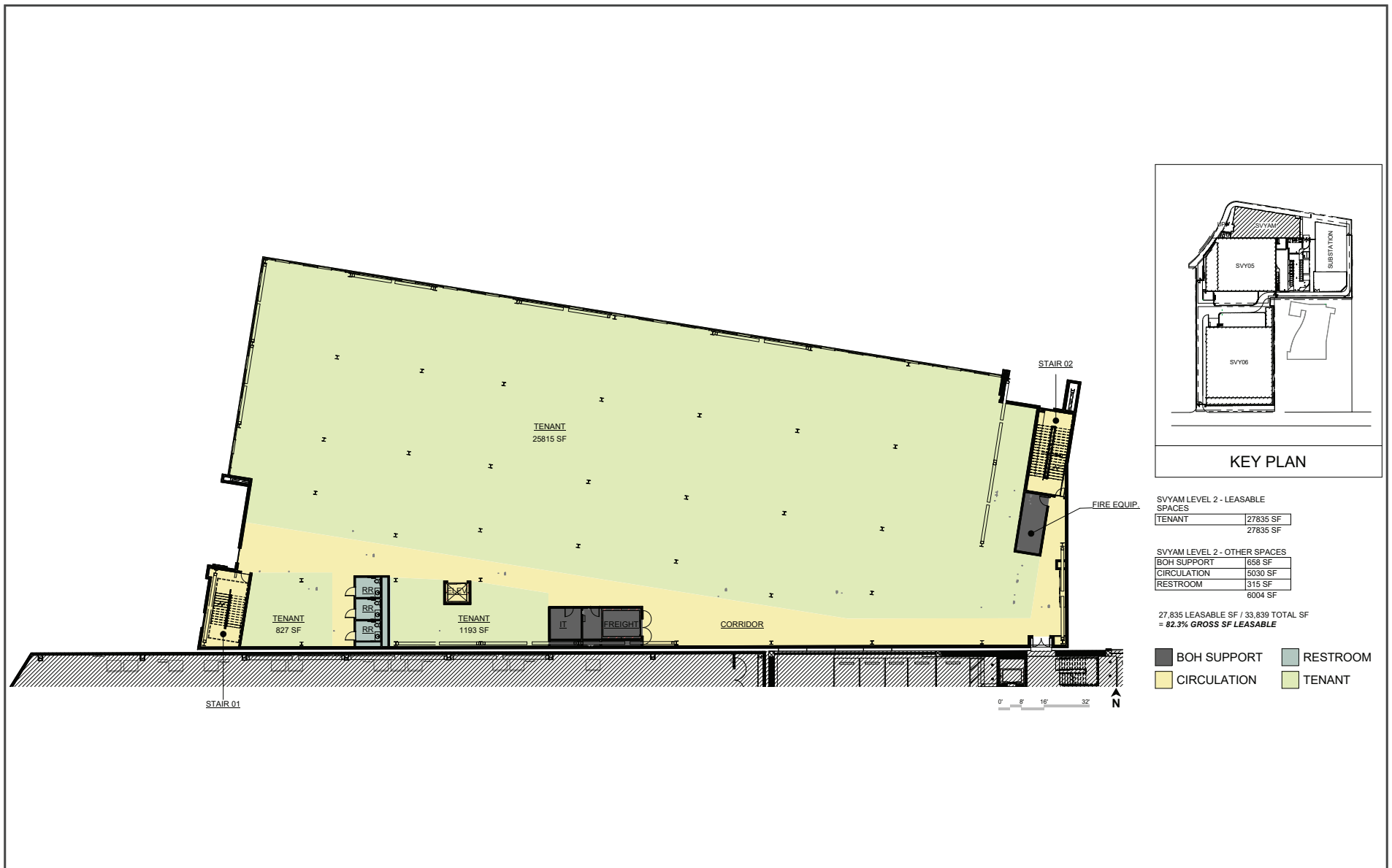


WEST ELEVATION



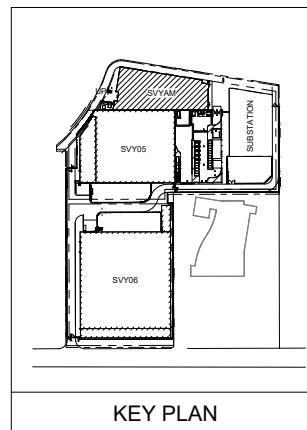
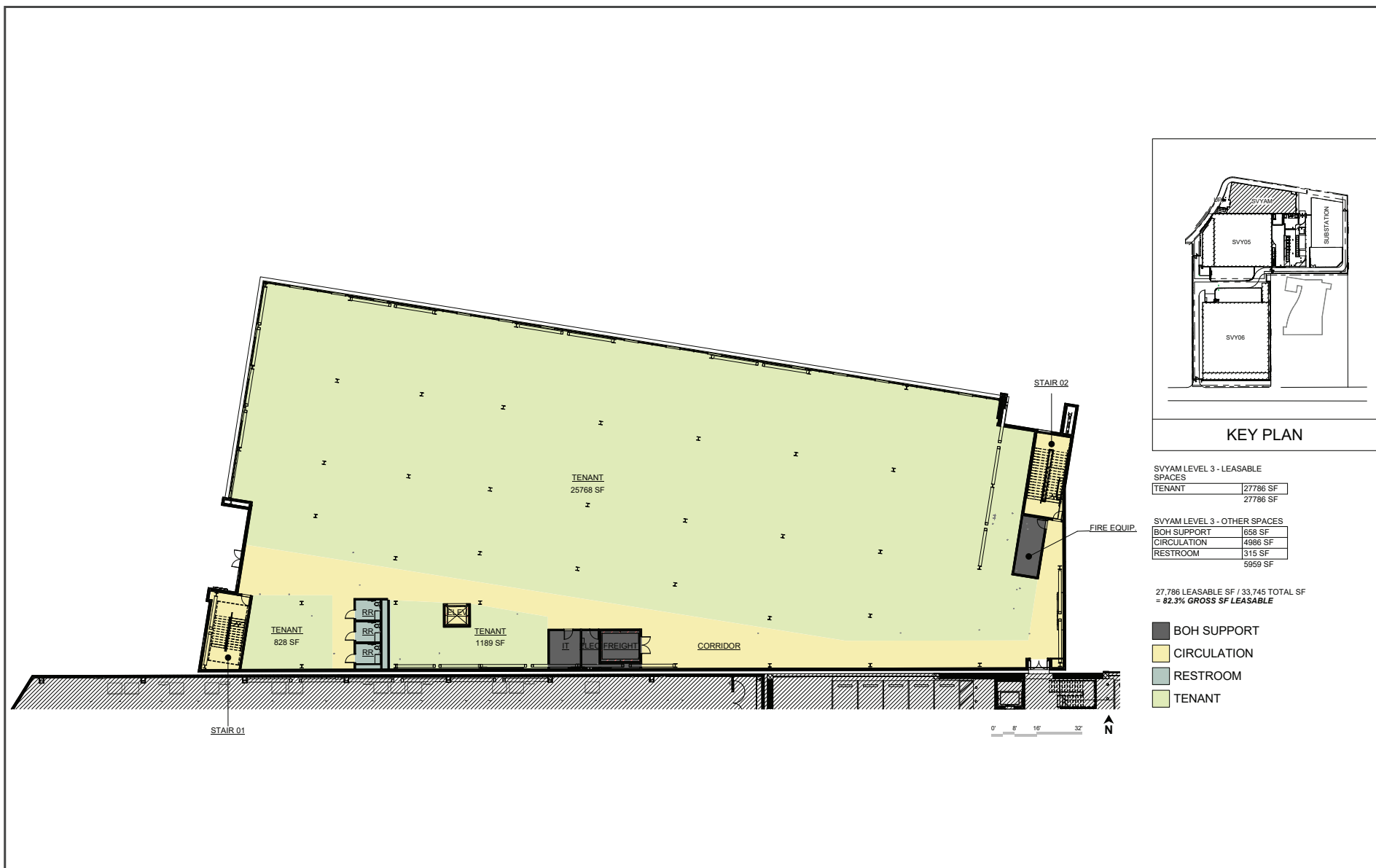
EAST ELEVATION





ADVANCED MANUFACTURING BUILDING FLOOR PLAN LEVEL 2

FIGURE 2.2-22



SVYAM LEVEL 3 - LEASABLE SPACES	
TENANT	27786 SF
	27786 SF

SVYAM LEVEL 3 - OTHER SPACES	
BOH SUPPORT	659 SF
CIRCULATION	4986 SF
RESTROOM	315 SF
	5959 SF

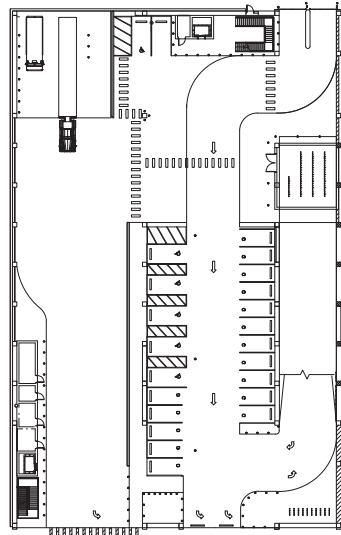
27,786 LEASABLE SF / 33,745 TOTAL SF
= 82.3% GROSS SF LEASABLE

- BOH SUPPORT
- CIRCULATION
- RESTROOM
- TENANT

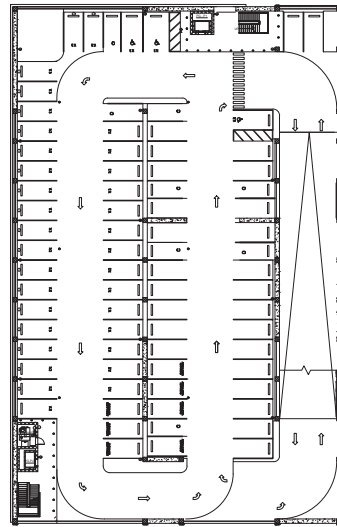
ADVANCED MANUFACTURING BUILDING FLOOR PLAN LEVEL 3

FIGURE 2.2-23

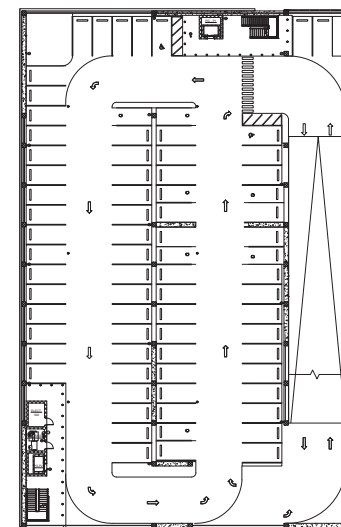




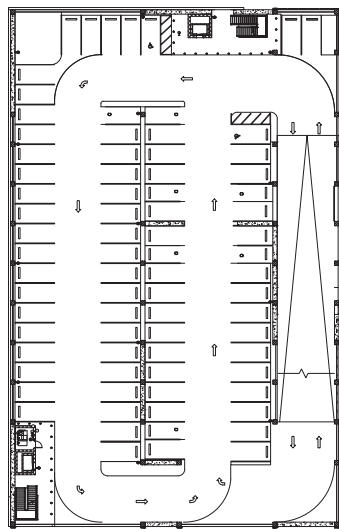
LEVEL 1



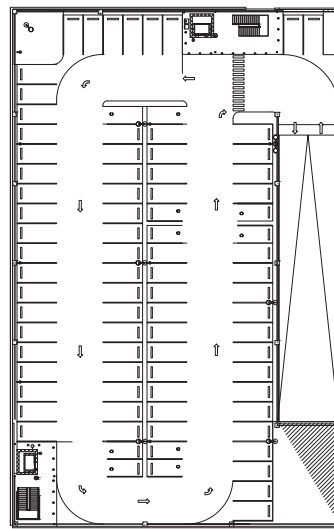
LEVEL 2



LEVEL 3

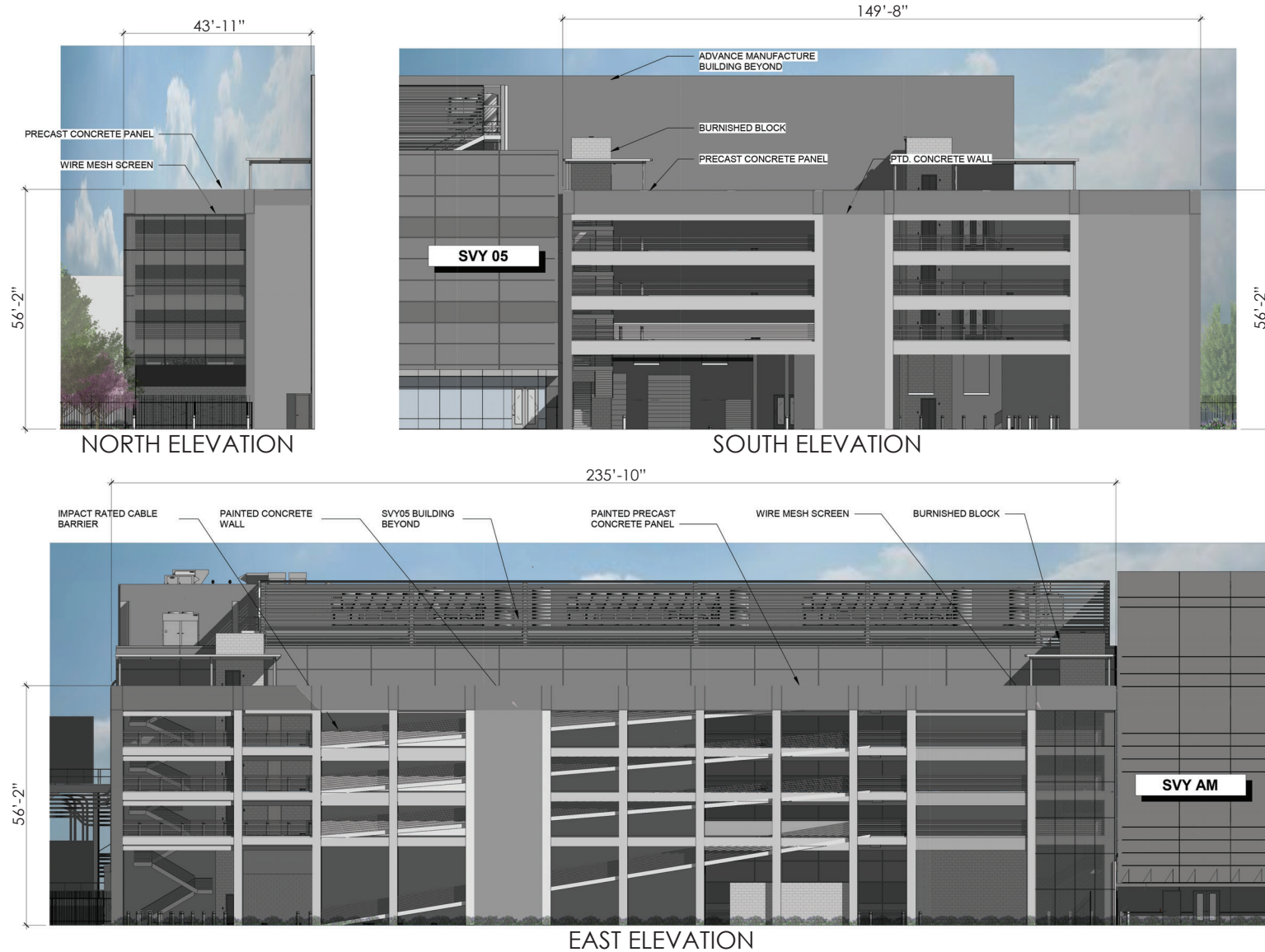


LEVEL 4



LEVEL 5

TYPE	COUNT
LEVEL 01	
ADA STANDARD	4
ADA VAN	2
COMPACT	15
STANDARD	1
LEVEL 02	
ADA AMBULATORY EV	1
ADA STANDARD EV	1
ADA VAN EV	1
CLEAN AIR/EV/VAN POOL	7
COMPACT	8
STANDARD	26
STANDARD EV	34
LEVEL 03	
ADA STANDARD	2
COMPACT	7
STANDARD	67
LEVEL 04	
ADA STANDARD	2
COMPACT	7
STANDARD	69
LEVEL 05	
COMPACT	10
STANDARD	75
GRAND TOTAL	
GRAND TOTAL WITH EV	295
	339



PARKING GARAGE ELEVATIONS

FIGURE 2.2-26

2.3.4 Demolition, Site Grading, Excavation, and Construction

Demolition, grading, excavation and construction will take place in two phases. Phase I will include demolition of the existing building and infrastructure that cannot be reused; grading of the entire site; installation of utility services including interim power and construction of the on-site substation and associated PG&E distribution upgrades; and construction of the AMB, Data Center Building SVY05, and the parking structure. Phase II will include construction of Building SVY06. Phase I activities are anticipated to begin in November 2022 and take approximately 16-19 months to complete. Phase I will include construction workforce with a peak number of workers of approximately 150 per month and an average of approximately 100 per month. Phase II construction would begin as soon as commercially feasible, likely in late 2023 and take approximately 16 months to complete for commercial operation at the beginning of 2025. Phase II construction workforce is estimated to have a peak number of workers of approximately 200 per month with an average of approximately 80 per month.

It is possible that up to 34,000 cubic yards of fill will be required for the site. Per geotechnical considerations, it is recommended that the maximum depth of required excavation will be approximately two (2) feet. For improvements at-grade that are not supported on a structural slab, the soil subgrade should be kept moist until it is covered by imported fill.

The maximum depth below existing grade for any of the drainage facilities (bioretention areas) is 6'-8" below existing grade. The drainage facilities for the site are spread evenly throughout the site plan. The total amount of area of drainage facilities provided for the site is approximately 15,000 square feet. The maximum extent of excavation for the drainage facilities on-site is 100,000 cubic-feet or 3,750 cubic-yards. A site grading and drainage plan is shown in Figure 2.2-27.

2.3.5 Landscaping

The Trade Zone Park development as designed proposes to remove 156 trees on-site, due to various conflicts with proposed civil and architectural improvements. The replacement of the trees on-site will comply with the mitigation measures described by the City of San Jose. All 156 on-site trees will be mitigated for through a combination of planting new on-site trees per the City's prescribed replacement ratios for native, non-native and orchard trees as well as paying into the City of San Jose in-lieu fund for new trees at select locations within the city.

New landscaping consisting of trees, large and medium shrubs, and groundcovers will be installed along the property boundaries, building perimeters, stormwater treatment facilities, and landscape beds distributed throughout the parking facilities. Trees will be planted a minimum of five feet away from new or existing water mains or utility lines. A site landscaping plan is shown in Figure 2.2-28.

2.3.6 Stormwater Controls

The San Francisco Bay Regional Water Quality Control Board (RWQCB) has issued the Municipal Regional Stormwater NPDES Permit (MRP) to regulate stormwater discharges from municipalities and local agencies. Under Provision C.3 of the MRP, new and redevelopment projects that create or replace 10,000 square feet or more of impervious surface area are required to implement site design,

source control, and Low Impact Development (LID)-based stormwater treatment controls to treat post-construction stormwater runoff. LID-based treatment controls are intended to maintain or restore the site's natural hydrologic functions, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g. rainwater harvesting for non-potable uses). Examples of C.3 LID measures include bioretention areas, flow-through planters, and subsurface infiltration systems.

The design of the Trade Zone Park proposes to construct stormwater treatment areas consisting of LID (Low-Impact Development) bioretention areas and at-grade flow-through planter boxes totaling approximately 15,000 square feet, based on preliminary impervious calculations, sized according to the requirements of the MRP. The stormwater treatment areas will be located around the perimeter of the site, and adjacent to paved parking areas and buildings. A stormwater control plan is shown in Figure 2.2-29.

In the existing condition, stormwater discharges the site into the public system at four locations; one lateral North of the property along Trade Zone Blvd., two laterals Northwest of the property along Ringwood Ave., and one lateral South of the property along Fortune Dr. The project will attempt to utilize these existing stormwater laterals, but this will be determined during final design. Downspouts for the roof drainage will discharge into bioretention areas or flow-through planters located adjacent to the building. In some cases, roof drainage will be piped under sidewalks and discharged to the pavement surface where stormwater will then surface flow to at-grade bioretention planters located along the perimeter of the site.

Flow-through planters and bioretention planters will include perforated underdrains and overflow structures that connect to the on-site storm drains system which will eventually discharge to the public storm systems in Trade Zone Blvd., Ringwood Ave., and Fortune Dr. as described previously. According to Appendix E-2, HMP Applicability Map, of the "C.3 Stormwater Handbook" published by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) the project site is located in a "red area", defined as catchments and subwatersheds greater than or equal to 65% impervious. According to the MRP, hydromodification controls (HMC) are not required for projects located in red areas of the HMP Applicability Map. Therefore, the Trade Zone Park will not incorporate HMC into the project's development.

2.3.7 Site Water Supply and Use

2.3.7.1 *Site Grading and Construction*

Grading and construction of the including the SVYBGF is estimated to utilize 1.75-acre feet of water over the 35-month construction period for Phase I and Phase II.

2.3.7.2 *SVYDC and AMB Operation*

Neither the AMB nor the SVYDC will require water to cool the facility. The buildings will utilize air cooled chillers for office and critical cooling. For the SVYDC, the facility water use will be limited to occupant domestic water use and process water for humidifiers within the critical spaces to maintain design conditions. Total potable water use at full buildout of the Trade Zone Park is

estimated to be approximately 3 AFY. Landscaping for the site is estimated to use up to 1 AFY and will use reclaimed water. Historical use at the site is approximately 3.2 AFY.

2.3.8 Utility Interconnections

2.3.8.1 *General*

As part of the construction of the new buildings, domestic water, reclaimed water, fire water, sanitary sewer, fiber, and storm drain connections will be made from the City infrastructure systems located along Trade Zone Blvd., Ringwood Ave. and Fortune Drive. Connections will be made for each of the proposed buildings, as well as connections for site use. The project intends to relocate an existing public potable water line in a public utility easement on-site. The public potable water line will be relocated due to various conflicts with the proposed civil & architectural improvements. The project will attempt to utilize existing utility laterals, but this will be determined during final design. A Utility Plan is show in Figure 2.2-30.





PLANT LEGEND

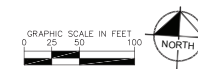
TREES	CODE	BOTANICAL / COMMON NAME
	CW	CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK
	CL	CHLOPSIS LINEARIS / DESERT WILLOW
	EX	EXISTING TO REMAIN
	FV	FRAXINUS VELUTINA 'MODESTO' / MODESTO VELVET ASH
	MO	MAGNOLIA GRANDIFLORA 'ALTA' / ALTA MAGNOLIA
	PA	PLATANUS X ACERIFOLIA / LONDON PLANE TREE
SHRUBS	CODE	BOTANICAL / COMMON NAME
	AA	AGAVE ATTENUATA / FOXTAIL AGAVE
	AF	ASCLEPIAS FASCICULARIS / NARROWLEAF MILKWEED
	CD	CAREX DIVULSA / EUROPEAN GREY SEDGE
	CG	CEANOTHUS GLORIOSUS / POINT REYES CEANOTHUS
	CE	CHONDROPETALUM ELEPHANTINUM / LARGE CAPE RUSH
	CC	CHONDROPETALUM TECTORUM 'EL CAMPO' / CAPE RUSH
	EC	ERIOPHYLLUM CONFERTIFLORUM / GOLDEN YARROW
	JP	JUNCUS PATENS / CALIFORNIA GRAY RUSH
	MC	MUHLENBERGIA CAPILLARIS / PINK MURLY
	MR	MUHLENBERGIA RIGENS / DEER GRASS
	PF	PENNISETUM SETACEUM / FOUNTAIN GRASS
	RC	RHAMNUS CALIFORNICA / CALIFORNIA COFFEEBERRY
	SN	STIPA ARUNDINACEA / NEW ZEALAND WIND GRASS
VINES	CODE	BOTANICAL / COMMON NAME
	VC	VITIS CALIFORNICA X VINIFERA 'ROGER'S RED' / ROGER'S RED GRAPE
GROUND COVERS	CODE	BOTANICAL / COMMON NAME
	AE	ARCTOSTAPHYLOS X 'EMERALD CARPET' / EMERALD CARPET MANZANITA
	BP	BACCHARIS PILULARIS 'PIGEON POINT' / PIGEON POINT COYOTE BRUSH
	MP	MYOPORUM PARVIFOLIUM / TRAILING MYOPORUM

NOTE TO CONTRACTOR

1. FOR INFORMATION REGARDING TREES TO BE REMOVED, REFER TO TREE DISPOSITION PLANS ON SHEETS L101
2. FOR FULL PLANT SCHEDULE AND ADDITIONAL INFORMATION ON PROPOSED PLANT MATERIAL SEE SHEET L200
3. ALL PROPOSED TREES SHALL MEET THE REQUIRED SPACING REQUIREMENTS FROM ELECTRICAL CONDUIT AS SPECIFIED BY SDG&S TREE PLANTING REQUIREMENTS
4. ALL PROPOSED STORMWATER TREATMENT LANDSCAPE ARE FROM THE APPROVED PLANT SPECIES LIST IN APPENDIX D OF SCVURPP C.3 STORMWATER HANDBOOK
5. FOR NATIONAL CRIME PREVENTION STANDARDS REFER TO SHEET 10.6, NOTE # 24.

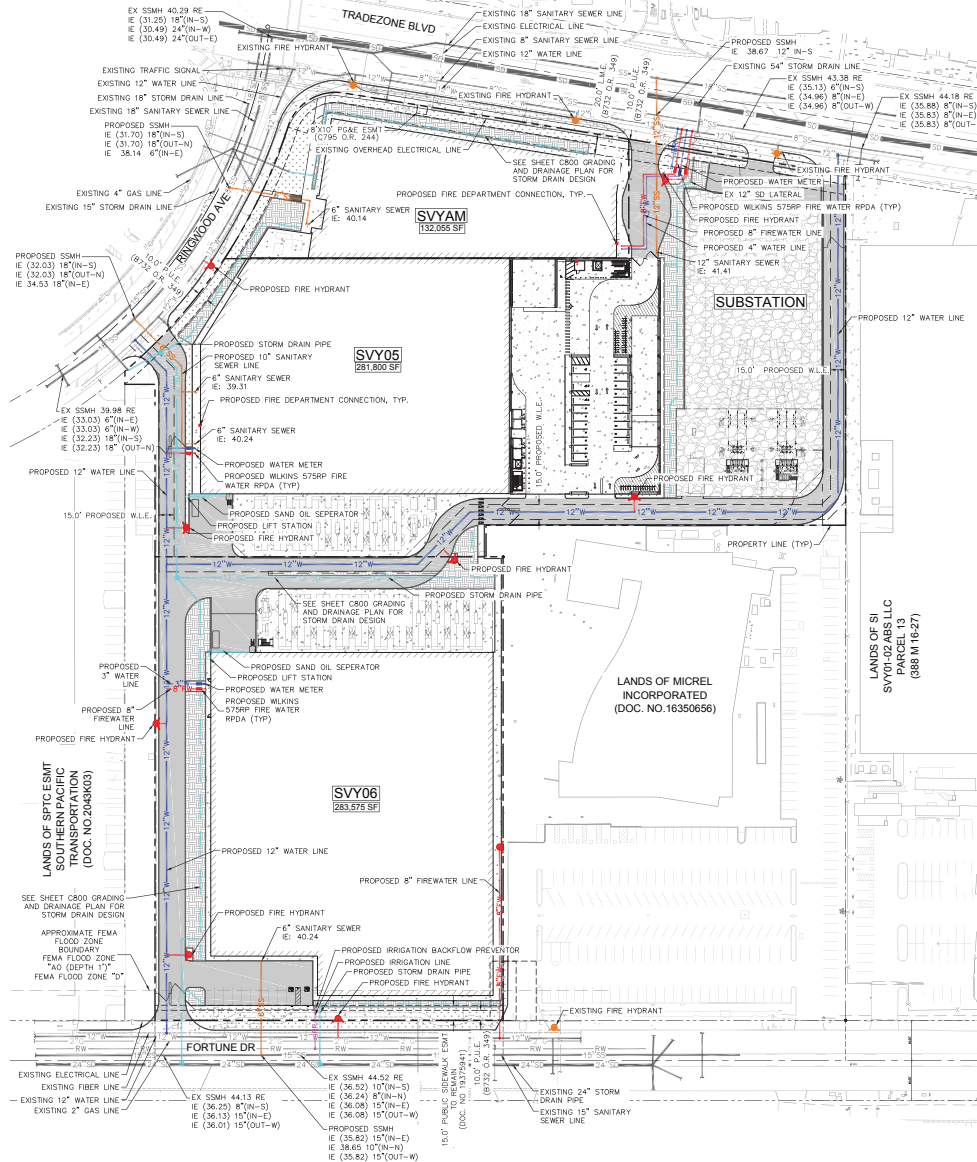
ALERT TO CONTRACTOR:

1. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DRAINAGE, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS. REFER TO MASTER SITE SPECIFICATIONS.
2. ALL GENERAL CONTRACTOR WORK TO BE COMPLETED (EARTHWORK, FINAL UTILITIES, AND FINAL GRADING) BY THE MILESTONE DATE IN PROJECT DOCUMENTS.



LANDSCAPE PLAN

FIGURE 2.2-28



LEGEND

—	PROPERTY LINE	EXISTING FIRE HYDRANT
—	PROPOSED 12" PVC FIRE WATER PIPE	PROPOSED FIRE HYDRANT
—	PROPOSED 12" PVC WATER PIPE	STORM DRAIN MANHOLE
—	PROPOSED 12" STORM DRAIN PIPE	SANITARY SEWER MANHOLE
—	PROPOSED 12" SANITARY SEWER PIPE	STORM DRAIN OVERFLOW INLET
—	PROPOSED IRRIGATION PIPE	PROPOSED BUILDING
—	EXISTING 12" WATER LINE	PROPOSED LANDSCAPING
—	EXISTING 12" SEWER LINE	PROPOSED CONCRETE
—	EXISTING 12" STORM DRAIN LINE	PROPOSED ASPHALT
—	EXISTING 12" ELECTRICAL LINE	PROPOSED STRIPING
—	EXISTING OVERHEAD ELECTRICAL LINE	PROPOSED BIORETENTION
—	EXISTING 12" FIBER LINE	PROPOSED GRAVEL
—	EXISTING 12" GAS LINE	

NOTE TO CONTRACTOR

- FOR INFORMATION REGARDING TREES TO BE REMOVED, REFER TO TREE DISPOSITION PLANS ON SHEETS L101
- FOR FULL PLANT SCHEDULE AND ADDITIONAL INFORMATION ON PROPOSED PLANT MATERIAL, SEE SHEET L200
- ALL PROPOSED TREES SHALL MEET THE REQUIRED SPACING REQUIREMENTS FROM ELECTRICAL CONDUIT AS SPECIFIED BY SD1235 TREE PLANTING REQUIREMENTS.
- ALL PROPOSED STORMWATER TREATMENT LANDSCAPE SHALL BE FROM THE APPROVED PLANT SPECIES LIST IN APPENDIX D OF SCURRY C-3 STORMWATER HANDBOOK.
- FOR NATIONAL CRIME PREVENTION STANDARDS REFER TO SHEET L200, NOTE E.15.

ALERT TO CONTRACTOR:

- WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DRAINAGE, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS. REFER TO MASTER SITE SPECIFICATIONS.
- ALL GENERAL CONTRACTOR WORK TO BE COMPLETED (EARTHWORK, FINAL UTILITIES, AND FINAL GRADING) BY THE MILESTONE DATE IN PROJECT DOCUMENTS.

GRAPHIC SCALE IN FEET
0 25 50 100



UTILITIES PLAN

FIGURE 2.2-30

2.4 APPLICANT PROPOSED MITIGATION MEASURES

2.4.1 Air Quality

MM AIR-1: To ensure that fugitive dust impacts are less than significant, the project will implement the BAAQMD's recommended BMPs during the construction phase. These BMPs are incorporated into the design of the project and will include:

- All exposed surfaces (soil piles, graded areas, and unpaved access roads) shall be watered at least two times per day.
- All haul trucks transporting material offsite shall be covered.
- All track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day.
- All vehicle speeds on unpaved surfaces shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks shall be paved as soon as possible. Building pads shall be completed as soon as possible after grading unless seeding or soil binders are used.
- Equipment idling times shall be minimized to 5 minutes per the Air Toxics Control Measure (ATCM). Idling time signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Information on who to contact, contact phone number, and how to initiate complaints about fugitive dust problems will be posted at the site.

2.4.2 Biological Resources

MM BIO-1.1: The project applicant shall schedule demolition and construction activities to avoid the nesting season. The nesting season for most birds, including most raptors in the San Francisco Bay area, extends from February 1st through August 31st (inclusive).

MM BIO-1.2: If demolition and construction cannot be scheduled between September 1st and January 31st (inclusive), pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests shall be disturbed during project implementation. This survey shall be completed no

more than 14 days prior to the initiation of construction activities during the early part of the breeding season (February 1st through April 30th inclusive) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May 1st through August 31st inclusive). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats immediately adjacent to the construction areas for nests.

MM BIO-1.3: If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with the California Department of Fish and Wildlife, shall determine the extent of a construction free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests shall not be disturbed during project construction.

MM BIO-1.4: Prior to any tree removal, or approval of any grading or demolition permits (whichever occurs first), the ornithologist shall submit a report indicating the results of the survey and any designated buffer zones to the satisfaction of the City's Director of Planning or Director's designee of the Department of Planning, Building and Code Enforcement.

MM BIO-2.1: Tree Replacement. A tree removal permit would be required from the City of San José for the removal of ordinance trees. The removed trees would be replaced according to tree replacement ratios required by the City, as provided in Table 4.4-2 below.

Table 4.4-2: Tree Replacement Ratios				
Circumference of Tree to be Removed	Type of Tree to be Removed			Minimum Size of Each Replacement Tree
	Native	Non-Native	Orchard	
38 inches or more	5:1	4:1	3:1	15-gallon
19 up to 38 inches	3:1	2:1	none	15-gallon
Less than 19 inches	1:1	1:1	none	15-gallon
<p>x:x = tree replacement to tree loss ratio</p> <p>Note: Trees greater than or equal to 38-inch circumference shall not be removed unless a Tree Removal Permit, or equivalent, has been approved for the removal of such trees. For Multi-Family residential, Commercial and Industrial properties, a permit is required for removal of trees of any size. A 38-inch tree equals 12.1 inches in diameter.</p> <p>A 24-inch box tree = two 15-gallon trees</p> <p>Single Family and two-dwelling properties may be mitigated at a 1:1 ratio.</p>				

Since 156 trees onsite would be removed, 10 trees would be replaced at a 5:1 ratio⁴, 99 trees would be replaced at a 4:1 ratio, 47 trees would be replaced at a 1:1 ratio. As shown in Table 3.4-1, there are 13 native trees on-site. The total number of replacement trees required to be planted would be 493 trees. The species of trees to be planted would be determined in consultation with the City Arborist and the Department of Planning, Building, and Code Enforcement (PBCE).

In the event the project site does not have sufficient area to accommodate the required tree mitigation, one or more of the following measures will be implemented, to the satisfaction of the Director of PBCE, at the development permit stage:

1. The size of a 15-gallon replacement tree may be increased to 24-inch box and count as two replacement trees to be planted on the project site, at the development permit stage.
2. Pay Off-Site Tree Replacement Fee(s) to the City, prior to the issuance of Public Works grading permit(s), in accordance to the City Council approved Fee Resolution. The City will use the off-site tree replacement fee(s) to plant trees at alternative sites.

Trees to be retained on-site, adjacent to the site, and/or along the transmission route may be injured during project construction activities including demolition and site grading. Additionally, trees adjacent to the proposed overhead transmission line may require substantial pruning to ensure clearance. The following applicant proposed mitigation measures would be implemented to reduce impacts to existing trees to less than significant levels.

MM BIO-2.2:

Barricades – Prior to initiation of construction activity, temporary barricades would be installed around all trees in the construction area. Six-foot high, chain link fences would be mounted on steel posts, driven two feet into the ground, at no more than 10-foot spacing. The fences shall enclose the entire area under the drip line of the trees or as close to the drip line area as practical. These barricades will be placed around individual trees and/or groups of trees.

MM BIO-2.3:

Root Pruning (if necessary) – During and upon completion of any trenching/grading operation within a tree's drip line, should any roots greater than one inch in diameter be damaged, broken or severed, root pruning to include flush cutting and sealing of exposed roots should be accomplished under the supervision of a qualified Arborist to minimize root deterioration beyond the soil line within 24 hours.

⁴ 11 of the trees on-site were unable to be measured for diameter. Therefore, those 11 trees were conservatively assumed to be of ordinance size and will be replaced at a 5:1 ratio of native, and a 4:1 ratio if non-native. Additionally, one tree's species was unrecognizable, therefore the tree was assumed to be native

- MM BIO-2.4:** Pruning – Pruning of the canopies to include removal of deadwood should be initiated prior to construction operations. Such pruning will provide any necessary construction clearance, will lessen the likelihood or potential for limb breakage, reduce ‘windsail’ effect and provide an environment suitable for healthy and vigorous growth.
- MM BIO-2.5:** Fertilization – Fertilization by means of deep root soil injection should be used for trees to be impacted during construction in the spring and summer months.
- MM BIO-2.6:** Mulch – Mulching with wood chips (maximum depth of three inches) within tree environments should be used to lessen moisture evaporation from soil, protect and encourage adventitious roots and minimize possible soil compaction.
- MM BIO-3.1:** The project is subject to applicable SCVHP conditions and fees (including the nitrogen deposition fee) prior to issuance of any grading permits. The project applicant would be required to submit the Santa Clara Valley Habitat Plan Coverage Screening Form to the Director of PBCE or the Director's designee for approval and payment of the nitrogen deposition fee prior to the issuance of a grading permit. The Habitat Plan and supporting materials can be viewed at www.scv-habitatplan.org.

2.4.3 Cultural Resources

To be provided in a subsequent submittal.

2.4.4 Geology and Soils

- MM GEO-1:** To avoid or minimize potential damage from seismic shaking, the project shall be constructed using standard engineering and seismic safety design techniques. Building design and construction at the site shall be completed in conformance with the recommendations of an approved geotechnical investigation. The report shall be reviewed and approved by the City of San José Department of Public Works as part of the building permit review and issuance process. The buildings shall meet the requirements of applicable building and fire codes as adopted or updated by the City. The project shall be designed to withstand soil hazards identified on the site and the project shall be designed to reduce the risk to life or property on site and off site to the extent feasible and in compliance with the Building Code.

MM GEO-2:

1. All excavation and grading work shall be scheduled in dry weather months or construction sites shall be weatherized.
2. Stockpiles and excavated soils shall be covered with secured tarps or plastic sheeting.
3. Ditches shall be installed to divert runoff around excavations and graded areas if necessary.

MM GEO-3:

The project shall be constructed in accordance with the standard engineering practices in the California Building Code, as adopted by the City of San José. A grading permit from the San José Department of Public Works shall be obtained prior to the issuance of a Public Works clearance. These standard practices would ensure that the future building on the site is designed to properly account for soils-related hazards on the site.

MM GEO-4:

If vertebrate fossils are discovered during construction, all work on the site shall stop immediately, Director of Planning or Director's designee of Planning, Building and Code Enforcement (PBCE) shall be notified, and a qualified professional paleontologist shall assess the nature and importance of the find and recommend appropriate treatment. Treatment may include, but is not limited to, preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The project applicant shall be responsible for implementing the recommendations of the qualified paleontologist. A report of all findings shall be submitted to the Director of Planning or Director's designee of the PBCE.

2.4.5 Greenhouse Gas Emissions**MM GHG-1:**

The project owner shall participate in the San Jose Clean Energy (SJCE) at the Total Green level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level.

2.4.6 Hazards and Hazardous Materials**MM HAZ-1.1:**

Prior to issuance of demolition or grading permits, the project applicant shall prepare a Site Management Plan and Health and Safety Plan to guide activities during demolition, excavation, and initial construction to ensure that potentially contaminated soils are identified, characterized, removed, and disposed of properly. The purpose of the Site Management Plan and Health and Safety Plan is to establish appropriate management practices for handling impacted soil or other materials that may be encountered during construction activities. The Site Management Plan shall provide the protocols for sampling of in-place soil to facilitate the profiling of the soil for appropriate off-site disposal or reuse, and for construction worker safety, dust mitigation during

construction and potential exposure of contaminated soil to future users of the site. The soil profiling shall include (but not limited to) the collection of shallow soil samples (upper one-foot) and analyses for lead and organochlorine pesticides. The soil profiling shall be performed prior to any significant earthwork.

If there are no contaminants identified on the project site that exceed applicable screening levels for construction workers and residential users published by the Regional Water Quality Control Board, Department of Toxic Substances Control, and/or Environmental Protection Agency, the Site Management Plan does not need to be submitted to an oversight agency and only submitted to the City prior to construction earthwork activities. If contaminants are identified at concentrations exceeding applicable screening levels, the project applicant shall obtain regulatory oversight from Santa Clara County Department of Environmental Health (SCCDEH) or the Department of Toxic Substances Control (DTSC) under a Site Cleanup Program. The Site Management Plan and planned remedial measures shall be reviewed and approved by the SCCDEH or DTSC. A copy of the Site Management Plan and Health and Safety Plan shall be submitted to the Supervising Environmental Planner of the Department of Planning, Building and Code Enforcement and the Supervising Environmental Compliance Officer in the City of San José's Environmental Services Department.

2.4.7 Hydrology and Water Quality

MM HYD-1.1: Consistent with the General Plan, standard permit conditions that shall be implemented to prevent stormwater pollution and minimize potential sedimentation during construction include, but are not limited to, the following:

- Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- All exposed or disturbed soil surfaces shall be watered at least twice daily to control dust as necessary.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be covered and all trucks shall maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites shall be swept daily (with water sweepers).
- Vegetation in disturbed areas shall be replanted as quickly as possible.

- All unpaved entrances to the site shall be filled with rock to remove mud from tires prior to entering City streets. A tire wash system shall be installed if requested by the City.
- The project applicant shall comply with the City of San José Grading Ordinance, including implementing erosion and dust control during site preparation and with the City of San José Zoning Ordinance requirements for keeping adjacent streets free of dirt and mud during construction.

2.4.8 Noise

To be provided in a subsequent submittal.

2.4.9 Transportation

To be provided in a subsequent submittal.

SECTION 3.0 PROJECT INFORMATION

3.1 PROJECT TITLE

Trade Zone Boulevard Technology Park

3.2 LEAD AGENCY CONTACT

Leonidas (Lon) Payne
Project Manager
Siting, Transmission and Environmental Protection (STEP) Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814
Phone: 916-651-0966
E-mail: Leonidas.Payne@energy.ca.gov

3.3 PROJECT APPLICANT

STACK Infrastructure
Matthew Bourne
Director, Strategy & Development
1700 Broadway, Suite 1750
Denver CO 80290
mbourne@stackinfra.com

3.4 PROJECT LOCATION

The approximately 9.8-acre project site consists of two parcels encompassing located at 2400 Ringwood Avenue and 1849 Fortune Drive in San Jose, California (refer to Figures 2.2-1, 2.2-2, and 2.2-3).

3.5 ASSESSOR'S PARCEL NUMBER

APN 244-17-009
APN 244-17-014

3.6 GENERAL PLAN DESIGNATION AND ZONING DISTRICT

General Plan Designation: TEC - Transit Employment Center
Zoning District: IP - Industrial Park

SECTION 4.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

3.1	Aesthetics	3.11	Land Use and Planning
3.2	Agriculture and Forestry Resources	3.12	Mineral Resources
3.3	Air Quality	3.13	Noise
3.4	Biological Resources	3.14	Population and Housing
3.5	Cultural Resources	3.15	Public Services
3.6	Energy	3.16	Recreation
3.7	Geology and Soils	3.17	Transportation
3.8	Greenhouse Gas Emissions	3.18	Tribal Cultural Resources
3.9	Hazards and Hazardous Materials	3.19	Utilities and Service Systems
3.10	Hydrology and Water Quality	3.20	Wildfire

The discussion for each environmental subject includes the following subsections:

Environmental Setting – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.

Impact Discussion – This subsection includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts.

- **Project Impacts** – This subsection discusses the project’s impact on the environmental subject as related to the checklist questions. For significant impacts, feasible mitigation measures are identified. “Mitigation measures” are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370).
- **Cumulative Impacts** – This subsection discusses the project’s cumulative impact on the environmental subject. Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, compound or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant effects taking place over a period of time. CEQA Guideline Section 15130 states that an EIR should discuss cumulative impacts “when the project’s incremental effect is cumulatively considerable.” The discussion does not need to be in as great detail as is necessary for project impacts, but is to be “guided by the standards of practicality and reasonableness.” The purpose of the cumulative analysis is to allow decision makers to better understand the impacts that might result from approval of past, present, and reasonably foreseeable future projects, in conjunction with the proposed project addressed in this EIR.

The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence (CEQA Guidelines Section 15130(b)). To accomplish these two objectives, the analysis should include either a list of past, present, and

probable future projects or a summary of projections from an adopted general plan or similar document (CEQA Guidelines Section 15130(b)(1)).

The analysis must determine whether the project's contribution to any cumulatively significant impact is cumulatively considerable, as defined by CEQA Guideline Section 15065(a)(3). The cumulative impacts discussion for each environmental issue accordingly addresses the following issues: 1) would the effects of all of past, present, and probable future (pending) development result in a significant cumulative impact on the resource in question; and, if that cumulative impact is likely to be significant, 2) would the contribution from the proposed project to that significant cumulative impact be cumulatively considerable?

For each resource area, cumulative impacts may occur over different geographic areas. For example, the project effects on air quality would combine with the effects of projects in the entire air basin, whereas noise impacts would primarily be localized to the surrounding area. The geographic area that could be affected by the proposed project varies depending upon the type of environmental issue being considered. Section 15130(b)(3) of the CEQA Guidelines states that lead agencies should define the geographic scope of the area affected by the cumulative effect. Table 3.0-2 provides a summary of the different geographic areas used to evaluate cumulative impacts.

Table 3.0-2: Geographic Considerations in Cumulative Analysis	
Resource Area	Geographic Area
Aesthetics	Project site and adjacent parcels
Agriculture and Forestry Resources	Countywide
Air Quality	San Francisco Bay Area Air Basin
Biological Resources	Project site and adjacent parcels
Cultural Resources	Project site and adjacent parcels
Energy	Energy provider's territory
Geology and Soils	Project site and adjacent parcels
GHGs	Planet-wide
Hazards and Hazardous Materials	Project site and adjacent parcels
Hydrology and Water Quality	Lower Penitencia Creek watershed
Land Use and Planning/Population and Housing	Citywide
Minerals	Identified mineral recovery or resource area
Noise and Vibration	Project site and adjacent parcels
Public Services and Recreation	Citywide
Transportation/Traffic	Citywide
Tribal Cultural Resources	Project site and adjacent parcels
Utilities and Service Systems	Citywide
Wildfire	Within or adjacent to the wildfire hazard zone

4.1 AESTHETICS

4.1.1 Environmental Setting

4.1.1.1 *Regulatory Framework*

State

Senate Bill 743

Senate Bill (SB) 743 was adopted in 2013 and requires lead agencies to use alternatives to level of service (LOS) for evaluating transportation impacts, specifically vehicle miles traveled (VMT). SB 743 also included changes to CEQA that apply to transit-oriented developments, as related to aesthetics and parking impacts. Under SB 743, a project's aesthetic impacts will no longer be considered significant impacts on the environment if:

- The project is a residential, mixed-use residential, or employment center project, and
- The project is located on an infill site within a transit priority area.⁵

SB 743 also clarifies that local governments retain their ability to regulate a project's aesthetics impacts outside of the CEQA process.

Streets and Highway Code Sections 260 through 263

The California Scenic Highway Program (Streets and Highway Code, Sections 260 through 263) is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. There are no state-designated scenic highways in San José. Interstate 280 from the San Mateo County line to State Route (SR) 17, which includes segments in San José, is an eligible, but not officially designated, State Scenic Highway.⁶

In Santa Clara County, the one state-designated scenic highway is SR 9 from the Santa Cruz County line to the Los Gatos City Limit. Eligible State Scenic Highways (not officially designated) include SR 17 from the Santa Cruz County line to SR 9, SR 35 from Santa Cruz County line to SR 9, Interstate 280 from the San Mateo County line to SR 17, and the entire length of SR 152 within the County.

⁵ An "infill site" is defined as "a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses." A "transit priority area" is defined as "an area within 0.5 mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations." A "major transit stop" means "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods." Source: Public Resources Code Section 21009. Accessed September 3, 2021. <https://codes.findlaw.com/ca/public-resources-code/prc-sect-21099.html>.

⁶ California Department of Transportation. "Scenic Highways." Accessed December 10, 2020. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.

City Council's Private Outdoor Lighting Policy 4-3

On March 1, 1983, the City of San José implemented the Outdoor Lighting on Private Development policy. The purpose of the policy is to promote energy-efficient outdoor lighting on private development in the City of San José that provides adequate light for nighttime activities, while benefiting from the continued enjoyment of the night sky and continuing operation of the Lick Observatory by reducing light pollution and sky glow.

City of San José Interim Lighting Policy Broad Spectrum Lighting for Private Development

The City adopted an Interim Lighting Policy to encourage the use of broad spectrum lighting such as LED for private streets, parking areas, and pedestrian areas as an alternative to low pressure sodium. Projects that meet specific standards outlined in the Policy regarding outdoor lighting plans, illumination levels, backlight, uplight, glare, correlated color temperature, and dimming can obtain a Permit Adjustment and an exception to the required use of low pressure sodium lighting on private development.

Envision San José 2040 General Plan

The General Plan includes the following aesthetic policies applicable to the proposed project.

Policies	Description
CD-1.1	Require the highest standards of architectural and site design, and apply strong design controls for all development projects, both public and private, for the enhancement and development of community character and for the proper transition between areas with different types of land uses.
CD-1.24	Further the Community Forest Goals and Policies in this Plan by requiring new development to plant and maintain trees at appropriate locations on private property and along public street frontages. Use trees to help soften the appearance of the built environment, help provide transitions between land uses, and shade pedestrian and bicycle areas.
CD-1.25	Within new development projects, include preservation of ordinance-sized and other significant trees, particularly natives. Avoid any adverse effect on the health and longevity of such trees through design measures, construction, and best maintenance practices. When tree preservation is not feasible, include replacements or alternative mitigation measures in the project to maintain and enhance our Community Forest.
CD-1.28	Locate utilities to be as visually unobtrusive as possible, by placing them underground or within buildings. When above-ground or outside placement is necessary, screen utilities with art or landscaping.
CD-1.29	When approving new construction, require the undergrounding of distribution utility lines serving the development. Encourage programs for undergrounding existing overhead distribution lines. Overhead lines providing electrical power to light rail transit vehicles and high tension electrical transmission lines are exempt from this policy.
CD-4.9	For development subject to design review, ensure the design of new or remodeled structures is consistent or complementary with the surrounding neighborhood fabric (including but not limited to prevalent building scale, building materials, and orientation of structures to the street).

4.1.1.2 *Existing Conditions*

Project Site

The 9.8-acre project site is located in the City of San José and consists of two, one-story buildings. The existing building at 2400 Ringwood Avenue encompasses approximately 80,000 square feet and is currently occupied. The existing building at 1849 Fortune Drive encompasses approximately 55,000 square feet and is currently unoccupied and scheduled for demolition in early 2022 due to health and safety concerns. The two parcels are contiguous with the total site being generally L-shaped. The site is bound to the north by Trade Zone Boulevard, to the south by Fortune Drive, to the west by Ringwood Avenue and to the east by data center uses on parcels owned by STACK, and an existing office building owned by others.

Native and non-native trees and ornamental landscaping are located along the frontage of the property, as well as the northern, western, and southern property boundaries. The project proposes to demolish the existing shrubs and groundcovers on the site, while protecting-in-place trees not in conflict with proposed utilities, grading, stormwater treatment facilities, and architectural improvements.

Surrounding Area

The project area consists primarily of commercial and industrial land uses to the south, east, and west, and residential uses to the north across Trade Zone Boulevard. Buildings in the area to the south and west are similar in height and scale to the existing building on the project site. Buildings to the east are similar in height and scale to the proposed buildings. The Norman Y. Mineta San José International Airport is located approximately three miles southwest of the site.

Scenic Views and Resources

Based on the City's General Plan, views of hillside areas, including the foothills of the Diablo Range, Santa Cruz Mountains, Silver Creek Hills, and Santa Teresa Hills are scenic features in the San José area. Views of scenic features are limited and interrupted by existing urban development.

The project site is not located along or visible from a state-designated scenic highway.⁷ A 21.8-mile stretch of Interstate 280 (I-280) is a state-designated scenic highway, from San Bruno to Portola Valley (post mile R0.0 to post mile R21.8). I-280 is the nearest state-designated scenic highway to the site (approximately five miles south of the site and not visible from the site). The nearest portion of I-280 to the site is not part of the Interstate that is designated as scenic.

The City's General Plan identifies Gateways and Urban Throughways (urban corridors) where preservation and enhancement of views of the natural and man-made environment are crucial. According to Figure 3.12-1 of the Envision San José 2040 General Plan Integrated Final Program EIR, the nearest Gateway and Urban Throughway to the project site is located along I-880, approximately .70 miles west. The site is not visible from I-880.

⁷ The State Scenic Highways Program is under the jurisdiction of the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highway Code, Sections 260 through 263.

Due to the site's flat topography, current views of the project site are limited to the site's immediate vicinity. The high-voltage electrical transmission lines traversing east-to-west directly north of the site are visible from areas further away due to the transmission lines' heights.

4.1.2 Impact Discussion

For the purpose of determining the significance of the project's impact on aesthetics, except as provided in Public Resources Code Section 21099, would the project:

- a) Have a substantial adverse effect on a scenic vista?
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?⁸ If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

4.1.2.1 *Project Impacts*

As discussed in Section 4.1.1.1, under SB 743, a project's aesthetic impacts will no longer be considered significant impacts on the environment if the project is located on an infill site within a transit priority area. A transit priority area is an area within 0.5 miles of a major transit stop such as a rail transit station. The Milpitas Bay Area Rapid Transit (BART) Station is located roughly 2,300 feet, or 0.44 miles, north of the project site. The project site is a developed site located within an urban area and thus qualifies as an infill site. The project, therefore, would not result in significant aesthetics impacts per the requirements of SB 743. The discussion below is provided for informational purposes only. **(Less than Significant Impact)**

a) Would the project have a substantial adverse effect on a scenic vista?

The General Plan defines scenic vistas or resources in the City of San José as broad views of the Santa Clara Valley, the hills and mountains surrounding the valley, the urban skyline, and the baylands. Panoramic views of hillside areas, including the foothills of the Diablo Range, Silver Creek Hills, Santa Teresa Hills, and foothills of the Santa Cruz Mountains, are identified as key scenic features in the City. The project site is not located along a designated state scenic highway or City scenic rural corridor. The project area has minimal to no scenic views of the Diablo foothills to the east, Santa Teresa Hills to the south, Santa Cruz Mountains to the west and the Silver Creek hills to the southeast. The project site is located in an urbanized area of San José and is surrounded by industrial and commercial development and is not in proximity to a scenic vista. As a result, construction of two three-story data center buildings, one four-story advanced manufacturing facility, a utility substation, two generator equipment yards, offsite underground and aboveground transmission lines, and surface parking would not diminish scenic views or damage any scenic

⁸ Public views are those that are experienced from publicly accessible vantage points.

resources in the project area. Implementation of the proposed project would not result in a significant impact on a scenic vista. **(Less than Significant Impact)**

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no state-designated scenic highways in the vicinity of the site. As discussed in Section 4.1.1.2, a 21.8-mile stretch of Interstate 280 (I-280) is a state-designated scenic highway, from San Bruno to Portola Valley (post mile R0.0 to post mile R21.8). I-280 is the nearest state-designated scenic highway to the site (approximately five miles south of the site and not visible from the site). The nearest portion of I-280 to the site is not part of the Interstate that is designated as scenic. Therefore, the project would not damage scenic resources within any state-designated scenic highways. **(No Impact)**

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Aesthetic values are subjective. Opinions as to what constitutes a degradation of visual character differs among individuals. One of the best methods for assessing what constitutes a visually acceptable standard for new buildings are the City's design standards and implementation of those standards through the City's design process. The following discussion addresses the proposed changes to the visual setting of the project area and factors that are part of the community's assessment of the aesthetic values of a project's design.

The current character of the project area is built-up with single- and multi-story office industrial park buildings and has few landscaped areas. As described in Section 4.1.1.2 *Existing Conditions*, the project site consists of two one-story office buildings. The project proposes to demolish the existing improvements on the site to construct two three-story data center buildings, one four-story advanced manufacturing facility, a utility substation to be owned and operated by PG&E, two generator equipment yards, offsite underground and aboveground transmission lines, surface parking, landscaping and associated pipeline for water and wastewater. The two generator equipment yards would each be adjacent to the data center building they serve and would be surrounded by a precast screen wall. An electrical substation with an all-weather surface underlain by an aggregate base would be located along the eastern boundary of the site. A concrete masonry unit screen wall, 13-feet in height, would surround portions of the substation with the remainder of the substation protected with an eight-foot height chain link fence.

The project would remove 156 existing trees on the site and 54 existing trees along Trade Zone Boulevard. All 210 trees would be mitigated through a combination of planting new on-site trees per the City's prescribed replacement ratios for native, non-native and orchard trees as well as paying into the City of San Jose in-lieu fund for new trees at select locations within the City (see Section 4.4 for additional details). New landscaping consisting of trees, large and medium shrubs, and groundcovers would be installed along the property boundaries, building perimeters, stormwater

treatment facilities, and landscape beds distributed throughout the parking facilities. Trees would be planted a minimum of five feet away from new or existing water mains or utility lines.

The administration sections of the data center buildings would be approximately 80 feet in height to the top of parapet, while the portions of the buildings housing the data halls would be approximately 67.5 feet in height. A mechanical equipment screen on the roof of the building above the data halls would extend to 78 feet in height.

The advanced manufacturing building would be located a minimum of 25 feet from the property line along Trade Zone Boulevard and a minimum of 20 feet from the property line along Ringwood Avenue. Building SVY05 would be located a minimum of 20 feet from the property line along Ringwood Avenue immediately south of the advanced manufacturing building. Building SVY05 would be immediately adjacent and to the west of the parking structure and would be located to the north of Building SVY06. Building SVY06 would be located to the south of Building SVY05 and north of Fortune Avenue with a minimum setback of 25 feet from the property line along Fortune Avenue, a minimum setback of 10 feet from eastern property line, and approximately 45 feet from western property line.

The project would construct buildings with maximum heights of 80 feet, which is in compliance with the current zoning regulations for the site as well as the proposed Planned Development zoning regulations. The project would be subject to the City's design review process. The project, therefore, would not conflict with applicable zoning and other regulations governing scenic quality.

Overhead Transmission Line

The project would include an approximately 0.33 mile off-site aboveground 60kV transmission line extension from the project site, along the southern sidewalk of Trade Zone Boulevard, and connecting to Montague Expressway, within the City of San José. Figure 2.2-19 shows the proposed route of the overhead transmission line. The project would utilize the existing utility poles on Trade Zone Boulevard for the aboveground transmission line. It is possible that some or all of the utility poles will be replaced. PG&E is currently studying the route and will ultimately determine whether the existing utility poles can be retained. The proposed replacement steel poles would be equivalent in size to existing poles along Montague Expressway, and would be consistent with the dominant visual character of the area, which has been established by the existing buildings, streets, light standards, trees, overhead transmission lines, and other urban elements in the project area. Photo 1 depicts a transmission line pole on Montague Expressway as an example of the visual character of the poles the project would install. Utility lines are an accepted use in the zoning districts through which the proposed transmission line would pass. The proposed transmission line, therefore, not conflict with applicable zoning and other regulations governing scenic quality.

Therefore, the proposed project would have a less than significant impact on the visual character or quality of the City. **(Less than Significant Impact)**



Photo 1: Example of the style of proposed transmission pole – image of existing pole on Montague Expressway.

d) **Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

Sources of light and glare in the project area include streetlights, vehicular headlights, and internal lights from buildings. The project would include light fixtures along the site perimeter, as well as along the perimeter of the generator equipment yard, and outdoor security lighting along the data center buildings and driveway entrances. The outdoor lighting would comply with the City's lighting requirements and would be comparable in brightness to the ambient lighting in the surrounding area. Additionally, outdoor lighting would be angled downward and would include light visors and light hoods. The exterior surfaces of the project would consist primarily of precast concrete and glass panels that would not be a significant source of glare during daytime hours. Therefore, residents north of the site would not experience bright lighting from the project at night. The Envision San José 2040 General Plan Integrated Final Program EIR concluded that implementation of adopted plans and conformance with adopted policies and regulations would avoid substantial light and glare impacts.

The proposed project would be required to comply with the City's Outdoor Lighting on Private Development Policy (Policy 4-3). The project would be reviewed for consistency with the City's Design Guidelines, and other applicable codes, policies, and regulations. As a result, the proposed project would not significantly impact adjacent land uses with increased nighttime light levels or daytime glare from building materials. **(Less than Significant Impact)**

4.1.2.2 *Cumulative Impacts*

Would the project result in a cumulatively considerable contribution to a significant cumulative aesthetics impact?

Given the flat topography of the area, the geographic area for cumulative aesthetic impacts is limited to the project site and adjacent properties in which the project site would be visible. The project site is not located along or visible from a designated state scenic highway or a scenic vista. The final design of the project and all future projects would be reviewed for consistency with the City's Design Guidelines, and other applicable codes, policies, and regulations. For these reasons, the project would not result in a significant cumulative aesthetic impact. **(Less than Significant Cumulative Impact)**

4.2 AGRICULTURE AND FORESTRY RESOURCES

4.2.1 Environmental Setting

4.2.1.1 *Regulatory Framework*

State

Farmland Mapping and Monitoring Program

The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) assesses the location, quality, and quantity of agricultural land and conversion of these lands over time. Agricultural land is rated according to soil quality and irrigation status. The best quality land is called Prime Farmland. In CEQA analyses, the FMMP classifications and published county maps are used, in part, to identify whether agricultural resources that could be affected are present on-site or in the project area.

California Land Conservation Act

The California Land Conservation Act (Williamson Act) enables local governments to enter into contracts with private landowners to restrict parcels of land to agricultural or related open space uses. In return, landowners receive lower property tax assessments. In CEQA analyses, identification of properties that are under a Williamson Act contract is used to also identify sites that may contain agricultural resources or are zoned for agricultural uses.

Fire and Resource Assessment Program

The California Department of Forestry and Fire Protection (CAL FIRE) identifies forest land, timberland, and lands zoned for timberland production that can (or do) support forestry resources.⁹ Programs such as CAL FIRE's Fire and Resource Assessment Program and are used to identify whether forest land, timberland, or timberland production areas that could be affected are located on or adjacent to a project site.¹⁰

4.2.1.2 *Existing Conditions*

According to the Santa Clara County Important Farmland 2016 Map, the project site is designated as *Urban and Built-Up Land*. *Urban and Built-Up Land* is defined as residential land with a density of at least six units per 10-acre parcel, as well as land used for industrial and commercial purposes, golf courses, landfills, airports, sewage treatment, and water control structures.¹¹ According to Santa Clara County Office of the Assessor, the site is not subject to a Williamson Act contract.

⁹ Forest Land is land that can support 10 percent native tree cover and allows for management of forest resources (California Public Resources Code Section 12220(g)); Timberland is land not owned by the federal government or designated as experimental forest land that is available for, and capable of, growing trees to produce lumber and other products, including Christmas trees (California Public Resources Code Section 4526); and Timberland Production is land used for growing and harvesting timber and compatible uses (Government Code Section 51104(g)).

¹⁰ California Department of Forestry and Fire Protection. "Fire and Resource Assessment Program." Accessed October 14, 2021. <http://frap.fire.ca.gov/>.

¹¹ California Department of Conservation, *Santa Clara County Important Farmland Map 2016*. <https://santaclaralafco.org/sites/default/files/sc116.pdf>

4.2.2 Impact Discussion

For the purpose of determining the significance of the project's impact on agriculture and forestry resources, would the project:

4. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
5. Conflict with existing zoning for agricultural use, or a Williamson Act contract?
6. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
7. Result in a loss of forest land or conversion of forest land to non-forest use?
8. 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 conversion of forest land to non-forest use?

Note: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

4.2.2.1 *Project Impacts*

-
- 1. Would the project convert Farmland, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**
-

According to the Santa Clara County Important Farmland 2016 Map, the project site is designated as *Urban and Built-Up Land*. The project, therefore, would not convert farmland to non-agricultural use. **(No Impact)**

-
- 2. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**
-

The site is currently zoned Industrial Park. The project has concurrently filed an application with the City of San Jose to rezone the site as Planned Development. According to Santa Clara County Office

of the Assessor, the site is not subject to a Williamson Act contract. The project, therefore, would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(No Impact)**

3. Would the project conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production?

The site is currently zoned Industrial Park. The project has concurrently filed an application with the City of San Jose to rezone the site as Planned Development. The project, therefore, would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

4. Would the project result in a loss of forest land or conversion of forest land to non-forest use?

No forest land is located on or adjacent to the site. The project, therefore, would not result in a loss of forest land or conversion of forest land to non-forest use. **(No Impact)**

5. Would the project 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 conversion of forest land to non-forest use?

As described above, no farmland or forest land is located on or near the site. The project, therefore, would not involve other changes in the existing environment which could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use. **(No Impact)**

- *Cumulative Impacts*

Would the project result in a cumulatively considerable contribution to a significant cumulative agricultural and forestry resources impact?

The geographic area for cumulative agricultural and forestry resource impacts is the County of Santa Clara. The project would have no impact on agricultural and forestry resources and, therefore, the project has no potential to combine with other projects to result in cumulative impacts to these resources. **(No Cumulative Impact)**

4.3 AIR QUALITY

This section is based upon an Air Quality Analysis prepared by Atmospheric Dynamics, Inc. in accordance with the California Energy Commission (CEC) application requirements for a Small Power Plant Exemption (SPPE) pursuant to the power plant siting regulations, and the rules and regulations of the Bay Area Air Quality Management District (BAAQMD or District).

The following Appendices contain support data for the Air Quality and Public Health analyses.

Appendix AQ1 – Engine Emissions Data for Criteria and Toxic Pollutants

Appendix AQ2 – Engine Specification Brochures and Emissions Control System Information

Appendix AQ3 – Air Quality Impact Modeling Support Data

Appendix AQ4 – Construction and Miscellaneous Operations Emissions Evaluation and Support Data

Appendix AQ5 – Risk Assessment Support Data

4.3.1 Environmental Setting

Air quality in the San Francisco Bay Area Air Basin (SFBAAB) is typically better than most other areas of the state, due to its proximity to the Pacific Ocean and the weather patterns that dominate the region. The summer climate of the west coast and the Bay Area region is dominated by a semi-permanent high centered over the northeastern Pacific Ocean. Because this high-pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus, the conditions that persist along the coast of California during summer are a northwest air flow and negligible precipitation. A thermal low-pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

The steady northwesterly flow around the eastern edge of the Pacific high-pressure cell exerts a stress on the ocean surface along the west coast. This induces upwelling of cold water from below. Upwelling produces a band of cold water that is approximately 80 miles wide off San Francisco. During July the surface waters off San Francisco are 30°F cooler than those off Vancouver, more than 700 miles farther north.

Air approaching the California coast, already cool and moisture-laden from its long trajectory over the Pacific, is further cooled as it flows across this cold bank of water near the coast, thus accentuating the temperature contrast across the coastline. This cooling is often sufficient to produce a high incidence of fog and stratus clouds along the Northern California coast in summer.

In winter, the Pacific High weakens and shifts southward, upwelling ceases, and winter storms become frequent. Almost all of the Bay Area's annual precipitation takes place in the November through April period. During the winter rainy periods, inversions are weak or nonexistent, winds are often moderate and air pollution potential is very low. During winter periods when the Pacific high becomes dominant, inversions become strong and often are surface-based; winds are light and pollution potential is high. These periods are characterized by winds that flow out of the Central Valley into the Bay Area and often include Tule fog.

Air quality is determined by measuring ambient concentrations of criteria pollutants at various locations through a defined region. Degradation, or lack thereof, of air quality is determined by

comparing past air concentrations to the current ambient air quality standards and establishing trends for the area in question. Toxic air contaminants (TACs) have no ambient air quality standards, and a health risk assessment (HRA) is typically conducted to evaluate whether risks of exposure to TACs will create an adverse impact.

4.3.1.1 *Existing Air Quality*

In 1970, the United States Congress instructed the US EPA to establish standards for air pollutants, which were of nationwide concern. This directive resulted from the concern of the effects of air pollutants on the health and welfare of the public. The resulting Clean Air Act (CAA) set forth air quality standards to protect the health and welfare of the public. Two levels of standards were promulgated – primary standards and secondary standards. Primary national ambient air quality standards (NAAQS) are “those which, in the judgment of the administrator [of the US EPA], based on air quality criteria and allowing an adequate margin of safety, are requisite to protect the public health (state of general health of community or population).” The secondary NAAQS are “those which in the judgment of the administrator [of the US EPA], based on air quality criteria, are requisite to protect the public welfare and ecosystems associated with the presence of air pollutants in the ambient air.” To date, NAAQS have been established for seven criteria pollutants as follows: sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sub 10-micron particulate matter (PM₁₀), sub 2.5-micron particulate matter (PM_{2.5}), and lead (Pb).

The criteria pollutants are those that have been demonstrated historically to be widespread and have a potential for adverse health impacts. US EPA developed comprehensive documents detailing the basis of, or criteria for, the standards that limit the ambient concentrations of these pollutants. The State of California has also established ambient air quality standards (AAQS) that further limit the allowable concentrations of certain criteria pollutants. Review of the established air quality standards are undertaken by both US EPA and the State of California on a periodic basis. As a result of the periodic reviews, the standards have been updated, i.e., amended, additions, and deletions, over the ensuing years to the present.

Each federal or state ambient air quality standard is comprised of two basic elements: (1) a numerical limit expressed as an allowable concentration, and (2) an averaging time which specifies the period over which the concentration value is to be measured. Table 4.3-1 presents the current federal and state ambient quality standards.

Table 4.3-1: California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards Concentration	National Standards Concentration
Ozone	1 hour	0.09 ppm (180 µg/m ³)	-
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)
Carbon monoxide (CO)	8 hours	9.0 ppm (10,000 µg/m ³)	9 ppm (10,000 µg/m ³)
	1 hour	20 ppm (23,000 µg/m ³)	35 ppm (40,000 µg/m ³)
Nitrogen dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)
	1 hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)
Sulfur dioxide (SO ₂)	Annual Arithmetic Mean	-	0.030 ppm (80 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)
	3 hours	-	0.5 ppm (1300 µg/m ³)
	1 hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)
Suspended particulate matter or PM10 (10 micron)	24 hours	50 µg/m ³	150 µg/m ³
	Annual Arithmetic Mean	20 µg/m ³	-
Suspended particulate matter or PM2.5 (2.5 micron)	Annual Arithmetic Mean	12 µg/m ³	12.0 µg/m ³ (3-year average)
	24 hours	-	35 µg/m ³
Sulfates	24 hours	25 µg/m ³	-
Lead (Pb)	30 days	1.5 µg/m ³	-
	Calendar Quarter	-	1.5 µg/m ³
	Rolling 3-month Average	-	0.15 µg/m ³

ppm = parts per million, ppb=parts per billion, µg/m³ = micrograms per cubic meter (CARB 2016)

Brief descriptions of health effects for the main criteria pollutants are as follows.

Ozone

Ozone is a reactive pollutant, which is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving precursor organic compounds (POC) and oxides of nitrogen (NO_x). POC and NO_x are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of POC and NO_x under the influence of wind and sunlight. Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide is a non-reactive pollutant that is a product of incomplete combustion. Ambient carbon monoxide concentrations generally follow the spatial and temporal distributions of vehicular

traffic and are also influenced by meteorological factors such as wind speed and atmospheric mixing. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area out to some distance from vehicular sources. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease or anemia, as well as fetuses.

Particulate Matter (PM10 and PM2.5)

PM10 consists of particulate matter that is 10 microns or less in diameter (a micron is one- millionth of a meter), and fine particulate matter, PM2.5, which consists of particulate matter 2.5 microns or less in diameter. Both PM10 and PM2.5 represent fractions of particulate matter, which can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, combustion, and atmospheric photochemical reactions. Some of these operations, such as demolition and construction activities, contribute to increases in local PM10 and PM2.5 concentrations, while others, such as stationary source emissions, vehicular traffic, etc. affect regional PM10 and PM2.5 concentrations.

Nitrogen Dioxide and Sulfur Dioxide

Nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) are two gaseous compounds within a larger group of compounds, NO_x and sulfur oxides (SO_x), respectively, which are products of the combustion of fuel. NO_x and SO_x emission sources can elevate local NO₂ and SO₂ concentrations, and both are regional precursor compounds to particulate matter. As described above, NO_x is also an ozone precursor compound and can affect regional visibility. (Nitrogen dioxide is the “whiskey brown” colored gas readily visible during periods of heavy air pollution.) Elevated concentrations of these compounds are associated with increased risk of acute and chronic respiratory disease. Additionally, sulfur dioxide and nitrogen oxides emissions can be oxidized in the atmosphere to eventually form sulfates and nitrates, which contribute to acid rain.

Lead

Gasoline-powered automobile engines used to be the major source of airborne lead in urban areas. Excessive exposure to lead concentrations can result in gastrointestinal disturbances, anemia, kidney disease, and in severe cases of neuromuscular and neurological dysfunction. The use of lead additives in motor vehicle fuel has been eliminated in California, and lead concentrations have declined substantially as a result.

Hydrogen Sulfide

Hydrogen sulfide (H₂S) is a naturally occurring gas contained, as a for-instance, in geothermal steam from the Geysers. H₂S has a “rotten egg” odor at concentration levels as low as 0.005 parts per million (ppm). The state 1-hour standard of 0.03 ppm is set to reduce the potential for substantial odor complaints. At concentrations of approximately 10 ppm, exposure to H₂S can lead to health effects such as eye irritation.

Toxic/Hazardous Air Contaminants

“Toxic air contaminants” (TACs) are air pollutants that are believed to have carcinogenic or adverse non-carcinogenic effects but do not have a corresponding ambient air quality standard. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust.

Toxic air contaminants are regulated under both state and federal laws. Federal laws use the term “Hazardous Air Pollutants” (HAPs) to refer to the same types of compounds referred to as TACs under state law. Both terms generally encompass the same compounds. For the sake of consistency, this analysis will use TACs when referring to these compounds rather than HAPs. Under the Clean Air Act Amendments of 1990, approximately 190 substances are designated as TACs. Appendix AQ1 presents the annual emissions of the TACs in Table AQ1-1 and AQ1-2. Tables in the emissions section below present the emissions from the diesel engines at the SVYBGF facility. TAC emissions are well below the major source thresholds; therefore, the facility is not a major source subject to MACT.

Attainment Status. The EPA designates the attainment status of regional areas with respect to federal air quality standards, while the CARB designates the attainment status of regional areas of California with respect to state air quality standards. Local air districts in California play a vital role in such designations at both levels. These classifications depend on whether the monitored ambient air quality data shows compliance, or non-compliance with the ambient air quality standards, respectively. The SVYBGF and SVYDC site is located within Santa Clara County, under the jurisdiction of the BAAQMD. Table 4.3-2 summarizes the attainment status for each of the criteria pollutants in the BAAQMD with regards to both the federal and state standards.

Table 4.3-2: Attainment Status for the San Francisco Bay Area Air Basin

Pollutant	Averaging Time	Federal Designation	State Designation
Ozone	1 Hour 8 Hour	Marginal Non Attainment Non Attainment	Non Attainment Non Attainment
CO	1 Hour 8 Hour	Maintenance Maintenance	Attainment Attainment
NO ₂	1 Hour Annual AM	Attainment Attainment	Attainment Attainment
SO ₂	1 Hour 3 Hour 24 Hour Annual AM	Attainment Attainment Attainment Attainment	Attainment Attainment - -
PM ₁₀	24 Hour Annual AM	Attainment -	Non Attainment Non Attainment
PM _{2.5}	24 Hour Annual AM	Attainment Attainment	- Non Attainment
Lead	30 day Avg Calendar Qtr. Rolling 3 Month Avg	Attainment Attainment -	Attainment - -
Visibility Reducing PM (VRP)	8 Hour	-	Unclassified

Pollutant	Averaging Time	Federal Designation	State Designation
Sulfates	24 Hour	-	Attainment
H2S	1 Hour	-	Unclassified
Vinyl Chloride	24 Hour	-	No info

Source: BAAQMD website, 2020. (BAAQMD, 2017a)

Existing Conditions. The existing air quality conditions in the project area are summarized in Tables 4.3-3 and 4.3-4, which provide the background ambient air concentrations of criteria pollutants for the previous three (3) years as measured at certified monitoring stations near the project site. To evaluate the potential for air quality degradation as a result of the project, modeled project air concentrations are combined with the respective background concentrations as presented in Table 4.3-4 and used for comparison to the NAAQS and CAAQS.

Table 4.3-3: Measured Ambient Air Quality Concentrations by Year

Pollutant	Units	AvgTime	Concentration Value Type	2018	2019	2020
Ozone	ppb	1-Hr	CAAQS-1 st High	78	95	106
Ozone	ppb	8-Hr	CAAQS-1st High	61	82	85
Ozone	ppb	8-Hr	NAAQS-4 th High	53	60	68
NO ₂	ppb	1-Hr	CAAQS-1 st High	86	59	52
NO ₂	ppb	1-Hr	NAAQS-98 th %	59	52	45
NO ₂	ppb	Annual	CAAQS/NAAQS-AAM	13	11	9.7
CO	ppm	1-Hr	CAAQS-1 st High	2.5	1.7	1.8
			NAAQS-2 nd High	2.4	1.6	1.8
CO	ppm	8-Hr	CAAQS-1 st High	2.1	1.3	1.5
			NAAQS-2 nd High	2.0	1.3	1.5
SO ₂	ppb	1-Hr	CAAQS-1 st High	6.9	14.5	2.9
			NAAQS-99 th %	3	2	2
		24-Hr	CAAQS-1 st High	1.1	1.5	0.8
			NAAQS-2 nd High	1.1	0.6	0.8
		Annual	CAAQS/NAAQS-AAM	0.21	0.14	0.17
PM ₁₀	µg/m ³	24-Hr	CAAQS-1 st High	122	77	134
			NAAQS-2 nd High	111	54	91
		Annual	CAAQS-AAM	23.1	19.1	ND*
PM _{2.5}	µg/m ³	24-Hr	NAAQS-98 th %	73	21	56
		Annual	CAAQS –AAM	12.8	9.1	ND*
			NAAQS-AAM	10.2	9.0	11.5
Notes: Values for 158 East Jackson Street, San Jose, CA, the nearest BAAQMD monitoring site (all applicable pollutants measured) Data sources: EPA AIRS website (8/2021). No data for 2020 was available from CARB or the BAAQMD. *Used data for 2017-2019 to compute background values on Table 4.3-4.						

Table 4.3-4: Background Air Quality Data Summary

Pollutant and Averaging Time	Background Value ($\mu\text{g}/\text{m}^3$)
Ozone – 1-hour Maximum CAAQS	208
Ozone – 8-hour Maximum CAAQS/ 3-year average 4 th High NAAQS	167
PM10 – 24-hour Maximum CAAQS/ 24-hour 3-year 4 th High NAAQS	134/98
PM10 – Annual Maximum CAAQS	23.1
PM2.5 – 3-Year Average of Annual 24-hour 98 th Percentiles NAAQS	50
PM2.5 – Annual Maximum CAAQS/ 3-Year Average of Annual Values NAAQS	12.8 / 10.2
CO – 1-hour Maximum CAAQS/ 1-hour High, 2 nd High NAAQS	2863 / 2748
CO – 8-hour Maximum CAAQS/ 8-hour High, 2 nd High NAAQS	2405 / 2290
NO ₂ – 1-hour Maximum CAAQS/ 3-Year Average of Annual 98 th Percentile 1-hour Daily Maxima NAAQS	161.8 / 97.8
NO ₂ – Annual Maximum CAAQS/NAAQS	24.5 / 24.5
SO ₂ – 1-hour Maximum CAAQS/ 3-Year Average of Annual 99 th Percentile 1-hour Daily Maxima NAAQS	38 / 6
SO ₂ – 3-hour Maximum NAAQS (Not Available - Used 1-hour Maxima)	38
SO ₂ – 24-hour Maximum CAAQS/ 24-hour 2 nd High NAAQS	4 / 2.9
SO ₂ – Annual Maximum NAAQS	0.55
Values for 158 East Jackson Street, San Jose, CA, the nearest BAAQMD monitoring site (all applicable pollutants measured) Conversion of ppm/ppb measurements to $\mu\text{g}/\text{m}^3$ concentrations based on: $\mu\text{g}/\text{m}^3 = \text{ppm} \times 40.9 \times \text{MW}$, where MW = 48, 28, 46, and 64 for ozone, CO, NO ₂ , and SO ₂ , respectively.	

4.3.1.2 Regulatory Background

Federal, state, and regional agencies regulate air quality within the BAAQMD, where the project site is located.

Federal. At the federal level, EPA is responsible for overseeing implementation of the federal Clean Air Act and its subsequent amendments (CAA). As required by the federal CAA, NAAQS have been established for the criteria pollutants described above.

New Source Performance Standards

The SVYBGF will be subject to the applicable New Source Performance Standards (NSPS) standards that are identified below. A description of the applicant's compliance plan to meet each standard is included.

40 CFR Part 60, Subpart IIII

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines became effective July 11, 2006. The diesel engines are subject to Subpart IIII. The proposed

engines are EPA Tier 2 rated and will be equipped with BACT to meet Tier 4 emissions standards.

Compression Ignition (CI) Diesel Engines Emission Standards

Based on 40 CFR 60.4202, emergency CI engines rated at > 560 kW are subject to the emissions standards in 40 CFR 89.112, Table 1, as follows:

- Tier 2 – NO_x+NMHC 6.4 g/kw-hr = 4.8 g/bhp-hr
- Tier 2 – CO 3.5 g/kw-hr = 2.6 g/bhp-hr
- Tier 2 – PM 0.20 g/kw-hr = 0.15 g/bhp-hr

Using the recommended CARB procedure for breaking out the NO_x+NMHC value, the applicable standard for NO_x would be 4.6 g/bhp-hr, and the applicable standard for NMHC (VOC) would be 0.2 g/bhp-hr.

The proposed diesel-fired engines will be equipped with Miratech catalyst systems and diesel particulate filters (DPF) which will result in the engines meeting the EPA/CARB Tier 4 emissions standards, as well as the BACT requirements of the BAAQMD for engines rated at greater than 1000 bhp.

40 CFR Part 60 Subpart ZZZZ

The proposed CI engines are exempt from the requirements of Subpart ZZZZ (63.6590 (c)(1)) if the engines comply with the emissions limitations specified in 40 CFR 60 Subpart IIII. See discussion above.

BAAQMD Air Quality Standards and Regulations

The section briefly describes the regulations which would apply to the SVYBGF as set forth in the BAAQMD Rules and Regulations.

Regulation 2 Rule 2 – New Source Review (NSR)

This rule applies to all new or modified sources requiring a Permit to Operate for any new source with actual or potential emissions above the rule trigger limit. The rule also specifies when BACT is required, when offsets are required and the offset ratios, as well the requirements for the required impact analyses, etc.

BACT Requirements (BAAQMD Policy)

A review of BACT for CI-Stationary Emergency Standby engines rated at greater than 1000 BHP (BAAQMD Policy Memo, BACT Determination for Diesel Back-Up Engines Greater than or equal to 1,000 Brake Horsepower, 12/21/2020) indicates that BACT for engines in the stated size range would be compliance with the EPA Tier 4-Final standards as follows:

- A. PM 0.02 g/bhp-hr
- B. NO_x 0.5 g/bhp-hr
- C. NMHC 0.14 g/bhp-hr
- D. CO 2.6 g/bhp-hr
- E. SO₂ fuel sulfur content not to exceed 15 ppmw (~0.005 g/bhp-hr)

The engines proposed for the SVYBGF which are rated at greater than 1,000 HP meet these requirements, so BACT is satisfied.

Additionally, the use of diesel particulate filters on both engines will reduce the PM emissions to less than or equal to 0.015 g/bhp-hr.

NSR Offset Requirements

Required emissions offsets as identified in this application will be obtained in compliance with the Regulation 2 Rule 2 NSR rule provisions in Section 302. These provisions are discussed as follows:

- Pursuant to the BAAQMD NSR Rule (Regulation 2 Rule 2), section 2-2-302, offsets must be provided for NO_x or POC (VOC is used in this application), for any source with potential emissions greater than 10 tons/yr. For sources which emit NO_x or VOC in excess of 10 tpy but less than 35 tpy, these offsets can be provided by either of the two methods outlined in subsections 302.1.1 or 302.1.2 as follows; (1) the APCO must provide the required offsets from the Small Facility Bank Account, or (2) if the Small Facility Bank Account is exhausted then it is the responsibility of the Applicant to provide the required offsets to mitigate the proposed emissions net increase. VOC emissions from the proposed facility are less than 10 tpy, so VOC offsets are not required under the District NSR rule. NO_x emissions are greater than 35 tpy, and as such, the applicant must secure NO_x offsets at a ratio of 1.15:1 for any un-offset cumulative increase in emissions. The NO_x offsets cannot be acquired from the Small Facility Offset Bank.
- Offset mitigation for PM₁₀, PM_{2.5}, and sulfur dioxide emissions is addressed in Section 2-2-303. This section specifies that offsets are only required if the source has the potential to emit any of these pollutants in excess of 100 tons per year. The Applicant notes that the worst case PM₁₀, PM_{2.5}, and SO₂ emissions from the SVYBGF are 0.161, 0.161, and 0.05 tons per year respectively. The Applicant believes that mitigation for emissions at these low emissions levels is not warranted, and such mitigation is not required under Regulation 2 Rule 2.

Regulation 9 Rule 8 – NO_x and CO from Stationary Internal Combustion Engines

- A. Section 9-8-304 requires that emergency CI engines rated at greater than 175 bhp meet the following limits (at 15% O₂ dry basis): NO_x 110 ppm and CO 310 ppm. But, Section 9-8-110.5 exempts “emergency standby engines” from this requirement.
- B. Section 9-8-330 requires that the affected engine be limited to non-emergency operations of less than or equal to 50 hours per year.
- C. Section 9-8-530 requires that each engine be equipped with a non-resettable totalizing meter, and the following must be logged and reported to the AQMD:
 - ◆ Total hours run each year
 - ◆ Total hours of emergency operation per year
 - ◆ Specify the nature of each emergency operation

The proposed engine models will comply with the above requirements.

BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants

This rule provides for the review of new and modified sources of TAC emissions to evaluate potential public exposure and health risk. The rule also specifies when toxics-BACT is required, trigger limits for further analysis based on substance specific emissions levels (both short and long term), risk assessment procedures, etc.

State. CARB is the state agency that retains authority to regulate mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. The CARB also establishes and revises the CAAQS.

TACs are primarily regulated through state and local risk management programs, which are designed to eliminate, avoid, or minimize the risk of adverse health effects from exposures to TACs. In the BAAQMD, the two most prominent TAC regulatory programs are the Toxics New Source Review (Regulation 2, Rule 5) rules and the AB2588 Air Toxics Hot Spots Program.

Regional. BAAQMD is the primary regional agency responsible for attaining and maintaining air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, and enforcement. Examples of the BAAQMD's primary air plans and regulations are described below.

BAAQMD Clean Air Plan. The 2017 Bay Area Clean Air Plan was adopted by the BAAQMD on April 19, 2017 and provides a regional strategy to protect public health and protect the climate. The 2017 Bay Area Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, and is a multi-pollutant air quality plan addressing four categories of air pollutants (BAAQMD, 2017b):

- 1) ozone and the primary ozone precursor pollutants (VOCs and NO_x)
- 2) Particulate matter (PM₁₀ and PM_{2.5}), as well as their precursors
- 3) TACs/HAPs
- 4) Greenhouse gases

4.3.2 Impact Discussion

The following presents the impact determinations for the general CEQA areas related to air quality and public health. Each of these general determinations are discussed in greater detail in the analysis which follows.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
• Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note to reader: Where the following analysis applies to both the SVYBGF and the SVYDC, the word “project” is used to collectively refer to both facilities. Where impacts associated with each facility differ, they are referred to individually as the “SVYBGF” or the “SVYDC”.

4.3.2.1 *Significance Criteria*

The project analysis is based upon the general methodologies in the most recent BAAQMD CEQA Guidelines (BAAQMD,2017c) and significance thresholds for the SFBAAB, including the criteria pollutant thresholds listed in Table 4.3-5.

Table 4.3-5: BAAQMD CEQA Thresholds of Significance

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
CO	None	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Annual Average Emissions (tons/year)
Health Risks and Hazards for New Sources			
Excess Cancer Risk	10 per one million	10 per one million	
Chronic or Acute Hazard Index	1.0	1.0	
Incremental annual average PM _{2.5}	0.3 µg/m ³	0.3 µg/m ³	
GHGs – Stationary Source Projects			
CO ₂ e	None	10,000 MT/yr (11,023 short tons)	
Health Risks and Hazards for Sensitive Receptors (Cumulative from All Sources within 1,000-Foot Zone of Influence) and Cumulative Thresholds for New Sources			
Excess Cancer Risk	100 per 1 million		
Chronic Hazard Index	10.0		
Annual Average PM _{2.5}	0.8 µg/m ³		

Source: BAAQMD CEQA Guidelines, May 2017.

4.3.2.2 *Impact Summary*

The conclusions of the air quality analysis are summarized below as responses to CEQA checklist questions. A full discussion of the air quality analysis underlying these conclusions is presented in the following section.

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan. **(Less than Significant Impact)**

The SVYBGF and the SVYDC project would not conflict with or obstruct the implementation of the applicable air quality plan due to the following:

- The SVYBGF will comply with all applicable rules and regulations of the BAAQMD regarding emissions of criteria pollutants.
- The SVYBGF will comply with all applicable rules and regulations of the BAAQMD regarding emissions of toxic pollutants.
- The proposed engines at the SVYBGF will comply with the applicable federal Tier 2 and Tier 4 emissions standards for emergency standby electrical generation CI engines.
- The SVYBGF will comply with all applicable provisions of the applicable 2017 BAAQMD Air Quality Implementation Plan.
- The SVYBGF will obtain and maintain all required air quality related permits from the BAAQMD, and requirements imposed by the California Energy Commission.

Impact AIR-2: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. **(Less Than Significant Impact)**

The SVYBGF project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, due to the following:

- The use of best management practices during the construction phase will ensure that the emissions do not result in a cumulative considerable net increase of any non-attainment pollutants. These emissions are generally short term in nature and vary widely from day to day.
- See offset mitigation requirements under the NSR discussion above.

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations. **(Less than Significant Impact)**

The SVYBGF project would not expose sensitive receptors to substantial pollutant concentrations due to the following:

- The air quality impact analysis presented herein shows that the SVYBGF will not cause or contribute to a violation of any state or federal ambient air quality standard.
- The construction and operational health risk assessments presented herein indicate that the emissions of toxic air contaminants from the SVYBGF processes will not cause a significant risk to any sensitive or non-sensitive receptor with respect to cancer or chronic impacts.

Impact AIR-4: The project would not result in substantial emissions (such as odors) adversely affecting a substantial number of people. **(Less than Significant Impact)**

The SVYBGF project would not result in other emissions or odors that would adversely affect a substantial number of people due to the following:

- a. Similar facilities, both larger and smaller in scale, have not been identified as sources of odors that would adversely affect offsite receptors.
- b. The SVYBGF and SVYDC are not one of the project types listed in the BAAQMD CEQA guidelines as producing odors that may affect offsite receptors.
- c. The applicant has not identified any operational or construction practices, that are planned for use at the project site, that would generate substantial amounts of odors that would affect offsite receptors.

4.3.2.3 *Project Emissions, Air Quality Impact Analysis, and Health Risk Assessment*

Project Emissions

Construction. Project construction emissions of CO, VOCs, NO_x, SO₂, PM₁₀, and PM_{2.5} were evaluated. Detailed construction emission calculations are presented in Appendix AQ4. Onsite construction emissions from construction of SVYDC and SVYBGF will result from demolition activities, site preparation and grading activities, building erection and parking lot construction activities, “finish” construction activities, and the use of onsite construction equipment. Construction emissions from the SVYDC are included in the emission calculations for the combined SVYDC/SVYBGF facility. Offsite construction emissions will be derived primarily from materials transport to and from the site, and worker travel. Emissions from the 32-month construction period were estimated using the CalEEMod program. Estimated criteria pollutant construction emissions for the project are summarized in Table 4.3-6. Construction support data and the CalEEMod analysis output are presented in Appendix AQ-4.

The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. BAAQMD recommends a 1,000-foot zone of influence around project boundaries. Since construction activities are typically temporary and mitigation measures as delineated below are proposed to be implemented, community risk impacts from construction activities would be *less than significant*.

Table 4.3-6: Mitigated Criteria Pollutant Emissions from Construction Activities

Scenario/Year	NO _x	CO	VOC	SO _x	PM ₁₀	PM _{2.5}	CO ₂ e
	Tons						
SVY05 2022	.17	1.13	.03	.0024	Exhaust .004 Fugitive .181	Exhaust .004 Fugitive .08	233
SVY05 2023	1.05	4.68	2.75	.011	Exhaust .015 Fugitive .58	Exhaust .015 Fugitive .25	1066
SVY05 2024 Plus SVY06 2024	.98	5.0	.36	.011	Exhaust .016 Fugitive .59	Exhaust .016 Fugitive .28	1062
SVY06 2025	.37	1.91	1.33	.0038	Exhaust .0055 Fugitive .063	Exhaust .0054 Fugitive .017	378
Max Year	1.05	5.0	2.75	.011	Exhaust .016 Fugitive .59	Exhaust .016 Fugitive .28	1066
Average Daily Emission, lbs	7.95	37.9	20.8	.083	Exhaust .12 Fugitive	Exhaust .12 Fugitive	NA

Scenario/Year	NO _x	CO	VOC	SO _x	PM ₁₀	PM _{2.5}	CO _{2e}
	Tons						
(for the Max Year)					4.47	2.12	
BAAQMD CEQA Thresholds Lbs/day	54	NA	54	NA	Exhaust 82	Exhaust 54	NA
Exceeds Thresholds	No	NA	No	NA	No	No	NA

Construction schedule is approximately 32 months, 22 days per avg month, or ~704 work days.

Annual work period is 12 months, 22 days/month, or ~264 days.

Source: ADI CalEEMod analysis, September 2021.

As shown in Table 4.3-6, construction of the project would not generate VOCs, NO_x, SO_x, PM₁₀ and PM_{2.5} emissions in excess of BAAQMD's numeric significance thresholds. The BAAQMD's CEQA Guidelines consider fugitive dust impacts to be less than significant through the application of best management practices (BMPs).

Applicant Proposed Mitigation Measures:

MM AIR-1:

To ensure that fugitive dust impacts are less than significant, the project will implement the BAAQMD's recommended BMPs during the construction phase. These BMPs are incorporated into the design of the project and will include:

- All exposed surfaces (soil piles, graded areas, and unpaved access roads) shall be watered at least two times per day.
- All haul trucks transporting material offsite shall be covered.
- All track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day.
- All vehicle speeds on unpaved surfaces shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks shall be paved as soon as possible. Building pads shall be completed as soon as possible after grading unless seeding or soil binders are used.
- Equipment idling times shall be minimized to 5 minutes per the Air Toxics Control Measure (ATCM). Idling time signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer specifications. All equipment shall be

checked by a certified visible emissions evaluator.

- Information on who to contact, contact phone number, and how to initiate complaints about fugitive dust problems will be posted at the site.

Operation. Operational emissions of NO_x, VOCs, CO, SO₂, PM₁₀, PM_{2.5}, and GHGs were evaluated. Diesel particulate matter (DPM) was the only TAC considered to result from operation of the SVYBGF. Detailed operation emission calculations are presented in Appendix AQ1. Primary operation emissions are a result of diesel fuel combustion from the standby diesel generators, offsite vehicle trips for worker commutes and material deliveries. Secondary operational emissions from facility upkeep, such as architectural coatings, consumer product use, landscaping, water use, waste generation, natural gas use for comfort heating, and electricity use, were considered de minimus. Each of the primary emission sources are described in more detail below.

Stationary Sources. The project's 38 standby diesel generators will be comprised of the following equipment:

- 36 – CAT 3516E Diesel-fired engines, rated at 4023 HP (~3000 kWe) at 100% Load
 - (6 of these engines are classified as “redundant”)
- 2 – CAT C32 Diesel-fired engine, rated at 1474 HP (~1000 kWe) at 100% Load

The generators proposed for installation are made by Caterpillar, with a certified Tier 4 rating. These engines will be equipped with diesel particulate filters (DPF) to reduce the diesel particulates to less than or equal to 0.015 grams/brake horse-power hour (g/bhp-hr), and catalyst systems for the control of NO_x, CO, and VOCs. The control systems result in engine emissions compliance with the EPA Tier 4 standards and BAAQMD BACT. All generators would be operated routinely, i.e., readiness and maintenance testing, to ensure they would function during an emergency event.

Appendix AQ1 presents the detailed emissions calculations for the proposed engines. Appendix AQ2 contains the manufacturers specification sheets for the engines and the air pollution control systems.

During routine readiness testing, criteria pollutants and TACs (as DPM) would be emitted directly from the generators. Criteria pollutant emissions from generator testing were quantified using information provided by the manufacturer, as specified in Appendix AQ1. SO₂ emissions were based on the maximum sulfur content allowed in California diesel (15 parts per million by weight), and an assumed 100 percent conversion of fuel sulfur to SO₂. DPM emissions resulting from diesel stationary combustion were assumed equal to PM₁₀/2.5 emissions. For conservative evaluation purposes, it was assumed that testing (weekly, monthly, quarterly, annual, and special testing) would occur for no more than 50 hours per year. 50 hours per year per engine is the limit specified by the Airborne Toxic Control Measure for Stationary Toxic Compression Ignition Engines (Title 17, Section 93115, CCR). However, it is the Applicant's experience that each engine will be operated for considerably less than 50 hours a year. Maintenance and readiness testing usually occurs at loads ranging from 10 to 100% load. For purposes of this application, emissions were assumed to occur at 100%

load. Tables AQ1-1 and AQ1-2 in Appendix AQ1 present the engine emissions based upon the 100% load point, number of engines tested, etc. The engines were evaluated for the following emissions scenarios:

- CAT 3516E Engines:
 - Scenario 1 – Each large engine running for 100 hours per year for Declared Emergency operations, at 100% load, at the guaranteed emissions levels from the Tier 4 control systems.
 - Scenario 2 - Each large engine running for 50 hours per year for Readiness and Maintenance operations, at 100% load, using composite emissions factors to address both uncontrolled and controlled emissions during such testing.
- CAT C32 Engines:
 - Scenario 3 – Each small engine running for 100 hours per year for Declared Emergency operations, at 100% load, at the guaranteed emissions levels from the Tier 4 control systems.
 - Scenario 4 - Each small engine running for 50 hours per year for Readiness and Maintenance operations, at 100% load, using composite emissions factors to address both uncontrolled and controlled emissions during such testing.

The tables which follow present emissions summaries for the two engines for each of the scenarios noted above in terms of the worst case hourly, daily, and annual emissions. Maximum daily emissions are based on the assumption that only eight (8) of the CAT 3516E engines will be tested on any day (and the eight (8) engines will not be run concurrently).

Table 4.3-7: Scenario 1 and 3 Emissions Summary for CAT 3516E and CAT C32 Engines

Period	NO _x	CO	VOC	SO ₂	PM10/2.5	CO ₂ e
CAT 3516E						
Max Hourly, lbs	133.04	691.8	37.25	1.33	3.99	-
Max Daily, lbs	3192.93	16603.2	894.0	31.93	95.79	-
Max Annual, tons	6.65	34.6	1.86	0.07	0.20	7078
Scenario 1 – 3516E as defined above. 100 hrs/yr emergency Ops. Max daily emissions are based on testing of 8-3516E engines (not concurrently).						
CAT C32						
Max Hourly, lbs	3.25	16.90	0.91	0.03	0.10	-
Max Daily, lbs	78.0	405.6	21.84	0.78	2.34	-
Max Annual, tons	0.16	0.84	0.05	0.002	0.005	162
Scenario 3 – C32 as defined above. 100 hrs/yr emergency Ops.						

Table 4.3-8: Scenario 2 and 4 Emissions Summary for CAT 3516E and C32 Engines

Period	NO _x	CO	VOC	SO ₂	PM10/2.5	CO ₂ e
CAT 3516E						
Max Hourly, lbs	13.53	23.1	1.24	0.044	0.133	-
Max Daily, lbs	108.2	184.5	9.93	0.36	1.06	-
Max Annual, tons	12.17	20.75	1.12	0.04	0.12	4247
Scenario 2 - Maintenance/Readiness operations, 50 hrs/yr, as defined above.						
CAT C32						
Max Hourly, lbs	4.96	8.45	0.46	0.016	0.049	-
Max Daily, lbs	4.96	8.45	0.46	0.016	0.049	-
Max Annual, tons	0.25	0.42	0.03	0.001	0.002	81
Scenario 4 - Maintenance/Readiness operations, 50 hrs/yr, as defined above.						

Table 4.3-9: Scenario 1 and 3 Emissions Summary for CAT 3516E and CAT C32 Engines

Period	NO _x	CO	VOC	SO ₂	PM10/2.5	CO ₂ e
CAT 3516E						
Max Annual, tons	6.65	34.6	1.86	0.07	0.20	7078
Scenario 1 – as defined above. Emergency Ops.						
CAT C32						
Max Annual, tons	0.16	0.84	0.05	0.002	0.005	162
Scenario 3 – as defined above. Emergency Ops.						

Table 4.3-10: Scenario 2 and 4 Emissions Summary for CAT 3516E and CAT C32 Engines

Period	NO _x	CO	VOC	SO ₂	PM10/2.5	CO ₂ e
CAT 3516E						
Max Annual, tons	12.17	20.75	1.12	0.04	0.12	4247
Scenario 2 – as defined above. R&M Testing.						
CAT C32						
Max Annual, tons	0.25	0.42	0.02	0.001	0.002	81
Scenario 4 – as defined above. R&M Testing.						

Table 4.3-11 presents maximum daily and annual emissions data for the various testing scenarios in comparison to the BAAQMD CEQA significance thresholds.

Table 4.3-11: Facility Scenario Emissions and BAAQMD CEQA Significance Levels (R&M Testing)

Scenario	Lbs/Day					
	NO _x	CO	VOC	SO ₂	PM10	PM2.5
BAAQMD CEQA Thresholds	54	NA	54	NA	82	54
Worst Case Daily Engine Emissions ¹	108.21	184.5	9.93	0.36	1.06	1.06
Fuel VOC Losses	-	-	0.09	-	-	-
Daily Emissions	108.21	184.5	10.0	0.36	1.06	1.06
Significance Threshold Exceeded	Yes	NA	No	NA	No	No
Scenario	Tons/Yr					
	NO _x	CO	VOC	SO ₂	PM10	PM2.5
BAAQMD CEQA Thresholds	10	NA	10	NA	15	10
Fuel VOC Losses	-	-	0.016	-	-	-
Worst Case Annual Engine Emissions ²	12.42	21.2	1.14	0.041	0.122	0.122
Annual Emissions	12.42	21.2	1.16	0.041	0.122	0.122
Significance Threshold Exceeded	Yes	NA	No	NA	No	No
¹ Based on the emissions from Scenario 2 for a 8 engine test day for the CAT 3516E.						
² Based on the summation of the CAT 3516E and CAT C32 engine emissions under Scenario 2 and 4.						
² Worst case CO ₂ e emissions are 4328 tpy (R&M Testing)						

Fuel Storage (Working and Breathing) VOC Emissions

Each pair of stacked engines will be accompanied by two (2) diesel fuel tanks, i.e., a 12,000-gallon tank at the bottom of the engine pair, and a 500-gallon tank under the upper engine of the pair. This results in 19-12,000-gallon tanks and 19-500 gallon tanks. The capacities of the two tanks were added and evaluated as a single tank for each engine pair. VOC working and breathing losses (19 equivalent tanks) are presented in Appendix AQ-1, and summarized as follows:

- 1) Total VOC losses 0.0162 tpy or 0.089 lbs/day.

These values are included in Table 4.3-11 above.

The following should be noted with respect to Table 4.3-11 above.

- NO_x emissions exceed the BAAQMD CEQA significance levels on the days when the 8 engine readiness tests occur, and on a TPY basis (total emissions from all engines).
- The emissions of NO_x will be mitigated through the participation in the BAAQMD ERC Bank, or other alternative methods as negotiated with the BAAQMD.

Table 4.3-12 presents the summation of emissions for all engines for the maximum of the scenarios noted above, i.e., Scenario 1 plus Scenario 2 to meet the 150 hours per year criteria per the BAAQMD permitting policy criteria.

**Table 4.3-12 BAAQMD 150 Hours per Year Emissions Summation
(Tons per year)**

Engines	NO _x	CO	VOC	SO ₂	PM _{10/2.5}	CO _{2e}
CAT 3516E and CAT C32	19.24	56.6	3.05	0.11	0.33	11568
Summation of Scenario 1,2, 3, and 4 for both engines. <i>These values are NOT the NSR applicability values.</i>						

Table 4.3-13 presents data on the DPM emissions levels (worst case) for both models of engines.

**Table 4.3-13: Toxic Air Contaminant (DPM) Emissions from the Proposed Engines
(Per engine basis)**

Scenario	CAT 3516E	CAT C32
	DPM Emissions	
Maximum Annual, lbs/yr	6.65	2.45
Maximum Hourly, lbs	0.133	0.049

Notes: DPM is the approved surrogate compound for diesel fuel combustion for purposes of health risk assessment. Annual emissions for each engine are based on the max allowed runtime of 50 hours per year, as defined above.

Table 4.3-14 presents the hourly and annual fuel use values for the maximum operational scenario as outlined above.

Table 4.3-14 Engine Fuel Use Values

Scenario	CAT 3516E	CAT C32
	Fuel Use, gallons (per engine basis)	
Maximum Annual, gals/yr	10410	3575
Maximum Hourly, gals/hr	208.2	71.5
Total Annual Fuel Use (All Engines)		
Annual Fuel Use, gals/yr	374,760	7150

Miscellaneous Operational Emissions

Miscellaneous emissions from SVY05/SVY06 operational activities such as worker travel, deliveries, energy and fuel use for facility electrical, heating and cooling needs, periodic use of architectural coatings, landscaping, etc. were evaluated by CalEEMod. In addition, the estimated operational emissions from the existing facilities were also calculated by CalEEMod. These emissions, and post-project emissions increases or decreases are presented in Table 4.3-15.

Table 4.3-15: Miscellaneous Operational Emissions

Scenario	Lbs/Day					
	NO _x	CO	VOC	SO ₂	PM10 Exhaust	PM2.5 Exhaust
BAAQMD CEQA Thresholds	54	NA	54	NA	82	54
SVY05/06 Lbs/avg day	3.95	7.23	19.95	.03	.27	.27
Existing Facilities Lbs/avg day	4.16	24.77	5.81	.054	.121	.115
Resulting Increases or Decreases Lbs/avg day	-.21	-17.54	14.14	-.024	.15	.155
Exceeds Thresholds	No	NA	No	NA	No	No
TPY						
BAAQMD CEQA Thresholds	10	NA	10	NA	15	10
SVY05/06 Tons/yr	.72	1.32	3.64	.0054	.05	.049
Existing Facilities, TPY	.76	4.52	1.06	.0098	.022	.021
Resulting Increases or Decreases, TPY	-.04	-3.2	2.58	-.0044	.028	.028
Exceeds Thresholds	No	NA	No	NA	No	No
Note: Assumes the data center is manned 365 days/yr. Emissions above are the sum total for SVY05 and SVY06 for 2026. All source category includes, mobile worker travel, deliveries, energy use, fuel use, waste disposal, water use, and miscellaneous area sources. Source: ADI CalEEMod analysis, Sept 2021.						

Air Quality Impact Analysis

The 9.8-acre project site (two adjacent parcels), located at 1849 Fortune Drive in the City of San Jose (Santa Clara County), is currently developed with several office/light industrial buildings and associated paved parking and loading areas. The project proposes construct the following elements;

- 2) a 135,000 square foot (sq.ft.) light manufacturing building,
- 3) a 225,000 sq.ft. data center building SVY05,
- 4) a 288,000 sq.ft. data center building SVY06, and,
- 5) a 140,100 sq.ft. parking garage (316 spaces).

The following two (2) existing buildings will be demolished, and the sites cleared for construction of the proposed data center.

1. The existing building at 2400 Ringwood Avenue encompasses approximately 80,000 square feet and is currently occupied. This building houses Olympus America which employs approximately 200 individuals. The building use is offices/R&D. Site is 6.1 acres.
2. The existing building at 1849 Fortune Drive encompasses approximately 55,000 square feet and is currently unoccupied. Former occupant was Microtel which employed 250 employees. The building use was light manufacturing. Site is 3.68 acres.

The SVYDC buildings would house computer servers for private clients in a secure and environmentally controlled structure. The SVYBGF would be designed to provide approximately 90 megawatts (MW) of electrical load and 60 MW of Information Technology (IT) power.

Modeling Overview

The evaluation of the potential air quality impacts and health risks were based on the estimate of the ambient air concentrations that could result from SVYBGF air emission sources. This section discusses the selection of the dispersion model, the data that was used in the dispersion model (pollutants modeled with appropriate averaging times, source characterization, building downwash, terrain, and meteorology), etc.

Assessments of ambient concentrations resulting from pollutant emissions (called air quality impacts) are normally conducted using USEPA-approved air quality dispersion models. These models are based on mathematical descriptions of atmospheric diffusion and dispersion processes in which a pollutant source impact can be calculated over a given area and for a specific period of time (called averaging period). By using mathematical models, the assessment of emissions can be determined for both existing sources as well as future sources not yet in operation. Inputs required by most dispersion models, which must be specified by the user, include the following:

- Model options, such as averaging time to be calculated;
- Meteorological data, used by the model to estimate the dispersion conditions experience by the source emissions;
- Source data, such as source location and characteristics – stack emissions like those considered here are modeled as “point” sources, which require user inputs of the release height, exit temperature and velocity, and stack diameter (used by the dispersion model to estimate the mechanical and buoyant plume rise that will occur due to the release of emissions from a stack); and
- Receptor data, which are the location(s) of the given area where ambient concentrations are to be calculated by the dispersion model.

Model Selection

To estimate ambient air concentrations, the latest version of the AERMOD (Version 21112) dispersion model was used. AERMOD is appropriate for use in estimating ground-level short-term ambient air concentrations resulting from non-reactive buoyant emissions from sources located in simple, intermediate, and complex terrain. AERMOD is the preferred guideline model recommended by USEPA for these types of assessments and is based on conservative assumptions (i.e., the model tends to over-predict actual impacts by assuming steady state conditions, no pollutant loss through conservation of mass, no chemical reactions, etc.). AERMOD is capable of assessing impacts from a

variety of source types such as point, area, line, and volume sources (as noted above, point source types are used to model stack sources like the SVYBGF engine emissions); downwash effects; gradual plume rise as a function of downwind distance; time-dependent exponential decay of pollutants; and can account for settling and dry deposition of particulates (all SVYBGF emissions were conservatively modeled as non-reactive gaseous emissions). The model is capable of estimating concentrations for a wide range of averaging times (from one hour to the entire period of meteorological data provided).

AERMOD calculates ambient concentrations in areas of simple terrain (receptor base elevations below the stack release heights), intermediate terrain (receptor base elevations between stack release and final plume height), and complex terrain (receptor base elevations above final plume height). AERMOD assesses these impacts for all meteorological conditions, including those that would limit the amount of final plume rise. Plume impaction on elevated terrain, such as on the slope of a nearby hill, can cause high ground level concentrations, especially under stable atmospheric conditions. Due to the relatively flat nature of the SVYBGF project terrain area, including the surrounding properties, plume impaction effects would not be expected to occur. AERMOD also considers receptors located above the receptor base elevation, called flagpole receptors.

Another dispersion condition that can cause high ground level pollutant concentrations is caused by building downwash. Building downwash can occur during high wind speeds or a building or structure is in close proximity to the emission source. This can result in building wake effects where the plume is drawn down toward the ground by the lower pressure region that exists in the lee side (downwind) of the building or structure. This AERMOD feature was also used in modeling the SVYBGF emission sources as described later.

Model Input Options

Model options refer to user selections that account for conditions specific to the area being modeled or to the emissions source that needs to be examined. Examples of model options selected for this analysis includes the use of multiple flagpole heights for each receptor modeled and the urban dispersion option (using a Santa Clara County population of 1,938,153). Land use in the immediate area surrounding the project site is characterized as “urban”. This is based on the land uses within the area circumscribed by a three (3) km radius around the project site, which is greater than 50 percent urban. Therefore, in the modeling analyses, the urban dispersion option was selected.

AERMOD also supplies recommended defaults for the user for other model options. This analysis was conducted using AERMOD in the regulatory default mode, which includes the following additional modeling control options:

- adjusting stack heights for stack-tip downwash,
- using upper-bound concentration estimates for sources influenced by building downwash from super-squat buildings,
- incorporating the effects of elevated terrain,
- employing the USEPA-recommended calms processing routine, and
- employing the USEPA-recommended missing data processing routine.

Calculation of chemical concentrations for use in the impact and exposure analysis requires the selection of appropriate concentration averaging times. Average pollutant concentrations ranging from one (1) hour to annual based on the meteorological data were calculated for each SVYBGF source and the facility in total.

According to the Auer land use classification scheme, a 3 km radius boundary around the proposed site yields a predominately “urban” classification. This is consistent with the current land use and zoning designation for the site and surrounding area as “commercial, and light and heavy industrial”.

Meteorological Data - Modeling Inputs

AERMOD requires a meteorological input file to characterize the transport and dispersion of pollutants in the atmosphere. Surface and upper air meteorological data inputs, along with surface parameter data describing the land use and surface characteristics near a site, are first processed using AERMET, the meteorological preprocessor to AERMOD. The output files generated by AERMET are the surface and upper air meteorological input files required by AERMOD.

AERMOD uses hourly meteorological data to characterize plume dispersion. AERMOD calculates the dispersion conditions for each hour of meteorological data for the emission sources modeled at the user-specific receptor locations. The resulting 1-hour impacts are then averaged by AERMOD for the averaging time(s) specified by the user (accounting for calm winds and missing meteorological data as specified in the model options). Meteorological data from the San Jose International Airport were provided by the BAAQMD for the five years of 2013 through 2017, inclusive. The representativeness of the meteorological data is dependent on the proximity of the meteorological monitoring site to the area under consideration; the complexity of the terrain, the exposure of the meteorological monitoring site, and the period of time during which the data are collected. The data was collected approximately three (3) kilometers from the eastern edge of the SVYBGF project boundary and were provided by BAAQMD as the most appropriate meteorological data for this modeling analysis. The data were processed by BAAQMD with AERMET (version 18081), AERMOD’s meteorological data preprocessor module.

The BAAQMD SVYBGF meteorological data consists of surface measurements including wind speed, wind direction, temperature, and solar radiation, which were combined with National Weather Service upper air data from the Oakland International Airport. The USEPA-recommended 90% completeness criteria are met for all modeled parameters in the BAAQMD meteorological data.

Building and Receptors – Modeling Inputs

The effects of building downwash on facility emissions were included in the modeling assessment. The **Plume Rise Model Enhancements** to the USEPA **Building Profile Input Program (BPIP-PRIME, version 04274)** was used to determine the direction-specific building downwash parameters. The PRIME enhancements in AERMOD calculate fields of turbulence intensity, wind speed, and slopes of the mean streamlines as a function of projected building shape. Using a numerical plume rise model, the PRIME enhancements in AERMOD determine the change in plume centerline location and the rate of plume dispersion with downwind distance. Concentrations are then predicted by AERMOD in both the near and far wake regions, with the plume mass captured by the near wake treated separately from the uncaptured primary plume and re-emitted to the far wake as a volume source. Figure AQ3-1 in Appendix AQ3 presents the building data used in the downwash analysis.

Receptor grids were generated along the fence line (≤ 10 meter spacing), from the fence line to 300 meters (20 meter spacing), from 300 meters to one kilometer (km) (50-meter spacing), from 1.0 to 5.0 km (200-meter spacing). If any of the maximum impacts occurred on receptors with spacing greater than 20 meters, a refined grid with 20 meter resolution would be created and extended outwards by 500 meters in all directions. All receptor and source locations are referenced in meters using the Universal Transverse Mercator (UTM) Cartesian coordinate system based on the North American Datum of 1983 (NAD83) for Zone 10.

The latest version of AERMAP (version 18081) was used to determine receptor elevations and hill-slope factors utilizing USGS's 1-degree square National Elevation Dataset (NED). NED spacings were 1/3" (~10 meters) for the fence line, 20-meter, 50-meter, and 100-meter spaced receptor grids and 1" (~30 meters) for 200-meter and 500-meter spaced receptor grids and sensitive receptors. Flagpole receptors were generated for the two- and three-story residential areas just north of the project area. Electronic copies of the BPIP-PRIME and AERMAP input and output files, including the NED data, are included with the application will be submitted to Staff electronically. Figure AQ3-2 in Appendix AQ3 presents the receptor grids used in the modeling analyses.

Source Data – Modeling Inputs

Emissions and stack parameters for the 38 Cummins diesel engines are presented in Appendix AQ-1 and AQ-3 and were used to develop the modeling inputs. Stack parameters (e.g., stack height, exit temperature, stack diameter, and stack exit velocity) were based on the parameters given by the engine manufacturer and the Applicant. Stack locations for the proposed sources were matched to show their actual location based on the proposed facility plot plan. Appendix AQ-3 presents the locations of the SVYBGF sources, and the building outlines considered in the downwash analysis. Stack base elevations were given a common base elevation based on the range of elevations calculated with AERMAP for the stack locations.

Impact Analysis Summary

Operational characteristics of the diesel engines, such as emission rate, exit velocity, and exit temperature, vary by operating loads. The engines could be operated over a range of load conditions from one (1) to 100 percent. Based on similar projects, the 100% load case always produces the maximum ground-based concentrations. Thus, an air quality screening analysis was not performed. The engines were assumed to be tested anytime from 7 AM to 5 PM (controlled using the EMISFACT/HROFDY model option). Although the engines will typically only be tested individually for up to one hour at any one time, each engine was assumed to operate up to 10 hours/day (7AM-5PM) to conservatively represent 10 different engines operating one hour each in any one day for 3-hour, 8-hour, and 24-hour averaging times. Thus, the worst-case stack condition and the worst-case engine location could be determined from the screening analysis. All 45 engines were assumed to be tested for annual averages, with emissions proportioned accordingly. The screening results are presented in Appendix AQ-3.

Based on the results of the screening analyses, all SVYBGF sources were modeled in the refined analyses for comparisons with the annual CAAQS and NAAQS and the short-term NAAQS with multi-year statistical forms (1-hour NO₂ and SO₂ and 24-hour PM_{2.5} and PM₁₀). Impacts during normal testing operations were based on the worst-case screening condition. Since the engines will each be tested far less than 100 hours/year, the annual average emission rate was included in 1-hour NO₂ and SO₂ NAAQS modeling analyses at the annual average emission rates per EPA

guidance due to the statistical nature of these standards (it was the engines were modeled at the maximum 1-hour emission rate for the CAAQS).

For the 1-hour NO₂ modeling assessments, the Ambient Ratio Method Version 2 (ARM2) was used in the modeling analyses with an in-stack NO₂/NO_x ratio of 0.5 (50%) based on EPA Guideline requirements. This is conservative as the NO₂/NO_x ratios for these types of engines are on the order of 10%, as per the EPA's ISR database.

The highest NO₂ background data over the last three (3) years from the 158 East Jackson Street monitoring site was used to assess the CAAQS, which was then added to the modeled NO₂ concentration for the 1-hour CAAQS assessment. The three-year average of the second-highest hourly value for the same three (3) year period were added to the modeled NO₂ concentration for the NAAQS assessment. Assessment with the CAAQS is based on the maximum 1-hour NO₂ concentration (with and without background). NO₂ NAAQS compliance based on the five-year average of the 98th percentile daily maximum annual 1-hour impacts with background concentration (NO₂ SIL for NAAQS compliance based on 5-year average of the annual 1-hour maximum impacts without background concentrations).

Based on the results of the modeling analyses, the modeled concentrations are presented in Table 4.3-16. The locations of the maximum impacts are provided in Figure AQ3-3 in Appendix AQ3.

Table 4.3-16: Modeled Operational Concentrations and Ambient Air Quality Standards

Pollutant	Averaging Period	Maximum Concentration (µg/m³)	Background (µg/m³)	Total (µg/m³)	Ambient Air Quality Standards (µg/m³)	
					CAAQS	NAAQS
3-/8-/24-Hour Maxima shown for one engine operating up to 10 hours/day (7AM-5PM)						
NO ₂ *	1-hour maximum (CAAQS)	117.5	161.8	279.3	339	-
	3-year average of 1-hour yearly 98th % (NAAQS)**	1.89	97.8	99.69	-	188
	Annual maximum	2.60	24.5	27.1	57	100
CO	1-hour maximum	347.03	2,863	3,210.03	23,000	40,000
	8-hour maximum	176.87	2,405	2,581.87	10,000	10,000
SO ₂	1-hour maximum (CAAQS)	0.66	38	38.66	655	-
	3-year average of 1-hour yearly 99th % (NAAQS)**	0.61	6	6.61	-	196
	24-hour maximum	0.11	2.9	3.01	105	365
	Annual maximum	0.009	0.55	0.56	-	80
PM10	24-hour maximum (CAAQS)	0.34	134	134.34	50	-
	24-hour 6 th highest over 5 years (NAAQS)	0.31	98	98.31	-	150
	Annual maximum (CAAQS)	0.029	23.1	23.13	20	-
PM2.5	3-year average of 24-hour yearly 98th %	0.23	50	50.23	-	35
	Annual maximum (CAAQS)	0.029	12.8	12.83	12	-

Table 4.3-16: Modeled Operational Concentrations and Ambient Air Quality Standards

Pollutant	Averaging Period	Maximum Concentration ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total ($\mu\text{g}/\text{m}^3$)	Ambient Air Quality Standards ($\mu\text{g}/\text{m}^3$)	
					CAAQS	NAAQS
	3-year average of annual concentrations (NAAQS)	0.027	10.2	10.23	-	12.0

* 1-hour NO_2 impacts evaluated with Ambien Ratio Method #2 (ARM2), with the maximum hourly background added in separately. Annual NO_2 impacts evaluated with ARM2. Modeling utilized USEPA-default minimum/maximum NO_2/NO_x ambient ratios of 0.5/0.9.

** Impacts for the 1-hour statistical-based NO_2 and SO_2 NAAQS are based on the annual average emissions per USEPA guidance documents for intermittent sources like emergency generators. Impacts for the 1-hour NO_2 and SO_2 CAAQS are based on the 1-hour emission rate since these CAAQS are “values that are not to be exceeded”.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as nearby residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $\text{PM}_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $\text{PM}_{2.5}$.¹¹ The closest sensitive receptors to the project site are residences just south, southwest and southeast east of the project boundary (see AQ-3-4). Emissions and dispersion modeling were conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

In addition, during excavation, grading, and some building construction activities, substantial amounts of dust could be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and would be dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. To address fugitive dust emissions that lead to elevated PM_{10} and $\text{PM}_{2.5}$ levels near construction sites, the BAAQMD CEQA Air Quality Guidelines identify best management practices. Once included in construction projects, these impacts will be considered less than significant. In addition, diesel emissions from construction related equipment will temporarily result in an increase in health risk to nearby offsite receptors.

For modeling fugitive PM_{10} and $\text{PM}_{2.5}$ emissions, a near-ground level release height of two (2) meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area source. To represent the construction equipment exhaust emissions, 59 equally spaced (25 meter) point sources were placed within the area of construction activity. Each point source had an emission release height of 3.05 meters (10 feet). The exit temperature and stack velocity were based on an average sized construction engine that could be used for the project. Construction emissions were modeled as occurring daily between 7 a.m. to 5 p.m., when the majority of construction activity would occur.

Table 4.3-17: Modeled Construction Concentrations and Ambient Air Quality Standards

Pollutant	Averaging Period	Maximum Concentration (µg/m³)	Background (µg/m³)	Total (µg/m³)	Ambient Air Quality Standards (µg/m³)	
					CAAQS	NAAQS
Construction occurs for up to 10 hours/day (7AM-5PM)						
NO ₂ *	1-hour maximum (CAAQS)	6.07	161.8	167.9.3	339	-
	3-year average of 1-hour yearly 98th % (NAAQS)	3.04	97.8	100.8	-	188
	Annual maximum	0.58	24.5	25.1	57	100
CO	1-hour maximum	32.14	2,863	2,895.1	23,000	40,000
	8-hour maximum	13.47	2,405	2,419.5	10,000	10,000
SO ₂	1-hour maximum (CAAQS)	0.07	38	38.1	655	-
	3-year average of 1-hour yearly 99th % (NAAQS)	0.05	6	6.1	-	196
	24-hour maximum	0.012	2.9	2.9	105	365
	Annual maximum	0.003	0.55	0.6	-	80
PM10	24-hour maximum (CAAQS)	7.10	134	141.1	50	-
	Annual maximum (CAAQS)	2.09	23.1	25.2	20	-
PM2.5	3-year average of 24-hour yearly 98th %	2.28	50	52.3	-	35
	3-year average of annual concentrations (NAAQS)	0.90	10.2	11.1	-	12.0

*1-hour NO₂ impacts evaluated with Ambien Ratio Method #2 (ARM2), with the maximum hourly background added in separately. Annual NO₂ impacts evaluated with ARM2. Modeling utilized USEPA-default minimum/maximum NO₂/NO_x ambient ratios of 0.5/0.9.

The air quality modeling support data will be submitted to Staff electronically.

Based on the modeling results in Table 4.3-16 and 4.3-17, the only combined modeled impacts and background concentrations greater than the standards are for the 24-hour and annual PM₁₀ CAAQS and the 24-hour PM_{2.5} NAAQS and annual PM_{2.5} CAAQS. These exceedances are only because the background concentrations already exceed the standards. Modeled project impacts in these instances are less than the USEPA and/or BAAQMD significance levels and thus, the project will not cause or contribute to an exceedance of any air quality standard for any averaging time period. The project will therefore comply with the CAAQS and NAAQS.

Public Health and Health Risk Assessment

This section presents the methodology and results of a human health risk assessment performed to assess potential impacts and public exposure associated with airborne emissions from the routine operation of the SVYBGF project.

Air will be the dominant pathway for public exposure to chemical substances released by the project. Emissions to the air will consist primarily of combustion by-products produced by the diesel-fired emergency standby engines. Potential health risks from combustion emissions will occur almost entirely by direct inhalation. To be conservative, additional pathways were included in the health risk modeling; however, direct inhalation is considered the most likely exposure pathway. The risk

assessment was conducted in accordance with guidance established by the California Office of Environmental Health Hazard Assessment (OEHHA 2015) and the California Air Resources Board.

Combustion byproducts with established CAAQS or NAAQS, including oxides of nitrogen (NO_x), carbon monoxide, sulfur dioxide, and fine particulate matter were addressed in the previous Air Quality section.

Affected Environment

Sensitive receptors are defined as groups of individuals that may be more susceptible to health risks due to chemical exposure. Schools (public and private), day care facilities, convalescent homes, and hospitals are of particular concern. The nearest sensitive receptors, by type, are listed in Table 4.3-18. There are several sensitive receptors within 1,000 ft. of the facility boundary. Appendix AQ5 contains support materials for the facility health risk assessment, including a listing of sensitive receptors within the facility regional area. HAPs emissions evaluations are presented in Appendix AQ1.

Table 4.3-18: Sensitive Receptors Nearfield of the SVYBGF Site

Receptor Type	UTM Coordinates	~ Distance from Site, ft.	~ Elevation, AMSL ft.
Nearest Residence	597749, 4140253	604	42
Nearest Hospital	596074, 4140961	6246	31
Nearest School	597492, 4140465	1561	38
Nearest Daycare	598762, 4140108	3303	68
Nearest College/Univ.	597878, 4139864	783	82
Source: Google Earth Image 9/2020. All coordinates are approximate. Nearest school is the Mabel Mattos Elementary School			

The receptors noted above should not be assumed to represent the maximum impact locations based on receptor type. For example, the nearest residence noted in the table may not be the maximum impacted residence on the modeling grid.

The nearest residences are located to the north of the site at a distance of approximately 500-600 ft.

Air quality and health risk data presented by CARB in the 2013 Almanac of Emissions and Air Quality (latest version available, CARB 2013) for the state shows that over the period from the mid-1990s through 2013, the average concentrations for DPM have been substantially reduced, and the associated health risks for the state are showing a steady downward trend as well. This same trend has occurred in the BAAQMD.

Environmental Consequences

Significance Criteria

Cancer Risk

Cancer risk is the probability or chance of contracting cancer over a period of time normally defined as either 30 or 70-years depending on the project type and agency risk procedures. Carcinogens are

not assumed to have a threshold below which there would be no human health impact. In other words, any exposure to a carcinogen is assumed to have some probability of causing cancer; the lower the exposure, the lower the cancer risk (i.e., a linear, no-threshold model). Under various state and local regulations, an incremental cancer risk greater than 10-in-one million due to a project is considered to be a significant impact on public health. For example, the 10-in-one-million risk level is used by the Air Toxics Hot Spots (AB 2588) program and California's Proposition 65 as the public notification level for air toxic emissions from existing sources.

Non-Cancer Risk

Non-cancer health effects can be either chronic or acute. In determining potential non-cancer health risks (chronic and acute) from air toxics, it is assumed there is a dose of the chemical of concern below which there would be no impact on human health. The air concentration corresponding to this dose is called the Reference Exposure Level (REL). Non-cancer health risks are measured in terms of a hazard quotient, which is the calculated exposure of each contaminant divided by its REL. Hazard quotients for pollutants affecting the same target organ are typically summed with the resulting totals expressed as hazard indices for each organ system. A hazard index of less than 1.0 is considered to be an insignificant health risk. For this health risk assessment, all hazard quotients were summed regardless of target organ. This method leads to a conservative (upper bound) assessment. RELs used in the hazard index calculations were those published in the CARB/OEHHA listings dated August 2018.

Chronic toxicity is defined as adverse health effects from prolonged chemical exposure, caused by chemicals accumulating in the body. Because chemical accumulation to toxic levels typically occurs slowly, symptoms of chronic effects usually do not appear until long after exposure commences. The lowest no-effect chronic exposure level for a non-carcinogenic air toxic is the chronic REL. Below this threshold, the body is capable of eliminating or detoxifying the chemical rapidly enough to prevent its accumulation. The chronic hazard index was calculated using the hazard quotients calculated with annual concentrations.

Acute toxicity is defined as adverse health effects caused by a brief chemical exposure of no more than 24 hours. For most chemicals, the air concentration required to produce acute effects is higher than the level required to produce chronic effects because the duration of exposure is shorter. Because acute toxicity is predominantly manifested in the upper respiratory system at threshold exposures, all hazard quotients are typically summed to calculate the acute hazard index. One-hour average concentrations are divided by acute RELs to obtain a hazard index for health effects caused by relatively high, short-term exposure to air toxics. Since this assessment considers only DPM, and DPM has no acute REL, acute HI values were not calculated. The following receptor descriptors are used herein:

- PMI – Point of maximum impact – this receptor represents the highest concentration and risk point on the receptor grid for the analysis under consideration.
- MEIR – Maximum exposed individual residential receptor – this receptor represents the maximum impacted actual residential location on the grid for the analysis under consideration.
- MEIW - Maximum exposed individual worker receptor – this receptor represents the maximum impacted actual worker location on the grid for the analysis under consideration.

- MEIS - Maximum exposed individual sensitive receptor – this receptor represents the maximum impacted actual sensitive location on the grid for the analysis under consideration. This location is a non-residential sensitive receptor, i.e., school, hospital, daycare center, convalescent home, etc.

Construction and Operational Phase Impacts

Environmental consequences potentially associated with the project are potential human exposure to chemical substances emitted into the air. The human health risks potentially associated with these chemical substances were evaluated in a health risk assessment. The chemical substance potentially emitted to the air from the proposed facility is DPM. DPM is the approved surrogate compound for diesel fuel combustion pursuant to CARB and EPA.

Emissions of criteria pollutants will adhere to NAAQS or CAAQS as discussed in the Ambient Air Quality section. The proposed facility emergency electrical backup engines will be certified as EPA Tier 2 units and as such they meet the BACT requirements of the BAAQMD. These engines are equipped with DPFs. Finally, air dispersion modeling results show that emissions will not result in concentrations of criteria pollutants in air that exceed ambient air quality standards (either NAAQS or CAAQS). These standards are intended to protect the general public with a wide margin of safety. Therefore, the project is not anticipated to have a significant impact on public health from emissions of criteria pollutants.

Potential impacts associated with emissions of toxic pollutants to the air from the proposed facility were addressed in a health risk assessment, with support data presented in Appendix AQ5. The risk assessment was prepared using guidelines developed by OEHHHA and CARB, as implemented in the latest version of the HARP model (ADMRT 19121). The BAAQMD risk assessment options in HARP were used for all analyses (BAAQMD 2016).

Public Health Impact Study Methods

Emissions of toxic pollutants potentially associated with the facility were estimated using emission factors for PM10 derived from the following:

- EPA Tier 4 Final controlled emissions factors for the 100% load case (with DPF).
- EPA Tier 2 emissions factors were used to estimate the uncontrolled emissions portion of startup hours for the 100% load case (with DPF operational for the entire startup period).

Concentrations of these pollutants in air potentially associated with the emissions were estimated using dispersion modeling as discussed in the Air Quality section. Modeling allows the estimation of both short-term and long-term average concentrations in air for use in a risk assessment, accounting for site-specific terrain and meteorological conditions. Health risks potentially associated with the estimated concentrations of pollutants in air were characterized in terms of excess lifetime cancer risks, or comparison with reference exposure levels for non-cancer health effects.

Health risks potentially associated with concentrations of carcinogenic pollutants in air were calculated as estimated excess lifetime cancer risks. The excess lifetime cancer risk for a pollutant is estimated as the product of the concentration in air and a unit risk value. The unit risk value is defined as the estimated probability of a person contracting cancer as a result of constant exposure to

an ambient concentration of 1 µg/m³ over a 70-year lifetime. In other words, it represents the increased cancer risk associated with continuous exposure to a concentration in air over a pre-defined period, i.e., usually a 30 or 70-year lifetime. Evaluation of potential non-cancer health effects from exposure to short-term and long-term concentrations in air was performed by comparing modeled concentrations in air with the RELs. An REL is a concentration in air at or below which no adverse health effects are anticipated. RELs are based on the most sensitive adverse effects reported in the medical and toxicological literature. Potential non-cancer effects were evaluated by calculating a ratio of the modeled concentration in air and the REL. This ratio is referred to as a hazard quotient. The unit risk values and RELs used to characterize health risks associated with modeled concentrations in air were obtained from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (CARB 9/2019) and are presented in Table 4.3-19.

Table 4.3-19: Toxicity Values Used to Characterize Health Risks

TAC	Unit Risk Factor (µg/m ³)-1	Chronic Reference Exposure Level (µg/m ³)	Acute Reference Exposure Level (µg/m ³)
DPM	.0003	5	--
Source: CARB/OEHHA, 8/2018.			

Table 4.3-20 delineates the maximum hourly and annual emissions of the identified air toxic pollutants (DPM) from the emergency backup engines.

Table 4.3-20: Maximum SVYBGF Hourly, Daily, and Annual Air Toxic Emissions

Emergency Standby Engines (per engine basis)				
Engine Model	Toxic	Max Hour Emissions, Lbs	Max Daily Emissions, Lbs	Max Annual Emissions Lbs
CAT 3516E	DPM	0.133	-	6.65
CAR C32	DPM	0.049	-	2.45
Note: Engines are equipped with diesel particulate filters at 0.015 g/bhp-hr				

Construction Phase Impacts

The proposed project would be a source of air pollutant emissions during project construction. The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. BAAQMD recommends a 1,000-foot zone of influence around project boundaries. Results of the construction related health risk assessment indicate that the risk values from construction would be as follows in Table 4.3-21:

Table 4.3-21: SVYBGF Construction Health Risk Assessment Summary

Location	Receptor #	UTM (meters)	Cancer Risk	Chronic HI	Acute HI	Cancer Burden
PMI	747	597940 E 4140065 N	1.31E-06	0.000764	-	NA
MEIR	6817	597700 E 4140265 N	7.77E-07	0.000454	-	NA
MEIS	1620	597500 E 4140405 N	4.34E-06	0.000254	-	NA
MEIW	747	597940 E 4140065 N	8.29E-08	0.000764	-	NA

Notes: See acronym definitions above.

The PMI noted above is located in a parking lot due east of the project.

All MEIR maximum impacts were on the first floor of the multistory structure.

* Max acute occurred at receptor 1225

DPM is the surrogate compound for construction equipment diesel exhaust. No acute REL has been established for DPM.

2 year construction period (HRA used 2 year exposure period.)

FAH=1 for all age groups from 3rd trimester to 16 years, for MEIR and MEIS.

FAH not used for MEIW.

MEIS – Mabel Mattos Elementary School

These values are well below the significance thresholds for construction health risk impacts, and as such the community risk impacts from construction activities would be *less than significant*.

Characterization Of Risks from Toxic Air Pollutants

The excess lifetime cancer risk associated with concentrations in air estimated for the SVYBGF PMI location is estimated to be 5.95E-6 or 5.95 per million. Excess lifetime cancer risks less than 10×10^{-6} , for sources with T-BACT, are unlikely to represent significant public health impacts that require additional controls of facility emissions. Risks higher than 1×10^{-6} may or may not be of concern, depending upon several factors. These include the conservatism of assumptions used in risk estimation, size of the potentially exposed population and toxicity of the risk-driving chemicals. Health effects risk thresholds are listed on Table 4.3-22. Risks associated with pollutants potentially emitted from the facility are presented in Tables 4.3-23 and 4.3-24 with the locations of the MEIR and MEIW presented in Figure AQ3-3. The chronic hazard indices for all scenarios are well below 1.0. It should be noted that DPM does not currently have an acute hazard index value, and as such, acute health effects were not evaluated in the HRA. Further description of the methodology used to calculate health risks associated with emissions to the air can be found in the HARP User's Manual dated 12/2003 and the ADMRT Manual dated 3/2015 (CARB 2015). As described previously, human health risks associated with emissions from the proposed facility are unlikely to be higher at any other location than at the location of the PMI. If there is no significant impact associated with concentrations in air at the PMI location, it is unlikely that there would be significant impacts in any other location in the vicinity of the facility.

Table 4.3-22: Health Risk Significance Thresholds

Risk Category	Significance Thresholds		
	BAAQMD Project Risk	BAAQMD Net Project Risk	State of California
Cancer Risk	10 in one million	10 in one million	<= 1 in a million w/o TBACT <=10 in a million w/TBACT
Chronic Hazard Index	1.0	1.0	1.0
Acute Hazard Index	1.0	1.0	1.0
Cancer (T-BACT required)	>1 in a million Chronic HI > 0.20		See above.
Cancer Burden	NA		1.0
Source: Regulation 2 Rule 5, NSR for Toxic Air Contaminants			

Table 4.3-23: SVYBGF Residential/Sensitive Health Risk Assessment Summary

Location	Receptor #	UTM (meters)	Cancer Risk	Chronic HI	Acute HI	Cancer Burden
PMI	836	597000 E 4139985 N	2.29E-05	0.0580	0.509*	NA
MEIR	1402	597600 E 4140265 N	4.39E-06	0.0111	0.1840	NA
MEIS	1620	597500 E 4140405 N	2.14E-06	0.00542	0.1460	NA
Notes: See acronym definitions above. The PMI noted above is located in a parking lot due east of the project. * Max acute occurred at receptor 1225 All MEIR maximum impacts were on the first floor of the multistory structure.						

Table 4.3-24: SVYBGF Worker Health Risk Assessment Summary

Location	Receptor #	UTM	Cancer Risk	Chronic HI	Acute HI	Cancer Burden
PMI	836	597000 E 4139985 N	6.89E-06	0.0053	0.509*	NA
MEIW	951	597840 E 4140025 N	5.45E-06	0.0042	0.245	NA
Notes: See acronym definitions above. The PMI noted above is located in a parking lot due east of the project. * Max acute occurred at receptor 1225						

Cancer risks potentially associated with facility emissions also were not assessed in terms of cancer burden. Cancer burden is a hypothetical upper-bound estimate of the additional number of cancer cases that could be associated with emissions from the facility. Cancer burden is calculated as the worst-case product of excess lifetime cancer risk, at the 1×10^{-6} isopleth and the number of individuals at that risk level. Cancer burden evaluations are not required by the BAAQMD.

The chronic non-cancer hazard quotient associated with concentrations in air are shown in Table 4.3-23. The chronic non-cancer hazard quotient for all target organs fall below 1.0. As described previously, a hazard quotient less than 1.0 is unlikely to represent significant impact to public health. Since DPM does not have an acute REL, no acute hazard index or quotient was calculated. As

described previously, human health risks associated with emissions from the proposed facility are unlikely to be higher at any other location than at the location of the PMI. If there is no significant impact associated with concentrations in air at the PMI location, it is unlikely that there would be significant impacts in any other location in the vicinity of the facility.

Detailed risk and hazard values are provided in the HARP output which will be submitted to Staff electronically.

The estimates of excess lifetime cancer risks and non-cancer risks associated with chronic or acute exposures fall below thresholds used for regulating emissions of toxic pollutants to the air. Historically, exposure to any level of a carcinogen has been considered to have a finite risk of inducing cancer. In other words, there is no threshold for carcinogenicity. Since risks at low levels of exposure cannot be quantified directly by either animal or epidemiological studies, mathematical models have estimated such risks by extrapolation from high to low doses. This modeling procedure is designed to provide a highly conservative estimate of cancer risks based on the most sensitive species of laboratory animal for extrapolation to humans (i.e., the assumption being that humans are as sensitive as the most sensitive animal species). Therefore, the true risk is not likely to be higher than risks estimated using unit risk factors and is most likely lower, and could even be zero (USEPA, 1986; USEPA, 1996).

An excess lifetime cancer risk of 1×10^{-6} is typically used as a screening threshold of significance for potential exposure to carcinogenic substances in air. The excess cancer risk level of 1×10^{-6} , which has historically been judged to be an acceptable risk, originates from efforts by the Food and Drug Administration (FDA) to use quantitative risk assessment for regulating carcinogens in food additives in light of the zero-tolerance provision of the Delany Amendment (Hutt, 1985). The associated dose, known as a “virtually safe dose” (VSD) has become a standard used by many policy makers and the lay public for evaluating cancer risks. However, a study of regulatory actions pertaining to carcinogens found that an acceptable risk level can often be determined on a case-by-case basis. This analysis of 132 regulatory decisions, found that regulatory action was not taken to control estimated risks below 1×10^{-6} (one-in-one million), which are called de minimis risks. De minimis risks are historically considered risks of no regulatory concern. Chemical exposures with risks above 4×10^{-3} (four-in-ten thousand), called de manifestis risks, were consistently regulated. De manifestis risks are typically risks of regulatory concern. The risks falling between these two extremes were regulated in some cases, but not in others (Travis et al, 1987).

The estimated lifetime cancer risks to the maximally exposed individual located at the SVYBGF PMI, MEIR, MEIW, and MEIS do not exceed the 10×10^{-6} significance level for T-BACT sources. These engines are EPA Tier 4 units equipped with diesel particulate filters, and are used only for emergency power backup, therefore BACT or T-BACT for DPM is satisfied. The chronic hazard index value is also well below the significance threshold of 1.0. These risk estimates were calculated using assumptions that are highly health conservative. Evaluation of the risks associated with the SVYBGF emissions should consider that the conservatism in the assumptions and methods used in risk estimation considerably over-state the risks from SVYBGF emissions. Based on the results of this risk assessment, there are no significant public health impacts anticipated from emissions of toxic pollutants to the air from the SVYBGF.

Operation Odors

The facility is not expected to produce any contaminants at concentrations that could produce objectionable odors.

Summary of Impacts

The health risk assessment for the SVYBGF indicates that the maximum cancer risk will be approximately 4.39E^{-6} (versus a significance threshold of 10×10^{-6} with T-BACT) at the MEIR to air toxics from SVYBGF emissions. This risk level is considered to be not significant. Non-cancer chronic effects for all scenarios are well below the chronic hazard index significance value.

Results from an air toxics risk assessment based on emissions modeling indicate that there will be no significant incremental public health risks from the construction and operation of the SVYBGF. Results from criteria pollutant modeling for routine operations indicate that potential ambient concentrations of NO_2 , CO, SO_2 , and PM_{10} will not significantly impact air quality. Potential concentrations are below the federal and California standards established to protect public health, including the more sensitive members of the population.

Construction and Operation Overlap Assessment

The following analysis addresses the emissions overlap period in which the engines from phase SVY05 will be readiness and maintenance tested during the construction of SVY06. The overlap data is summarized as follows:

The overlap period, based upon the current construction schedule, will commence in February 2025 and end in mid-May 2026, i.e., 16.5 months or 363 days.

SVY05 consists of 16 large engines and 1 small engine. 2 of the large engines are considered redundant and will not be operated during emergency periods.

All of the large engines and the single small engine will be readiness and maintenance tested during the 16.5-month period.

Annual emissions (readiness/maintenance testing only) for the engines are based on 50 hours/yr each scaled up by a factor of 1.375 to equate to emissions over the 16.5 month overlap period.

Emissions from construction of SVY06 were derived from CalEEMod.

Table 4.3-25 below shows the emissions summary for the overlap period.

Table 4.3-25 Overlap Emissions Table

Parameter	NO _x	CO	VOC	SO _x	PM10	PM2.5	CO _{2e}
SVY05 Large Engine Emissions, tpy	5.41	9.22	0.5	0.02	0.05	0.05	1887.5
SVY05 Small Engine Emissions, tpy	0.12	0.21	0.01	0.0001	0.001	0.001	40.5
Total Engine Emissions, tpy	5.53	9.43	0.51	0.0201	0.051	0.051	1928
Adjusted 16.5 Month Engine Emissions, tons	7.60	13.0	0.70	0.029	0.07	0.07	2651
SVY06 Construction Emissions, tons (16.5 months)	1.1	5.69	1.65	0.012	0.012/0.59	0.012/0.26	1188
Total Overlap Emissions, tons (16.5-month period)	8.70	18.69	2.35	0.041	0.08/0.66	0.08/0.26	3839
SVY06 Construction Emissions Normalized for a 12-month period (tons)	0.80	4.14	1.20	0.0087	0.0087/0.48	0.0087/0.19	864
Total Normalized Annual Emissions (tons)	6.33	13.57	1.71	0.029	0.06/0.53	0.06/0.19	2792
Notes: <ul style="list-style-type: none"> Engines will be tested for no more than 1 hour. Engines will not be tested concurrently. 4 engines will be tested each day for 4 days, and 1 engine will be tested on the 5th day. Testing will occur on weekdays. Construction will occur 5 days/wk for an average of 10 hours/day. PM10/2.5 emissions are shown as “exhaust/fugitive”. 							

Criteria Pollutant Impacts for Overlap Scenario

Daily and hourly emissions for the backup generator engines were derived from the emissions calculations presented in Appendix A, while daily and hourly emissions from construction were derived from the annualized construction emissions presented in Table 4.3-25 above. Table 4.3-26 presents the daily and hourly emissions for the overlap period.

Table 4.3-26 Daily and Hourly Emissions for the Overlap Period

Parameter	NO _x	CO	VOC	SO _x	PM10	PM2.5
Single Large Engine, lbs/hr	13.53	23.06	1.24	0.044	0.133	0.133
Single Large Engine, lbs/day	13.53	23.06	1.24	0.044	0.133	0.133
Four Large Engines, lbs/day	54.1	92.24	4.97	0.177	0.532	0.532
SVY06 Construction Emissions Normalized for a 12-month period (tons)	0.80	4.14	1.20	0.0087	0.0087/0.48	0.0087/0.19
SVY06 Construction Emissions Avg lbs/day	6.1	31.4	9.1	0.066	0.066/3.64	0.066/1.44
SVY06 Construction Emissions Avg lbs/hr	0.61	3.14	0.91	0.007	0.007/0.36	0.007/0.14
Notes: <ol style="list-style-type: none"> Max hourly engine emissions are based on 1 engine (readiness/maintenance testing) for 1 hour/day. Max daily engine emissions are based on 4 engines tested for 1 hour each per day. Construction for 12 months at 22 days/month = 264 days. 10 hours/day. PM emissions are shown as “exhaust/fugitive”. All of the other pollutants are exhaust emissions. 						

The same background ambient air quality levels and modeling techniques from the modeling analyses of project operating impacts were used in the construction analysis. The applicable background concentrations of NO₂, SO₂, CO, PM_{2.5}, and PM₁₀ from the operational modeling analyses used in the construction impact analysis are shown in the following table. As with the previous modeling assessment, the USEPA-approved model AERMOD (version 21112) was used to estimate ambient impacts from construction activities, consistent with the facility operational impact analyses and the version of AERMET (version 18081) used by BAAQMD to process the meteorological data from the San Jose (surface data) and Oakland Airport (upper air data).

The emission sources for the construction site were grouped into two categories: exhaust emissions and dust emissions. Combustion equipment exhaust emissions for the crossover analysis were modeled as 20 3.048-meter-high point sources (exhaust parameters of 750 Kelvins, 64.681 m/s exit velocity, and 0.1524-meter stack diameter) placed at regular 25-meter intervals around the construction area of SVY06. Construction fugitive dust emissions were modeled as an area source covering the construction area with an effective plume height of two (2) meters (6.6 feet). Combustion and fugitive emissions were assumed to occur for 10 hours/day (7 AM to 5 PM) consistent with the expected period of onsite construction activities generating both exhaust emissions and fugitive dust. The construction impacts modeling analysis used the same receptor locations and meteorological data as used for the project operating impact analysis. A detailed discussion of the receptor locations and meteorological data is included with the discussion of the modeling analyses of project operating impacts.

Modeling Results

Based on the emission rates of the routine testing of the engines at SVY05 plus the construction emissions for SVY06 of NO_x, SO₂, CO, PM_{2.5}, and PM₁₀, the modeling options, receptor grids, and meteorological data, AERMOD calculated the short-term and annual ambient impacts for each pollutant. As mentioned above, the modeled 1-hour, 3-hour 8-hour, and 24-hour ambient impacts are based on the worst-case daily emission rates of NO_x, SO₂, CO, PM_{2.5}, and PM₁₀ spread over the estimated daily hours of operation. The annual impacts are based on the annual emission rates of these pollutants. The 1-hour and annual average concentrations of NO₂ were computed using ARM2 method with a NO₂/NO_x ratio of 0.5. Background concentrations were added to the modeled results.

The modeling analysis results are shown in Table 4.3-27 below, including the appropriate background levels and the resulting total ambient impacts. Modeled crossover impacts are expected to be below the most stringent state and Federal standards for all pollutants except PM₁₀ and PM_{2.5}, where the background already exceeds the standards (annual PM_{2.5} demonstrates compliance). The modeled PM₁₀ and PM_{2.5} impacts are primarily due to the fugitive construction emissions.

Table 4.3-27: Modeled Overlap (Construction + Operation) Concentrations and Ambient Air Quality Standards

Pollutant	Averaging Period	Maximum Concentration (µg/m³)	Background (µg/m³)	Total (µg/m³)	Ambient Air Quality Standards (µg/m³)	
					CAAQS	NAAQS
Construction occurs for up to 10 hours/day (7AM-5PM)						
NO ₂ *	1-hour maximum (CAAQS)	75.95	161.8	241.8	339	-
	3-year average of 1-hour yearly 98th % (NAAQS)	2.28	97.8	100.1	-	188
	Annual maximum	1.19	24.5	25.7	57	100
CO	1-hour maximum	254.01	2,863	3,117.0	23,000	40,000
	8-hour maximum	180.76	2,405	2,585.8	10,000	10,000
SO ₂	1-hour maximum (CAAQS)	0.486	38	38.5	655	-
	3-year average of 1-hour yearly 99th % (NAAQS)	0.435	6	6.4	-	196
	24-hour maximum	0.114	2.9	3.0	105	365
	Annual maximum	0.009	0.55	0.6	-	80
PM10	24-hour maximum (CAAQS)	12.93	134	146.9	50	-
	Annual maximum (CAAQS)	4.12	23.1	27.22	20	-
PM2.5	3-year average of 24-hour yearly 98th %	3.68	50	53.7	-	35
	3-year average of annual concentrations (NAAQS)	1.48	10.2	11.7	-	12.0

*1-hour NO₂ impacts evaluated with Ambien Ratio Method #2 (ARM2), with the maximum hourly background added in separately. Annual NO₂ impacts evaluated with ARM2. Modeling utilized USEPA-default minimum/maximum NO₂/NO_x ambient ratios of 0.5/0.9.

HRA Impacts for Overlap Scenario

An HRA was performed using HARP (ADMRT Version 21081). The HRA was performed for diesel particulate matter (DPM) only, as DPM is the accepted surrogate compound for whole diesel exhaust. The necessary output files from AERMOD were imported into HARP. Detailed descriptions of the risk assessment methods and support data are contained in the SPPE application document and are not repeated here. Assumptions used in the HRA analysis are as follows with the results presented in Table 4.3-28:

- The standard project receptor file was used. This file contained an extensive cartesian grid of receptors as well as the identified sensitive receptors included in the other project modeling analyses.
 - The BAAQMD health tables were used (enabled in HARP)
 - Two separate analyses were run as follows:
 - Residential run, FAH=1, 2-year exposure period (see note below)
 - Worker run, FAH=off, 2-year exposure period (see note below)
- Note: HARP does not allow fractions of years as exposure values, therefore a 2-year period was used to represent the 16.5-month emissions overlap.
- The PMI, MEIR, MEIW, and MEIS values were derived from the HRA output files.

Table 4.3-28: SVYBGF Overlap (Construction + Operation) Health Risk Assessment Summary

Location	Receptor #	UTM (meters)	Cancer Risk	Chronic HI	Acute HI	Cancer Burden
PMI	951	597840 E 4140025 N	1.05E-05	0.00244	-	NA
MEIR	1402	597600 E 4140265 N	2.31E-06	0.000536	-	NA
MEIS	1620	597500 E 4140405 N	1.13E-06	0.000262	-	NA
MEIW	951	597840 E 4140025 N	3.17E-06	0.00244	-	NA
<p>Notes: See acronym definitions above.</p> <p>The PMI noted above is located in a parking lot due east of the project.</p> <p>Testing hours for the overlap of construction and operation was set to 50 hours per engine.</p> <p>DPM is the surrogate compound for construction equipment diesel exhaust. No acute REL has been established for DPM.</p> <p>SVY06 construction period is 16.5 months (HRA used 2-year exposure period.)</p> <p>FAH=1 for all age groups from 3rd trimester to 16 years, for MEIR and MEIS.</p> <p>FAH not used for MEIW.</p> <p>* MEIS – Mabel Mattos Elementary School</p> <p>All MEIR maximum impacts were on the first floor of the multistory structure.</p>						

Cumulative Impacts

BAAQMD's Role in Air Quality

The Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for assuring that the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are attained and maintained in the Bay Area. BAAQMD's jurisdiction includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern portions of Solano and Sonoma counties. The Air District's responsibilities in improving air quality in the region include: preparing plans for attaining and maintaining air quality standards; adopting and enforcing rules and regulations; issuing permits for stationary sources of air pollutants; inspecting stationary sources and responding to citizen complaints; monitoring air quality and meteorological conditions; awarding grants to reduce mobile emissions; implementing public outreach campaigns; and assisting local governments in addressing climate change.

Under the Small Power Plant Exemption process with the California Energy Commission (CEC), the BAAQMD acts as a Responsible Agency when it has limited discretionary authority over a portion of a project but does not have the primary discretionary authority of a Lead Agency. As a Responsible Agency, BAAQMD may coordinate the environmental review process with the lead agency regarding BAAQMD's permitting process, provide comments to the Lead Agency regarding potential impacts, and recommend mitigation measures.

Cumulative Thresholds of Significance

In accordance with BAAQMD CEQA Guidelines, a project impact would be considered significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

In May 2017, the BAAQMD updated the significance thresholds for agencies to use with environmental review of projects. These thresholds were designed to establish the level at which BAAQMD believed air pollutant emissions would cause significant impacts under CEQA.

-
- A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source plus the contribution from the project, exceeds the following recommended significance thresholds in Table 4.3-29 below.
-

• **Table 4.3-29 Cumulative Significance Thresholds**

Health Risks and Hazards for Sensitive Receptors (Cumulative from All Sources within 1,000-Foot Zone of Influence) and Cumulative Thresholds for New Sources	
Excess Cancer Risk	100 per 1 million
Chronic Hazard Index	10.0
Annual Average PM _{2.5}	0.8 µg/m ³
PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. Source: BAAQMD, 2018.	

Cumulative Impacts Assessment

Cumulative stationary and mobile source impacts were assessed for the proposed project. As recommended by the BAAQMD (BAAQMD, 2020), in order to evaluate cumulative risks, permitted stationary sources of TACs near the project site were identified using BAAQMD's *Stationary Source Risk and Hazard Analysis Tool*. This mapping tool uses Google Earth to identify the location of stationary sources and their estimated screening level cancer risk and hazard impacts. This tool identified six (6) sources within 1,000 feet of the project boundaries and are summarized in Table 4.3-30.

Table 4.3-30 Combined Source Listing

Source	Maximum Cancer Risk (per million)	Hazard Index	PM _{2.5} concentration (µg/m ³)
Facility ID 11193 Gyrus ACMI, Inc.	0.86	0.002	0.011
Facility ID 16833 Eagle Tech, Inc.	--	0.052	--
Facility ID 18760 Pure Wafer, Inc.	1.01	0.0022	0.0014
Facility ID 19133 Plasma Ruggedized Solutions, Inc.	--	0.010	--
Facility ID 22974 Stacks Infrastructure*	10.19*	0.060	0.025
Facility ID 23901 VDC 1*	26.49*	0.146	0.059
<i>Combined Sources</i> ¹	38.6	0.272	0.096
BAAQMD Threshold – Combined Sources	100	10.0	0.8
* The BAAQMD Distance Adjustment Multiplier Tool for Diesel Generators was used to adjust the risk from these sources at 20.371 and 94.595 in a million risk Note: ¹ The combined source level is an overestimate because the maximum impact from each source is assumed to occur at the same location			

In addition to stationary sources, mobile source impacts from the nearest major roadway, defined as having at least 10,000 average annual daily traffic (AADT) within 1,000 feet of the project were assessed. The nearest major roadway that meets the listed criteria is the Montague Expressway. Traffic on Montague Expressway is a source of TACs that could adversely affect sensitive receptors near the roadway. Potential community risk impacts to sensitive receptors from local traffic TAC emissions were evaluated. This analysis involved the development of DPM, total organic gases (TOG), and PM_{2.5} emissions for project traffic on Montague Expressway and using these emissions with an air quality dispersion model to calculate TAC and PM_{2.5} concentrations at sensitive receptor locations. Increased cancer risks, non-cancer health effects represented by the HI, and the increase in annual PM_{2.5} concentrations were then computed using the modeled TAC and PM_{2.5} concentrations. This assessment was conducted following guidance provided by the BAAQMD and OEHHA to analyze potential community health risk impacts from nearby sources of TAC emissions.

Montague Expressway is located near the project site and nearby sensitive receptors. Traffic on Montague Expressway is a source of TACs that could adversely affect sensitive receptors near the roadway. Potential community risk impacts to sensitive receptors from local traffic TAC emissions were evaluated. This analysis involved the development of DPM, total organic gases (TOG), and PM_{2.5} emissions for project traffic on Montague Expressway and using these emissions with an air quality dispersion model to calculate TAC and PM_{2.5} concentrations project's residential maximum exposed individual (MEIR) receptor location. Increased cancer risks, non-cancer health effects represented by the HI, and the increase in annual PM_{2.5} concentrations were then computed using the modeled TAC and PM_{2.5} concentrations. This assessment was conducted following guidance provided by the BAAQMD and OEHHA to analyze potential community health risk impacts from nearby sources of TAC emissions.

Montague Expressway is a busy arterial roadway with an average daily traffic (ADT) volume of 51,360 near the project site based on the Santa Clara County data for 2017.¹² Because the traffic volume is greater than an ADT of 10,000, a refined analysis of Montague Expressway to assess potential impacts to the project MEIR location was conducted.

¹² Santa Clara County, 2021. *Official County Road Book 2021*. Road & Signal Operations Division, March 2021 revision.

Traffic Emissions

DPM, total organic gas (TOG), and PM_{2.5} emissions from local traffic were calculated using local roadway traffic volumes and the Caltrans CT-EMFAC2017 model, which is the most recent version of Caltrans' roadway emissions model based on the CARB EMFAC model. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. The model was used to develop vehicle emission factors for the year 2022 using the calculated mix of cars and trucks on Montague Expressway in 2022.

Emission processes modeled include running exhaust for DPM, PM_{2.5} and TOG, running evaporative losses for TOG, and tire and brake wear and fugitive road dust for PM_{2.5}. DPM emissions are projected to decrease in the future and are reflected in the model. Inputs to the model include region (i.e., Santa Clara County), type of road (major/collector), truck percentages (BAAQMD truck percentages for non-state highways in Santa Clara County¹³), and traffic mix assigned by the model for the county.

Average daily traffic volumes and truck percentages were based on Santa Clara County and BAAQMD data. In order to project the traffic volume on Montague Expressway for 2022 based on traffic data from 2017, the 2017 traffic volume was assumed to increase 1 percent per year from. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,¹⁴ which were then applied to the average daily traffic volumes to obtain estimated hourly traffic volumes and emissions for Montague Expressway. For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 40 mph was assumed for all vehicles. For 2 hours during the peak a.m. and p.m. periods, an average travel speed of 20 mph was used to represent increased traffic congestion conditions.

Dispersion Modeling

Dispersion modeling of TAC and PM_{2.5} emissions was conducted using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.¹⁵ TAC and PM_{2.5} emissions from local traffic on Montague Expressway within about 1,000 feet of the project site were evaluated. The portions of the roadways included in the modeling are shown in Figure AQ3-4. Vehicle traffic on the roadways was modeled using a series of adjacent area sources along a line (line area sources); with line segments used for each of the travel directions of the roadway. The modeling used a five-year data set (2013-2017) of hourly meteorological data from the San Jose Airport prepared for use with the AERMOD model by the BAAQMD. Other inputs to the model included road geometries and elevations, hourly traffic emissions, and the MEIR receptor location. Annual TAC and PM_{2.5} concentrations for 2022 from traffic were calculated using the model. Concentrations were calculated at MEIR location with receptor heights of 1.5 meters, 5.16

¹³ Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>

¹⁴ The Burden output from EMFAC2007, CARB's previous version of the EMFAC model, was used for this since the current web-based version of EMFAC2017 does not include Burden type output with hour by hour traffic volume information.

¹⁵ BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

meters, and 8.82 meters used to represent the breathing heights on the 1st, 2nd, and 3rd floor levels at the MEIR location.

The increased cancer risk calculations were based on guidance provided by the BAAQMD to analyze potential community health risk impacts from nearby sources of TAC emissions and applying the BAAQMD recommended age sensitivity factors to the TAC concentrations¹⁶. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. The range of infant through adult exposures were assumed to occur at all residences.

The maximum modeled annual PM_{2.5} concentration was calculated based on combined exhaust and fugitive PM_{2.5} concentrations. The maximum computed HI values was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 µg/m³.

The maximum modeled annual DPM and PM_{2.5} concentrations were identified as occurring on the first-floor level (receptor height of 1.5 meters) at the MEIR receptor location. The roadway traffic contributions to cancer risks, annual PM_{2.5} concentrations, and the hazard index at the MEIR are summarized in Table 4.3-31.

Table 4.3-31. Montague Expressway Traffic - Health Risk Impacts at MEIR

MEIR Receptor Height	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
1 st Floor – 1.5 meters	5.0	0.51	<0.01
2 nd Floor – 5.16 meters	3.6	0.24	<0.01
3 rd Floor – 8.82 meters	2.4	0.09	<0.01

Combined Community Risk Impacts

As discussed above, the project site is affected by several sources of TACs. Table 4.3-32 shows the cancer and non-cancer risks associated with each source affecting the project site. The sum of impacts from combined sources (i.e., all sources within 1,000 feet of the project) would be below the BAAQMD risk thresholds. Therefore, the impact from combined community risk would be considered less than significant. Appendix AQ-5 presents the support data for the operational risk calculations.

Table 4.3-32. Impacts from Combined Sources

Source	Maximum Cancer Risk (per million)	Hazard Index	PM _{2.5} concentration (µg/m ³)
Montague Expressway Traffic	5.0	<0.01	0.51
Existing Background Sources.	38.6	0.272	0.0096
SGBF	4.39	<0.01	0.029
Combined Sources ¹	47.99	0.273	0.548
BAAQMD Threshold – Combined Sources	100	10.0	0.8
Note: ¹ The combined source level is an overestimate because the maximum impact from each source is assumed to occur at the same location.			

¹⁶ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

4.4 BIOLOGICAL RESOURCES

The following discussion is based on an Arborist Report prepared by HMM in November 2021 for the proposed transmission line route and an Arborist Report prepared by Anderson's Tree Care Specialists, Inc. in June 2021 for the project site. The reports are attached in Appendix B and C of this document, respectively.

4.4.1 Environmental Setting

4.4.1.1 *Regulatory Framework*

Federal and State

Endangered Species Act

Individual plant and animal species listed as rare, threatened, or endangered under state and federal Endangered Species Acts are considered special-status species. Federal and state endangered species legislation has provided the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project would result in the take of a species listed as threatened or endangered. To "take" a listed species, as defined by the State of California, is "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" these species. Take is more broadly defined by the federal Endangered Species Act to include harm of a listed species.

In addition to species listed under state and federal Endangered Species Acts, Sections 15380(b) and (c) of the CEQA Guidelines provide that all potential rare or sensitive species, or habitats capable of supporting rare species, must be considered as part of the environmental review process. These may include plant species listed by the California Native Plant Society and CDFW-listed Species of Special Concern.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits killing, capture, possession, or trade of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Hunting and poaching are also prohibited. The taking and killing of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds.¹⁷ Nesting birds are considered special-status species and are protected by the USFWS. The CDFW also protects migratory and nesting birds under California Fish and Game Code Sections 3503, 3503.5, and 3800. The CDFW defines taking as causing abandonment and/or loss of reproductive efforts through disturbance.

¹⁷ United States Department of the Interior. "Memorandum M-37050. The Migratory Bird Treaty Act Does Not Prohibit Incidental Take." Accessed November 16, 2021. <https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>.

Sensitive Habitat Regulations

Wetland and riparian habitats are considered sensitive habitats under CEQA. They are also afforded protection under applicable federal, state, and local regulations, and are generally subject to regulation by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or the USFWS under provisions of the federal Clean Water Act (e.g., Sections 303, 304, 404) and State of California Porter-Cologne Water Quality Control Act.

Fish and Game Code Section 1602

Streambeds and banks, as well as associated riparian habitat, are regulated by the CDFW per Section 1602 of the Fish and Game Code. Work within the bed or banks of a stream or the adjacent riparian habitat requires a Streambed Alteration Agreement from the CDFW.

Regional and Local

Santa Clara Valley Habitat Plan/Natural Community Conservation Plan

The Santa Clara Valley Habitat Plan/Natural Community Conservation Plan (Habitat Plan) covers approximately 520,000 acres, or approximately 62 percent of Santa Clara County. It was developed and adopted through a partnership between Santa Clara County, the Cities of San José, Morgan Hill, and Gilroy, Santa Clara Valley Water District (Valley Water), Santa Clara Valley Transportation Authority (VTA), USFWS, and CDFW. The Habitat Plan is intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth in southern Santa Clara County. The Santa Clara Valley Habitat Agency is responsible for implementing the plan.

San José Tree Ordinance

The City of San José maintains the urban landscape by controlling the removal of ordinance trees on private property (San José Municipal Code Section 13.32). Ordinance trees are defined as trees 38 inches in circumference, or approximately 12 inches in diameter, at a height of 4.5 feet above the ground. Ordinance trees are generally mature trees that help beautify the City, slow the erosion of topsoil, minimize flood hazards, minimize the risk of landslides, increase property values, and improve local air quality. A tree removal permit is required from the City of San José for the removal of ordinance trees.

Envision San José 2040 General Plan

The General Plan includes the following biological resource policies applicable to the proposed project.

Policies	Description
ER-5.1	Avoid implementing activities that result in the loss of active native birds' nests, including both direct loss and indirect loss through abandonment, of native birds. Avoidance of activities that could result in impacts to nests during the breeding season or maintenance of buffers between such activities and active nests would avoid such impacts.
ER-5.2	Require that development projects incorporate measures to avoid impacts to nesting migratory birds.

Policies	Description
MS-21.4	Encourage the maintenance of mature trees, especially natives, on public and private property as an integral part of the community forest. Prior to allowing the removal of any mature tree, pursue all reasonable measures to preserve it.
MS-21.5	As part of the development review process, preserve protected trees (as defined by the Municipal Code), and other significant trees. Avoid any adverse effect on the health and longevity of protected or other significant trees through appropriate design measures and construction practices. Special priority should be given to the preservation of native oaks and native sycamores. When tree preservation is not feasible, include appropriate tree replacement, both in number and spread of canopy.
MS-21.6	As a condition of new development, require the planting and maintenance of both street trees and trees on private property to achieve a level of tree coverage in compliance with and that implements City laws, policies, or guidelines.
CD-1.25	Within new development projects, include preservation of ordinance-sized and other significant trees, particularly natives. Any adverse effect on the health and longevity of such trees should be avoided through design measures, construction, and best maintenance practices. When tree preservation is not feasible include replacements or alternative mitigation measures in the project to maintain and enhance our Community Forest.

4.4.1.2 *Existing Conditions*

The project site is currently developed with two buildings: a one-story, approximately 80,000 square foot manufacturing building and a one-story, approximately 55,000 square foot, unoccupied building.

Native and non-native trees and ornamental landscaping are located along the frontage of the property, as well as the northern, western, and southern property boundaries.

Wildlife habitats in such developed urban areas are low in species diversity. Species that use the habitat on the site are predominantly urban adapted birds, such as rock doves, mourning doves, house sparrows, finches, and starlings.

Special Status Species

Special status plant and wildlife species are not present on the highly urbanized project site, although raptors (birds of prey) could use the trees on-site for nesting or as a roost. Raptors are protected by the Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.).

Trees

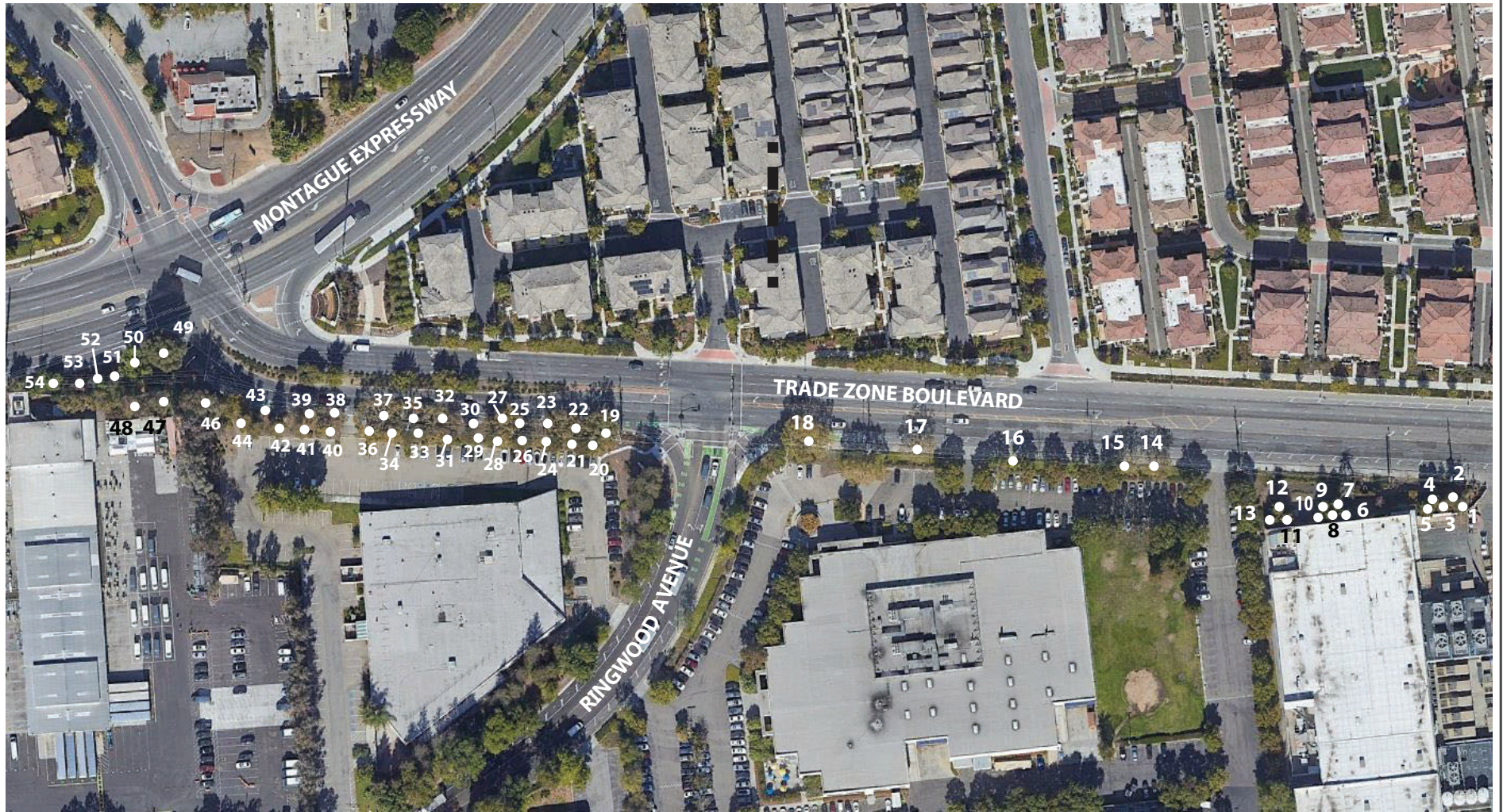
There are 156 trees within the boundaries of the project site, 54 trees located along the proposed transmission route, and 26 trees immediately adjacent to the project site that are close enough in proximity to potentially be impacted by project activities. Table 3.4-1 summarizes the species and number of trees on-site, Table 3.4-2 summarizes the species and number of trees along the transmission line route, and Table 3.4-3 summarizes the species and number of trees adjacent to the project site that are close enough in proximity to potentially be impacted by project activities. Figure 4.4-1 shows the locations of the trees on-site as well as the locations of trees adjacent to the project site that are close enough in proximity to potentially be impacted by project activities. Figure 4.4-2 shows the locations of the trees along the transmission route.

Table 3.4-1: Summary of Existing Trees On-Site				
Common Name	Species	Number of Trees Present	Ordinance Size	Native
Bradford Flowering Pear	<i>Pyrus calleryana</i>	72	55 yes, 17 no	No
Canary Island Pine	<i>Pinus canariensis</i>	9	9 yes, 0 no	No
Chinese Tallow	<i>Triadica sebifera</i>	3	1 yes, 2 no	No
Coast Live Oak	<i>Quercus agrifolia</i>	1	1 yes, 0 no	Yes
Coast Redwood	<i>Sequoia sempervirens</i>	5	5 yes, 0 no	Yes
Crapemyrtle	<i>Lagerstroemia indica</i>	1	1 yes, 0 no	No
Flowering Cherry	<i>Prunus spp.</i>	7	7 unknown and dead	No
Fruiting Cherry	<i>Prunus spp.</i>	1	0 yes, 1 no	No
Hollywood Juniper	<i>Juniperus chinensis</i> 'Torulosa'	1	0 yes, 1 no	No
Japanese Maple	<i>Acer palmatum</i>	1	0 yes, 1 no	No
Liquidambar	<i>Liquidambar styraciflua</i>	13	6 yes, 7 no	No
London Plane Tree	<i>Platanus x hispanica</i>	1	1 yes, 0 no	No
Oleander	<i>Nerium oleander</i>	12	8 no, 4 unknown	No
Shamel Ash	<i>Fraxinus uhdei</i>	14	9 yes, 5 no	No
Southern Magnolia	<i>Magnolia grandiflora</i>	7	6 yes, 1 no	No
Valley Oak	<i>Quercus lobata</i>	3	0 yes, 3 no	Yes
White Alder	<i>Alnus rhombifolia</i>	4	4 yes, 0 no	Yes
White Birch	<i>Betula pendula</i>	1	0 yes, 1 no	No

Table 3.4-2: Summary of Existing Trees Along Transmission Line Route				
Common Name	Species	Number of Trees Present	Ordinance Size	Native
California Pepper	<i>Schinus molle</i>	1	1 yes, 0 no	No
Canary Island Pine	<i>Pinus canariensis</i>	1	1 yes, 0 no	No
Coast Redwood	<i>Sequoia sempervirens</i>	28	18 yes, 10 no	Yes
London Plane Tree	<i>Plantanus x hispanica</i>	17	14 yes, 3 no	No
Mexican Fan Palm	<i>Washingtonia robusta</i>	1	1 yes, 0 no	No
Privet Tree	<i>Ligustrum lucidum</i>	4	1 yes, 3 no	No
Red Gum	<i>Eucalyptus camaldulensis</i>	2	2 yes, 0 no	No

Table 3.4-3: Summary of Neighboring Trees in Close Enough Proximity to Potentially be Impacted by Project Activities				
Common Name	Species	Number of Trees Present	Ordinance Size	Native
London Plane Tree	<i>Platanus x hispanica</i>	5	4 yes, 1 no	No
Red Oak	<i>Quercus rubra</i>	1	1 yes	No
Shamel Ash	<i>Fraxinus uhdei</i>	20	19 unknown, 6 yes	No





 Tree Location



Source: HMM Engineers, November 19, 2021.

LOCATION OF TREES ALONG THE TRANSMISSION ROUTE

FIGURE 4.4-2

4.4.2 Impact Discussion

For the purpose of determining the significance of the project's impact on 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 (CDFW) or United States Fish and Wildlife Service (USFWS)?
- 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 CDFW or USFWS?
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

4.4.2.1 *Project Impacts*

-
- a) **Would the project 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 CDFW or USFWS?**
-

Based on the highly urbanized and developed nature of the project site, natural communities or habitats for special-status plant and wildlife species are not present and would not be impacted, with the exception of nesting birds (described further below).

Nesting Birds

Development of the project would result in the removal of all 156 trees on-site and installation of the aboveground transmission line could potentially impact 54 trees along Trade Zone Boulevard. Additionally, 26 trees adjacent to the project site are close enough in proximity to potentially be impacted by project activities.

Trees could provide nesting habitat for birds, including migratory birds. Nesting birds are protected under provisions of the MBTA and CDFW code. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes abandonment and/or removal and site grading that disturb a nesting bird on-site or immediately adjacent to the construction zone would constitute a significant impact.

Impact BIO-1: Development of the proposed project would result in impacts to nesting birds, if present on the site at the time of construction.

Applicant Proposed Mitigation Measures: The following mitigation measures would reduce and/or avoid impacts to nesting birds (if present on or adjacent to the site) to a less than significant level.

MM BIO-1.1: The project applicant shall schedule demolition and construction activities to avoid the nesting season. The nesting season for most birds, including most raptors in the San Francisco Bay area, extends from February 1st through August 31st (inclusive).

MM BIO-1.2: If demolition and construction cannot be scheduled between September 1st and January 31st (inclusive), pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests shall be disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (February 1st through April 30th inclusive) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May 1st through August 31st inclusive). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats immediately adjacent to the construction areas for nests.

MM BIO-1.3: If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with the California Department of Fish and Wildlife, shall determine the extent of a construction free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests shall not be disturbed during project construction.

MM BIO-1.4: Prior to any tree removal, or approval of any grading or demolition permits (whichever occurs first), the ornithologist shall submit a report indicating the results of the survey and any designated buffer zones to the satisfaction of the City's Director of Planning or Director's designee of the Department of Planning, Building and Code Enforcement.

With implementation of Applicant Proposed Mitigation Measures MM BIO-1.1 through MM BIO-1.4, the project's impact to nesting birds would be less than significant. **(Less than Significant Impact with Mitigation Incorporated)**

b) **Would the project 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 CDFW or USFWS?**

Because the site is fully developed, no natural or sensitive habitats are present on the project site. As a result, no substantial impacts to natural plant communities or habitats would occur as a result of the proposed project. **(Less than Significant Impact)**

-
- c) **Would the project have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means?**
-

The project is located in a developed industrial area and would not directly affect any federally protected wetlands. **(No Impact)**

-
- d) **Would the project 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?**
-

The project is located in a developed industrial area and would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites. **(No Impact)**

-
- e) **Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**
-

Removal of trees would be required to conform to the replacement requirements as identified in the Municipal Code Section 13.28.300, General Plan Policies MS-21.4, MS-21.5, and MS-21.6 and City of San José Tree Removal Control (Municipal Code Section 13.31.010 to 13.32.100).

Applicant Proposed Mitigation Measures:

MM BIO-2.1: Tree Replacement. A tree removal permit would be required from the City of San José for the removal of ordinance trees. The removed trees would be replaced according to tree replacement ratios required by the City, as provided in Table 4.4-2 below.

Table 4.4-2: Tree Replacement Ratios				
Circumference of Tree to be Removed	Type of Tree to be Removed			Minimum Size of Each Replacement Tree
	Native	Non-Native	Orchard	
38 inches or more	5:1	4:1	3:1	15-gallon
19 up to 38 inches	3:1	2:1	none	15-gallon
Less than 19 inches	1:1	1:1	none	15-gallon

Table 4.4-2: Tree Replacement Ratios				
Circumference of Tree to be Removed	Type of Tree to be Removed			Minimum Size of Each Replacement Tree
	Native	Non-Native	Orchard	
x:x = tree replacement to tree loss ratio				
Note: Trees greater than or equal to 38-inch circumference shall not be removed unless a Tree Removal Permit, or equivalent, has been approved for the removal of such trees. For Multi-Family residential, Commercial and Industrial properties, a permit is required for removal of trees of any size. A 38-inch tree equals 12.1 inches in diameter.				
A 24-inch box tree = two 15-gallon trees				
Single Family and two-dwelling properties may be mitigated at a 1:1 ratio.				

Since 156 trees onsite would be removed, 10 trees would be replaced at a 5:1 ratio¹⁸, 99 trees would be replaced at a 4:1 ratio, 47 trees would be replaced at a 1:1 ratio. As shown in Table 3.4-1, there are 13 native trees on-site. The total number of replacement trees required to be planted would be 493 trees. The species of trees to be planted would be determined in consultation with the City Arborist and the Department of Planning, Building, and Code Enforcement (PBCE).

In the event the project site does not have sufficient area to accommodate the required tree mitigation, one or more of the following measures will be implemented, to the satisfaction of the Director of PBCE, at the development permit stage:

- The size of a 15-gallon replacement tree may be increased to 24-inch box and count as two replacement trees to be planted on the project site, at the development permit stage.
- Pay Off-Site Tree Replacement Fee(s) to the City, prior to the issuance of Public Works grading permit(s), in accordance to the City Council approved Fee Resolution. The City will use the off-site tree replacement fee(s) to plant trees at alternative sites.

Trees to be retained on-site, adjacent to the site, and/or along the transmission route may be injured during project construction activities including demolition and site grading. Additionally, trees adjacent to the proposed overhead transmission line may require substantial pruning to ensure clearance. The following applicant proposed mitigation measures would be implemented to reduce impacts to existing trees to less than significant levels.

Applicant Proposed Mitigation Measures:

MM BIO-2.2: Barricades – Prior to initiation of construction activity, temporary barricades would be installed around all trees in the construction area. Six-foot high, chain link fences would be mounted on steel posts, driven two feet into the

¹⁸ 11 of the trees on-site were unable to be measured for diameter. Therefore, those 11 trees were conservatively assumed to be of ordinance size and will be replaced at a 5:1 ratio of native, and a 4:1 ratio if non-native. Additionally, one tree's species was unrecognizable, therefore the tree was assumed to be native

ground, at no more than 10-foot spacing. The fences shall enclose the entire area under the drip line of the trees or as close to the drip line area as practical. These barricades will be placed around individual trees and/or groups of trees.

MM BIO-2.3: Root Pruning (if necessary) – During and upon completion of any trenching/grading operation within a tree’s drip line, should any roots greater than one inch in diameter be damaged, broken or severed, root pruning to include flush cutting and sealing of exposed roots should be accomplished under the supervision of a qualified Arborist to minimize root deterioration beyond the soil line within 24 hours.

MM BIO-2.4: Pruning – Pruning of the canopies to include removal of deadwood should be initiated prior to construction operations. Such pruning will provide any necessary construction clearance, will lessen the likelihood or potential for limb breakage, reduce ‘windsail’ effect and provide an environment suitable for healthy and vigorous growth.

MM BIO-2.5: Fertilization – Fertilization by means of deep root soil injection should be used for trees to be impacted during construction in the spring and summer months.

MM BIO-2.6: Mulch – Mulching with wood chips (maximum depth of three inches) within tree environments should be used to lessen moisture evaporation from soil, protect and encourage adventitious roots and minimize possible soil compaction.

With implementation of Applicant Proposed Mitigation Measures MM BIO-2.1 - 2.6, the project would result in a less than significant impact to trees. **(Less Than Significant Impact with Mitigation Incorporated)**

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Based on the Habitat Agency Geobrowser, the project site is within the SCVHP area¹⁹ and the entire site falls under the Urban – Suburban land use cover. Private development in the plan area is subject to the SCVHP if it meets the following criteria:

- The activity is subject to either ministerial or discretionary approval by the County of one of the cities;

¹⁹ Santa Clara Valley Habitat Agency. “GIS Data & Key Maps.” Accessed November 30, 2021. <https://scv-habitatagency.org/193/GIS-Data-Key-Maps>.

- The activity is described in Section 2.3.2 *Urban Development* or in Section 2.3.7 *Rural Development*;²⁰ and
- In Figure 2-5 (of the HCP), the activity is located in an area identified as “Private Development is Covered,” OR the activity is equal to or greater than two acres AND
 - The project is located in an area identified as “Rural Development Equal to or Greater than Two Acres is Covered,” or “Urban Development Equal to or Greater than Two Acres is Covered” OR
 - The activity is located in an area identified as “Rural Development is not Covered” but, based on land cover verification of the parcel (inside the Urban Service Area) or development area, the project is found to impact serpentine, wetland, stream, riparian, or pond land cover types; or the project is located in occupied nesting habitat for western burrowing owl.

The proposed project is located within Urban Areas fee zone (no land use fees) and is consistent with the activity described in *Section 2.3.2* of the SCVHP. The project would require discretionary approval by the City. Consistent with the SCVHP, the project applicant shall implement the following Applicant Proposed Mitigation Measure.

Applicant Proposed Mitigation Measures: As a condition of approval, the project proponent shall implement the following measure to reduce impacts from nitrogen deposition to a less than significant level:

MM BIO-3.1: The project is subject to applicable SCVHP conditions and fees (including the nitrogen deposition fee) prior to issuance of any grading permits. The project applicant would be required to submit the Santa Clara Valley Habitat Plan Coverage Screening Form to the Director of PBCE or the Director's designee for approval and payment of the nitrogen deposition fee prior to the issuance of a grading permit. The Habitat Plan and supporting materials can be viewed at www.scv-habitatplan.org.

With implementation of the Applicant Proposed Mitigation Measure MM BIO-3.1, the project would not conflict with the provisions of the SCVHP. **(Less than Significant Impact)**

4.4.2.2 Cumulative Impacts

Would the project result in a cumulatively considerable contribution to a significant cumulative biological resources impact?

The geographic area for cumulative biological resources impacts includes the project site and its surrounding area. The project site does not contain sensitive, wetland, or riparian habitat and,

²⁰ Covered activities in urban areas include residential, commercial, and other types of urban development within the Cities of Gilroy, Morgan Hill, and San José planning limits of urban growth in areas designated for urban or rural development, including areas that are currently in the unincorporated County (i.e., in “pockets” of unincorporated land inside the cities’ urban growth boundaries).

therefore, the project has no potential to combine with other projects to result in cumulative impacts to these resources. **(No Cumulative Impact)**

Implementation of the proposed project could result in impacts to nesting raptors, migratory birds, and trees. All projects, however, would be subject to federal and state regulations that protect nesting birds and the City's General Plan Policy requiring the replacement of trees removed would avoid and/or reduce the cumulative impact to nesting birds and trees. Finally, through implementation of the mitigation measures described in this section, the project's contribution to a biological impact would not be cumulatively considerable. For these reasons, the proposed project would not result in a significant cumulative impact to biological resources. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

4.5 CULTURAL RESOURCES

The technical report required to complete this section is currently being prepared. This section and the associated technical report will be provided in a subsequent submittal.

4.6 ENERGY

4.6.1 Environmental Setting

4.6.1.1 *Regulatory Framework*

Federal and State

Energy Star and Fuel Efficiency

At the federal level, energy standards set by the Environmental Protection Agency (EPA) apply to numerous consumer products and appliances (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2010. Governor Schwarzenegger issued Executive Order (EO) S-3-05, requiring statewide emissions reductions to 80 percent below 1990 levels by 2050. In 2008, EO S-14-08 was signed into law, requiring retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. In October 2015, Governor Brown signed Senate Bill (SB) 350 to codify California's climate and clean energy goals. A key provision of SB 350 requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable sources by 2030. SB 100, passed in 2018, requires 100 percent of electricity in California to be provided by 100 percent renewable and carbon-free sources by 2045.

Executive Order B-55-18 To Achieve Carbon Neutrality

In September 2018, Governor Brown issued an executive order, EO-B-55-18 To Achieve Carbon Neutrality, setting a statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." The executive order requires the California Air Resources Board (CARB) to "ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal." EO-B-55-18 supplements EO S-3-05 by requiring not only emissions reductions, but also that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO₂ from the atmosphere through sequestration.

California Building Standards Code

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6 of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years.²¹ Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.²²

²¹ California Building Standards Commission. "California Building Standards Code." Accessed January 21, 2020. https://www.dgs.ca.gov/BSC/Codes#@ViewBag_JumpTo.

²² California Energy Commission. "2019 Building Energy Efficiency Standards." Accessed January 21, 2020. <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) establishes mandatory green building standards for buildings in California. CALGreen was developed to reduce GHG emissions from buildings, promote environmentally responsible and healthier places to live and work, reduce energy and water consumption, and respond to state environmental directives. CALGreen covers five categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

Advanced Clean Cars Program

CARB adopted the Advanced Clean Cars program in 2012 in coordination with the EPA and National Highway Traffic Safety Administration. The program combines the control of smog-causing pollutants and greenhouse gas (GHG) emissions into a single coordinated set of requirements for vehicle model years 2015 through 2025. The program promotes development of environmentally superior passenger cars and other vehicles, as well as saving the consumer money through fuel savings.²³

Regional and Local

Climate Smart San José

Climate Smart San José is a plan to reduce air pollution, save water, and create a stronger and healthier community. The City approved goals and milestones in February 2018 to ensure the City can substantially reduce GHG emissions through reaching the following goals and milestones:

- All new residential buildings will be Zero Net Carbon Emissions (ZNE) by 2020 and all new commercial buildings will be ZNE by 2030 (Note that ZNE buildings would be all electric with a carbon-free electricity source).
- San José Clean Energy (SJCE) will provide 100-percent carbon-free base power by 2021.
- One gigawatt of solar power will be installed in San José by 2040.
- 61 percent of passenger vehicles will be powered by electricity by 2030.

Sustainable City Strategy

The Sustainable City Strategy is a statement of the City's commitment to becoming an environmentally and economically sustainable city by ensuring that development is designed and built in a manner consistent with the efficient use of resources and environmental protection. Programs promoted under this strategy include recycling, waste disposal, water conservation, transportation demand management and energy efficiency.

²³ California Air Resources Board. "The Advanced Clean Cars Program." Accessed January 21, 2020. <https://www.arb.ca.gov/msprog/acc/acc.htm>.

Municipal Code

The City's Municipal Code includes regulations associated with energy efficiency and energy use. City regulations include a Green Building Ordinance (Chapter 17.84) to foster practices to minimize the use and waste of energy, water and other resources in the City of San José, Water Efficient Landscape Standards for New and Rehabilitated Landscaping (Chapter 15.10), requirements for Transportation Demand Programs for employers with more than 100 employees (Chapter 11.105), and a Construction and Demolition Diversion Deposit Program that fosters recycling of construction and demolition materials (Chapter 9.10).

Envision San José 2040 General Plan

The Envision San José 2040 General Plan includes the following policies for the purpose of reducing or avoiding impacts related to energy.

General Plan Policies - Energy	
Energy Conservation and Renewable Energy Use	
Policy MS-2.3	Utilize solar orientation, (i.e., building placement), landscaping, design, and construction techniques for new construction to minimize energy consumption.
Policy MS-2.11	Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g. design to maximize cross ventilation and interior daylight) and through site design techniques (e.g. orienting buildings on sites to maximize the effectiveness of passive solar design).
Water Conservation and Quality	
Policy MS-3.1	Require water-efficient landscaping, which conforms to the state's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial, and developer-installed residential development unless for recreation or other area functions.
Waste Diversion	
Policy MS-5.5	Maximize recycling and composting from all residents, businesses, and institutions in the City.
Waste Reduction	
Policy MS-6.5	Reduce the amount of waste disposed in landfills through waste prevention, reuse, and recycling of materials at venues, facilities, and special events.
Policy MS-6.8	Maximize reuse, recycling, and composting citywide.
Water Conservation	
Policy MS-18.6	Achieve by 2040, 50 million gallons per day of water conservation savings in San José, by reducing water use and increasing water use efficiency.
Water Recycling	

General Plan Policies - Energy	
Policy MS-19.1	Require new development to contribute to the cost-effective expansion of the recycled water system in proportion to the extent that it receives benefit from the development of a fiscally and environmentally sustainable local water supply.
Policy MS-19.4	Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.
Transportation	
Policy TR-3.3	As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute toward transit ridership. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities.

Reach Building Code

In 2019, the San José City Council approved Ordinance No. 30311 and adopted the Reach Code Ordinance (Reach Code) to reduce energy-related GHG emissions consistent with the goals of Climate Smart San José. The Reach Code applies to new construction projects in San José. It requires new residential construction to be outfitted with entirely electric fixtures. Mixed-fuel buildings (i.e., with use of natural gas) are required to demonstrate increased energy efficiency through higher Energy Design Ratings and be electrification ready. In addition, the Reach Code requires electric vehicle (EV) charging infrastructure for all building types (above current CALGreen requirements), and solar readiness for non-residential buildings.

4.6.1.2 Existing Conditions

Total energy usage in California was approximately 7,881 trillion British thermal units (Btu) in the year 2017, the most recent year for which this data was available.²⁴ Out of the 50 states, California is ranked second in total energy consumption and 48th in energy consumption per capita. The breakdown by sector was approximately 18 percent (1,416 trillion Btu) for residential uses, 19 percent (1,473 trillion Btu) for commercial uses, 23 percent (1,818 trillion Btu) for industrial uses, and 40 percent (3,175 trillion Btu) for transportation. This energy is primarily supplied in the form of natural gas, petroleum, nuclear electric power, and hydroelectric power.

Electricity

Electricity in Santa Clara County in 2018 was consumed primarily by the commercial sector (77 percent), followed by the residential sector consuming 23 percent. In 2018, a total of approximately 16,668 gigawatt hours (GWh) of electricity was consumed in Santa Clara County.²⁵

SJCE is the electricity provider for residents and businesses in the City of San José. SJCE sources the electricity and the Pacific Gas and Electric Company (PG&E) delivers it to customers over their

²⁴ United States Energy Information Administration. "State Profile and Energy Estimates, 2017." Accessed August 1, 2019. <https://www.eia.gov/state/?sid=CA#tabs-2>.

²⁵ California Energy Commission. Energy Consumption Data Management System. "Electricity Consumption by County." Accessed March 15, 2019. <http://ecdms.energy.ca.gov/elecbycounty.aspx>.

existing utility lines. SJCE customers are automatically enrolled in the GreenSource program, which provides 80 percent GHG emission-free electricity. Customers can choose to enroll in SJCE's TotalGreen program at any time to receive 100 percent GHG emission-free electricity from entirely renewable sources.

Natural Gas

PG&E provides natural gas services within the City of San José. In 2018, approximately one percent of California's natural gas supply came from in-state production, while the remaining supply was imported from other western states and Canada.²⁶ In 2018, residential and commercial customers in California used 34 percent of the state's natural gas, power plants used 35 percent, the industrial sector used 21 percent, and other uses used 10 percent. Transportation accounted for one percent of natural gas use in California. In 2018, Santa Clara County used approximately 3.5 percent of the state's total consumption of natural gas.²⁷

Fuel for Motor Vehicles

In 2018, 15.5 billion gallons of gasoline were sold in California.²⁸ The average fuel economy for light-duty vehicles (autos, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 13.1 miles per gallon (mpg) in the mid-1970s to 24.9 mpg in 2018.²⁹ Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. That standard, which originally mandated a national fuel economy standard of 35 miles per gallon by the year 2020, was subsequently revised to apply to cars and light trucks model years 2011 through 2020.^{30,31}

4.6.2 Impact Discussion

For the purpose of determining the significance of the project's impact on energy, would the project:

1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or unnecessary consumption of energy resources, during project construction or operation?
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

²⁶ California Gas and Electric Utilities. 2019 *California Gas Report*. Accessed August 27, 2019.

https://www.socalgas.com/regulatory/documents/cgr/2019_CGR_Supplement_7-1-19.pdf.

²⁷ California Energy Commission. "Natural Gas Consumption by County." Accessed February 21, 2019.

<http://ecdms.energy.ca.gov/gasbycounty.aspx>.

²⁸ California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed February 11, 2020. <https://www.cdtfa.ca.gov/dataportal/dataset.htm?url=VehicleTaxableFuelDist>.

²⁹ United States Environmental Protection Agency. "The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975." March 2019.

³⁰ United States Department of Energy. *Energy Independence & Security Act of 2007*. Accessed January 21, 2020. <http://www.afdc.energy.gov/laws/eisa>.

³¹ Public Law 110-140—December 19, 2007. *Energy Independence & Security Act of 2007*. Accessed January 21, 2020. <http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf>.

4.6.2.1 *Project Impacts*

-
- a) **Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**
-

Construction

Construction of the project would require energy for the manufacturing and transportation of building materials, site preparation and grading, and the construction of the buildings and infrastructure. As discussed in Section 4.3 Air Quality, the project would implement measures to reduce construction emissions by minimizing the idling of construction equipment. Additionally, the project would implement construction waste management methods during construction to reduce the amount of construction waste.

Operation

Operation of the project would consume energy for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Energy would also be consumed during each vehicle trip generated by employees and visitors. The project would be constructed in accordance with Title 24 and CALGreen standards, and would include green building measures to reduce energy consumption. The project would also utilize lighting control to reduce energy usage for new exterior lighting and air economization for building cooling. Water efficient landscaping and ultra-low flow plumbing fixtures in the building would be implemented to limit water consumption.

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 Information Technology (IT) (i.e., server) power draw (e.g., $PUE = \text{Total Facility Source Energy} / \text{IT Source Energy}$). For example a PUE of two (2), means that the data center or laboratory must draw two (2) watts of electricity for every one (1) watt of power consumed by the IT/server equipment. It is equal to the total energy consumption of a data center (for all fuels) divided by the energy consumption used for the IT equipment. The ideal PUE is one (1) where all power drawn by the facility goes to the IT infrastructure. The average annual PUE of the data centers proposed by the project would be 1.3. Based on industry surveys, the average PUE for data centers is 1.67, although newly constructed data centers typically have PUEs ranging from 1.1 to 1.4.³²

Due to the energy efficiency measures incorporated into the facility, the project would not result in wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources.

Energy would also be consumed by the SVYBGF during regular testing and maintenance of the emergency backup generators. Each generator would be limited to a maximum of 50 hours per year of operation. Based on maximum fuel consumption assumptions in the air quality analysis prepared for the project (refer to Appendix A), the SVYBGF could consume up to roughly 381,909 gallons of fuel per year for generator maintenance and testing. According to the California Energy

³² Uptime Institute. Annual Data Center Survey Results - 2019. Available at: <https://datacenter.com/wp-content/uploads/2019/06/data-center-survey-2019.pdf>

Commission's 2019 Weekly Fuel's Watch Report, the annual capacity of CARB Diesel Fuel in California was 1,736,000 barrels annually.³³ The potential maximum consumption of CARB Diesel Fuel by the SVYBGF would be less than 0.52 percent of the total California capacity. In reality, the SVYBGF is highly unlikely to consume this amount of fuel. These calculations are based on a maximum impact scenario where all engines are operated at 100 percent load for the full 50 hours per year that would be allowed under the BAAQMD permits. Typically, generators are tested at loads ranging from 10 to 100 percent, and only rarely would the SVYBGF generators be tested at 100 percent load. Additionally, it is not anticipated that the SVYBGF would test the generators the maximum 50 hours per year allowed under the BAAQMD permits. Because the generators would only be operated when necessary for testing and maintenance, and would not be used regularly for electricity generation, the SVYBGF would not result in a wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. Additionally, the SVYBGF would not have a significant adverse effect on local or regional energy supplies and will not create a significant adverse impact on California's energy resources.

For all the reasons listed above, construction and operation of the proposed project would have a less than significant impact. **(Less than Significant Impact)**

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The project would be consistent with the regulations described in 4.6.1.1 (including General Plan Policies) for the following reasons:

1. The project is located adjacent to a major transit center, the Milpitas BART Station.
2. Bicycle parking would be provided on-site.
3. The proposed buildings would meet or exceed the requirements of the California Building Energy Efficiency Standards.
4. The proposed buildings would include water conserving fixtures.
5. The project would implement construction waste management methods during construction to reduce the amount of construction waste.

The project, therefore, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact)**

4.6.2.2 Cumulative Impacts

Would the project result in a cumulatively considerable contribution to a significant cumulative energy impact?

The geographic area for cumulative energy impacts is the State of California. Past, present, and future development projects contribute to the state's energy impacts. If a project is determined to have a significant energy impact, it is concluded that the impact is cumulatively considerable. As discussed above, the project would not result in significant energy impacts or conflict or obstruct a

³³ Addition of the total weekly Production Capacity and total weekly Refinery Stock reported for June 14, 2019.

state or local plan for energy efficiency. The project, therefore, would not have a cumulatively considerable contribution to a significant cumulative energy impact. **(Less than Significant Cumulative Impact)**

4.7 GEOLOGY AND SOILS

The discussion in this section is based in part on a Geotechnical Investigation prepared for the proposed project by Cornerstone Earth Group in August 2021. The Geotechnical Investigation is attached in Appendix D of this document.

4.7.1 Environmental Setting

4.7.1.1 *Regulatory Framework*

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed following the 1971 San Fernando earthquake. The act regulates development in California near known active faults due to hazards associated with surface fault ruptures. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction. Areas within an Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the 1989 Loma Prieta earthquake. The SHMA directs the California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, landslides, and ground shaking, including the central San Francisco Bay Area. The SHMA requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the seismic hazard is present and identify measures to reduce earthquake-related hazards.

California Building Standards Code

The CBC prescribes standards for constructing safe buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared for most development projects to evaluate seismic and geologic conditions such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every three years.

California Division of Occupational Safety and Health Regulations

Excavation, shoring, and trenching activities during construction are subject to occupational safety standards for stabilization by the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) under Title 8 of the California Code of Regulations and Excavation Rules. These regulations minimize the potential for instability and collapse that could injure construction workers on the site.

Public Resources Code Section 5097.5

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. They range from mammoth and dinosaur bones to impressions of ancient animals and plants, trace remains, and microfossils. These materials are valued for the information they yield about the history of the earth and its past ecological settings. California Public Resources Code Section 5097.5 specifies that unauthorized removal of a paleontological resource is a misdemeanor. Under the CEQA Guidelines, a project would have a significant impact on paleontological resources if it would disturb or destroy a unique paleontological resource or site or unique geologic feature.

Local

Envision San José 2040 General Plan

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to geologic and seismic hazards and are applicable to the proposed project.

General Plan Policies – Geologic and Seismic Hazards	
EC-3.1	Design all new or remodeled habitable structures in accordance with the most recent California Building Code and California Fire Code as amended locally and adopted by the City of San José, including provisions regarding lateral forces.
EC-4.1	Design and build all new or remodeled habitable structures in accordance with the most recent California Building Code and municipal code requirements as amended and adopted by the City of San José, including provisions for expansive soil, and grading and storm water controls.
EC-4.4	Require all new development to conform to the City of San José's Geologic Hazard Ordinance.
EC-4.5	Ensure that any development activity that requires grading does not impact adjacent properties, local creeks, and storm drainage systems by designing and building the site to drain properly and minimize erosion. An Erosion Control Plan is required for all private development projects that have a soil disturbance of one acre or more, adjacent to a creek/river, and/or are located in hillside areas. Erosion Control Plans are also required for any grading occurring between October 15 and April 15.
ES-4.9	Permit development only in those areas where potential danger to health, safety, and welfare of the persons in that area can be mitigated to an acceptable level.

4.7.1.2 *Existing Conditions*

Regional Geology

The City of San José is located in the eastern portion of the Santa Clara Valley. The Santa Clara Valley, an alluvial basin, is oriented northwest to southeast and is bounded by the Santa Cruz Mountains to the west and the Hamilton/Diablo Range to the east. The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Hamilton/Diablo Range were exposed by continued tectonic uplift and regression of the inland sea that had previously

inundated this area. Bedrock in this area is made up of the Franciscan Complex, a diverse group of igneous, sedimentary, and metamorphic rocks of Late Jurassic to Cretaceous age (70 to 140 million years old). Overlaying the bedrock at substantial depths are marine and terrestrial sedimentary rocks of Tertiary and Quaternary age.

Soil Conditions

The project site is underlain by 1.5 to 4.5 feet of undocumented fill consisting of very stiff to hard lean clay with varying amounts of sand, medium dense to dense clayey sands with varying amounts of gravel, and medium dense well graded sand with gravel. Below the fill or surface pavements, ground borings conducted for the Geotechnical Investigation generally encountered soft to hard lean clays with varying amounts of sand and interbedded layers of loose to dense clayey sand, silty sand, and poorly graded sands to depths up to about 87 feet. Below the clays, the borings encountered dense to very dense poorly graded sand with silt to a depth of 99.5 feet. Beneath the sand, the site contains interbedded layers of still to hard clays and silts with varying amounts of sand and medium dense to very dense sands with varying amounts of clay and silt to the maximum depth analyzed (150 feet).

Groundwater

Based on soil borings completed for Geotechnical Investigation (refer to Appendix D), depth to groundwater in the area is approximately 8 to 16 feet below ground surface (bgs). Fluctuations in groundwater levels are common due to seasonal fluctuations, underground drainage patterns, regional fluctuations, and other factors.

Seismicity and Seismic Hazards

The San Francisco Bay Area is one of the most seismically active areas in the United States. While seismologists cannot predict earthquake events, the U.S. Geological Survey's Working Group on California Earthquake Probabilities estimates there is a 72 percent chance of at least one magnitude 6.7 earthquake occurring in the Bay Area region between 2002 and 2032. Higher levels of shaking and damage would be expected for earthquakes occurring at closer distances. The faults considered capable of generating significant earthquakes in the area are generally associated with the well-defined areas of crustal movement, which trend northwesterly.

The three major faults in the region are the Calaveras Fault (approximately 6.2 miles east of the site), the San Andreas Fault (approximately 14.9 miles west of the site), and the Hayward Fault (approximately 5.6 miles east of the site). The site is not located within a State-designated Alquist Priolo Earthquake Fault Zone, a Santa Clara County Fault Zone, or a City of San José Potential Hazard Zone. Ground shaking at the project site is predicted to be violent as determined by the Association of Bay Area Governments (ABAG)³⁴.

³⁴ Association of Bay Area Governments. Santa Clara County Earthquake Hazard. Accessed November 3, 2021. <http://resilience.abag.ca.gov/earthquakes/santaclarita/>

Liquefaction

Soil liquefaction is a condition where saturated granular soils near the ground surface undergo a substantial loss of strength during seismic events. Loose, water-saturated soils are transformed from a solid to a liquid state during ground shaking. Liquefaction can result in significant deformations and ground rupture or sand boils. Soils most susceptible to liquefaction are loose, uniformly graded, saturated, fine-grained sands that lie close to the ground surface. The project site is located within a State-designated Liquefaction Hazard Zone and a Santa Clara County Liquefaction Hazard Zone.³⁵

Landslides

The topography of the project area is flat, with elevations ranging from 35 to 105 feet above sea level, therefore erosion hazards are limited. Additionally, according to the Geologic and Seismic Hazards Map from the Envision San José 2040 General Plan Integrated Final Program EIR, the proposed project is not located in a State Seismic Hazard Zone for Landslides.

Lateral Spreading

Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying alluvial material toward an open face, such as the steep bank of a stream channel.

There are no open faces within a distance considered susceptible to later spreading, therefore the project site would not be subject to lateral spreading.

Paleontological Resources

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. Most of the City is situated on alluvial fan deposits of Holocene age that have a low potential to contain significant nonrenewable paleontological resources; however, older Pleistocene sediments present at or near the ground surface at some locations have high potential to contain these resources. These older sediments, often found at depths of greater than 10 feet bgs, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates.

Based on the underlying geologic formation of the project site, the Envision San José 2040 General Plan Integrated Final Program EIR found the area to have a high sensitivity for encountering paleontological resources at depth.

4.7.2 Impact Discussion

For the purpose of determining the significance of the project's impact on geology and soils, would the project:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

³⁵ Cornerstone Earth Group. Geotechnical Investigation Stack SVYL1/L2. August 13, 2021.

- 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)?
 - Strong seismic ground shaking?
 - Seismic-related ground failure, including liquefaction?
 - Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- c) Be located on a 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 the current California Building Code, creating substantial direct or indirect risks to life or property?
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

4.7.2.1 *Project Impacts*

-
- a) **Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?**
-

Fault Rupture

The project site is not located within an Alquist-Priolo Earthquake Fault Zone or a Santa Clara County Fault Rupture Hazard Zone, making fault rupture at the site unlikely. While existing faults are located within 5.6 miles of the site (the Hayward Fault), the proposed project is outside of the fault zone, and significant impacts from fault ruptures are not anticipated to occur.

Seismic Ground Shaking and Liquefaction

The project site would be subject to violent seismic ground shaking and seismic-related ground failure, including liquefaction in the event of a large earthquake. Consistent with the City's General Plan and Municipal Code, to avoid and/or minimize potential damage from seismic shaking, the proposed project would be built using standard engineering and seismic safety design techniques. The building foundation design would incorporate liquefaction control measures, such as a concrete mat slab or a ground improvement system such as soil mixed columns or drilled displacement piles. Consistent with these requirements, the following Applicant Proposed Mitigation Measure shall be implemented to ensure the proposed development is designed to address seismic hazards.

MM GEO-1:

To avoid or minimize potential damage from seismic shaking, the project shall be constructed using standard engineering and seismic safety design techniques. Building design and construction at the site shall be completed in conformance with the recommendations of an approved geotechnical investigation. The report shall be reviewed and approved by the City of San José Department of Public Works as part of the building permit review and issuance process. The buildings shall meet the requirements of applicable building and fire codes as adopted or updated by the City. The project shall be designed to withstand soil hazards identified on the site and the project shall be designed to reduce the risk to life or property on site and off site to the extent feasible and in compliance with the Building Code.

With implementation of the identified MM GEO-1, the proposed project would not expose people or structures to substantial adverse effects due to ground shaking; nor would the project exacerbate existing geological hazards on the project site such that it would impact (or worsen) off-site geological and soil conditions.

Landslides

The proposed project is not located in a State Seismic Hazard Zone for Landslides, and therefore would not expose people or structures to adverse effects due to naturally occurring or earthquake-induced landslides.

The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides. **(Less than Significant Impact)**

b) Would the project result in substantial soil erosion or the loss of topsoil?

Ground disturbance from the proposed project would occur during excavation and grading of the site, potentially resulting in an increased exposure of soil to wind and water erosion. General Plan Policy EC-4.5 requires an Erosion Control Plan for private development projects that have a soil disturbance of one acre or more, are adjacent to a creek/river, and/or are located in hillside areas. An Erosion Control Plan is also required if any grading would occur between October 15 and April 15. The proposed development would disturb one acre or more of soil, therefore an Erosion Control Plan would be required in conformance with the General Plan Policy EC-4.5. Preparation of an Erosion Control Plan will ensure the project is in compliance with General Plan policies, and will provide a site-specific analysis to determine necessary design modifications and/or off-site improvements to reduce the possibility of substantial erosion on-site.

The City's NPDES Municipal Permit, urban runoff policies, and the Municipal Code are the primary means of enforcing erosion control measures through the grading and building permit process. The Envision San José 2040 General Plan Integrated Final Program EIR concluded that with the

regulatory programs currently in place, the possible impacts of accelerated erosion during construction would be less than significant³⁶. The City shall require all phases of the project to comply with all applicable City regulatory programs pertaining to construction related erosion, including the following Applicant Proposed Mitigation Measure MM GEO-2.

MM GEO-2

- a) All excavation and grading work shall be scheduled in dry weather months or construction sites shall be weatherized.
- b) Stockpiles and excavated soils shall be covered with secured tarps or plastic sheeting.
- c) Ditches shall be installed to divert runoff around excavations and graded areas if necessary.

Conformance with applicable policies and permit requirements would ensure that the project would not substantially increase soil erosion on-site or contribute to the loss of topsoil. **(Less than Significant Impact)**

-
- c) **Would the project be located on a 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?**
-

There are no open faces, such as the steep bank of a stream channel, within a distance considered susceptible to later spreading. Therefore the project site would not be subject to lateral spreading.

The project site is located within a State of California Liquefaction Zone. A design-level geotechnical investigation will be prepared for the proposed development that identifies site-specific ground failure hazards such as liquefaction and lateral spreading and appropriate techniques to minimize risks to people and structures. In addition, the project shall be designed and constructed in accordance with the recent California Building Code as Applicant Proposed Mitigation Measure.

MM GEO-3

- a) The project shall be constructed in accordance with the standard engineering practices in the California Building Code, as adopted by the City of San José. A grading permit from the San José Department of Public Works shall be obtained prior to the issuance of a Public Works clearance. These standard practices would ensure that the future building on the site is designed to properly account for soils-related hazards on the site.

Adherence to the California Building Code would ensure the project resists minor earthquakes without damage and major earthquakes without collapse. The project site is located in a relatively flat area and would not be exposed to substantial slope instability, erosion, or landslide-related hazards. Dewatering is not required for the construction of the project. The project would be required to implement all Applicant Proposed Mitigation Measures proposed herein. Development of the project site would not change or exacerbate the geologic conditions of the project area. Therefore, the project

³⁶ City of San José. *Draft Program Environmental Impact Report for the Envision San José 2040 General Plan*. SCH# 2009072096. Page 515.

would not be located on a 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. **(Less than Significant Impact)**

d) Would the project be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?

The on-site soils may have expansion potential. By implementing the Applicant Proposed Mitigation Measures MM GEO-1, MM GEO-2, and MM GEO-3, the project would be designed and constructed to minimize hazards due to expansive soils and the soil conditions on-site would not be exacerbated by the project such that it would impact on- or off-site conditions. Therefore, the project would not be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property. **(Less than Significant Impact)**

e) Would the project 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?

The proposed project would connect to the existing sewer system; therefore, the project would not require septic tanks or alternative wastewater disposal systems. **(No Impact)**

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in the geologic strata. Most of the City is situated on alluvial fan deposits of Holocene age that have a low potential to contain significant nonrenewable paleontological resources; however, older Pleistocene sediments present at or near the ground surface at some locations have high potential to contain these resources. These older sediments, often found at depths of greater than 10 feet bgs, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates.

The Envision San José 2040 General Plan Integrated Final Program EIR recognized that while development allowed under the General Plan could directly impact paleontological resources, implementation of General Plan policies and existing regulations and programs would reduce potential impacts to a less than significant level. As such, the following standard permit condition would be applied to the proposed project as an Applicant Proposed Mitigation Measure to reduce and avoid impacts to unidentified paleontological resources.

MM GEO-4

- a) If vertebrate fossils are discovered during construction, all work on the site shall stop immediately, Director of Planning or Director's designee of Planning, Building and Code Enforcement (PBCE) shall be notified, and a qualified professional paleontologist shall assess the nature and importance of the find and recommend appropriate treatment. Treatment may include, but is not limited to, preparation and recovery of fossil materials so

that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The project applicant shall be responsible for implementing the recommendations of the qualified paleontologist. A report of all findings shall be submitted to the Director of Planning or Director's designee of the PBCE.

Although unlikely, the project could result in the disturbance of previously undiscovered paleontological resources. With implementation of Applicant Proposed Mitigation Measure MM GEO-4, impacts to undiscovered paleontological resources would be minimal. Therefore, the project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. **(Less than Significant Impact)**

4.7.2.2 *Cumulative Impacts*

Would the project result in a cumulatively considerable contribution to a significant cumulative geology and soils impact?

The geographic area for cumulative geological impacts would be locations adjacent to the site since geological impacts are limited to the project site and adjacent properties. All projects in the City of San José are required to comply with standard permit conditions to reduce construction-related erosion impacts. The project will comply with the City's General Plan policies to reduce seismic-related impacts on people and/or property. Therefore, implementation of the cumulative projects would not result in significant cumulative impact (related to geology and soils) to people and/or property. **(Less Than Significant Cumulative Impact)**

4.8 GREENHOUSE GAS EMISSIONS

The following discussion is based, in part, on a 2030 Greenhouse Gas Reduction Strategy Compliance Checklist completed by the applicant. A copy of this checklist is attached as Appendix E.

4.8.1 Environmental Setting

4.8.1.1 *Background Information*

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. In GHG emission inventories, the weight of each gas is multiplied by its global warming potential (GWP) and is measured in units of CO₂ equivalents (CO₂e). The most common GHGs are carbon dioxide (CO₂) and water vapor but there are also several others, most importantly methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO₂ and N₂O are byproducts of fossil fuel combustion.
- N₂O is associated with agricultural operations such as fertilization of crops.
- CH₄ is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents, but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and SF₆ emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

An expanding body of scientific research supports the theory that global climate change is currently causing changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

4.8.1.2 *Regulatory Framework*

State

Assembly Bill 32

Under the California Global Warming Solutions Act, also known as AB 32, CARB established a statewide GHG emissions cap for 2020, adopted mandatory reporting rules for significant sources of GHGs, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016, SB 32 was signed into law, amending the California Global Warming Solution Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its Climate Change Scoping Plan in December of 2017 to express the 2030 statewide target in terms of million metric tons of CO₂E (MMTCO₂e). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 MMTCO₂e.

Senate Bill 375

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light truck sectors for 2020 and 2035. The per-capita GHG emissions reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) partnered with the Association of Bay Area Governments (ABAG), BAAQMD, and the Bay Conservation and Development Commission to prepare the region's Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan process. The SCS is referred to as Plan Bay Area 2040. Plan Bay Area 2040 establishes a course for reducing per-capita GHG emissions through the promotion of compact, high-density, mixed-use neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).

Regional and Local

2017 Clean Air Plan

To protect the climate, the 2017 CAP (prepared by BAAQMD) includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. The jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing GHG impacts developed by BAAQMD within the CEQA Air Quality Guidelines. The

guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

Climate Smart San José

Climate Smart San José was developed by the City to reduce air pollution, save water, and create a healthier community. The plan contains nine strategies to reduce carbon emissions consistent with the Paris Climate Agreement. These strategies include use of renewable energy, densification of neighborhoods, electrification and sharing of vehicle fleets, investments in public infrastructure, creating local jobs, and improving building energy-efficiency.

Reach Building Code

In 2019, the San José City Council approved Ordinance No. 30311 and adopted Reach Code Ordinance (Reach Code) to reduce energy-related GHG emissions consistent with the goals of Climate Smart San José. The Reach Code applies to new construction projects in San José. It requires new residential construction to be outfitted with entirely electric fixtures. Mixed-fuel buildings (i.e., use of natural gas) are required to demonstrate increased energy efficiency through a higher Energy Design Ratings and be electrification ready. In addition, the Reach Code requires EV charging infrastructure for all building types (above current CalGreen requirements), and solar readiness for non-residential buildings.

City of San José Private Sector Green Building Policy (6-32)

In October 2008, the City adopted the Private Sector Green Building Policy (6-32) that establishes baseline green building standards for private sector new construction and provides a framework for the implementation of these standards. This policy requires that applicable projects achieve minimum green building performance levels using the Council adopted standards. Future development proposed under the Downtown Strategy 2040 would be subject to this policy.

Envision San Jose 2040 General Plan

The General Plan includes the following GHG policies applicable to the proposed project.

Policy	Description
MS-2.11	Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically, target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g., design to maximize cross ventilation and interior daylight) and through site design techniques (e.g., orienting buildings on sites to maximize the effectiveness of passive solar design).
MS-14.4	Implement the City's Green Building Policies so that new construction and rehabilitation of existing buildings fully implements industry best practices, including the use of optimized energy system, selection of materials and resources, water efficiency, sustainable site selection, passive solar building design, and planting of trees and other landscape materials to reduce energy consumption.
CD-3.2	Prioritize pedestrian and bicycle connections to transit, community facilities (including schools), commercial areas, and other areas serving daily needs. Ensure

	that the design of new facilities can accommodate significant anticipated future increases in bicycle and pedestrian activity.
CD-5.1	Design areas to promote pedestrian and bicycle movements and to facilitate interaction between community members and to strengthen the sense of community
LU05.4	Require new commercial development to facilitate pedestrian and bicycle access through techniques such as minimizing building separation from public sidewalks; providing safe, accessible, convenient, and pleasant pedestrian connections; and including secure and convenient bike storage.
TR-3.3	As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute toward transit ridership. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities.

San José 2030 Greenhouse Gas Reduction Strategy

The 2030 Greenhouse Gas Reduction Strategy (GHGRS) is the latest update to the City’s GHGRS and is designed to meet statewide GHG reduction targets for 2030 set by Senate Bill 32. As a qualified Climate Action Plan, the 2030 GHGRS allows for tiering and streamlining of GHG analyses under CEQA. The GHGRS identifies General Plan policies and strategies to be implemented by development projects in the areas of green building/energy use, multimodal transportation, water conservation, and solid waste reduction. Projects that comply with the policies and strategies outlined in the 2030 GHGRS, would have less than significant GHG impacts under CEQA.³⁷

4.8.1.3 *Existing Conditions*

Unlike emissions of criteria and toxic air pollutants, which have regional and local impacts, emissions of GHGs have a broader, global impact. Global warming is a process whereby GHGs accumulating in the upper atmosphere contribute to an increase in the temperature of the earth and changes in weather patterns.

The project site is currently developed with an occupied 80,000 square foot office building and an unoccupied 55,000 square foot office building. The main sources of GHG emissions from the existing uses on-site are the electricity use and vehicle trips associated with the occupied building.

4.8.2 Impact Discussion

For the purpose of determining the significance of the project’s impact on energy, would the project:

3. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or unnecessary consumption of energy resources, during project construction or operation?
4. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

³⁷ City of San José. Greenhouse Gas Reduction Strategy. November 2020. <https://www.sanjoseca.gov/your-government/department-directory/planning-building-code-enforcement/planning-division/environmental-planning/greenhouse-gas-reduction-strategy>.

Significance Criteria

BAAQMD CEQA Guidelines include recommended thresholds for use in determining whether projects would have significant adverse environmental impacts. BAAQMD has adopted a numeric threshold of 10,000 MTCO₂e/yr for projects that require permits from the BAAQMD. Given that the SVYBGF would include standby generators requiring BAAQMD permits to operate, the significance threshold applicable to emissions from the SVYBGF is 10,000 MTCO₂e/yr. This BAAQMD threshold is consistent with stationary source thresholds adopted by other air quality management districts throughout the state. According to BAAQMD CEQA guidelines, the 10,000 MTCO₂e/yr threshold is expected to capture 95 percent of the stationary source sector GHG emissions in the Bay Area. The five percent of emissions that are from stationary source projects below the 10,000 MTCO₂e/yr threshold account for a small portion of the Bay Area's total GHG emissions from stationary sources and these emissions come from very small projects. According to BAAQMD, such small stationary source projects would not significantly add to the global problem of climate change, and they would not hinder the Bay Area's ability to reach the AB 32 goal in any significant way, even when considered cumulatively. New permit applications to BAAQMD for stationary sources that comply with the quantitative threshold of 10,000 MTCO₂e/yr would not be considered "cumulatively considerable" because they also would not hinder the state's ability to meet greenhouse gas emissions goals pursuant to AB 32. The AB 32 Scoping Plan measures, including the cap-and-trade program, provide for necessary emissions reductions from the stationary source sector to achieve AB 32 2020 goals. Other project-related emissions from mobile sources, area sources, energy use and water use, would not be included for comparison to this threshold, based on guidance in the BAAQMD's CEQA Guidelines.

GHG impacts from all other project-related emission sources would be considered to have a less-than-significant impact if the project is consistent with the City's 2030 GHGRS and applicable regulatory programs and policies adopted by ARB or other California agencies.

4.8.2.1 *Project Impacts*

Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

As shown in the emissions calculations in Table 4.3-6 in Section 4.3 Air Quality, the project's maximum annual GHG emissions from construction activities would be 1,066 short tons (or 967 metric tons). Because construction emissions would cease once construction is complete, they are considered short-term. The BAAQMD CEQA Guidelines do not identify a GHG emission threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed. BAAQMD further recommends incorporation of Best Management Practices (BMPs) to reduce GHG emissions during construction, as feasible and applicable. BMPs may include use of alternative-fueled (for example, renewable diesel or electric) construction vehicles and equipment for at least 15 percent of the fleet, use of at least 10 percent of local building materials, and recycling or reusing at least 50 percent of construction waste. The quantity of construction related GHG emissions would be limited to occur only during the construction phase, which would ensure GHG impacts are less than significant.

Operational Emissions

As discussed in Section 4.8.1.2, Regulatory Framework, projects that comply with the policies and strategies outlined in the 2030 GHGRS would have a less than significant GHG impact and are assumed to have less than significant (direct or indirect) GHG emissions. The City has developed a consistency checklist to determine if a project is consistent with the 2030 GHGRS. Compliance with these mandatory policies and strategies by the project ensure a project's consistency with the 2030 GHGRS. As documented in Appendix E, the project (under either option) would be consistent with the mandatory policies and strategies of the 2030 GHGRS. Therefore, since the project would be consistent with 2030 GHGRS, GHG emissions generated by the project would not conflict with AB 32 or SB 32.

The project includes the following mitigation measure to ensure consistency with the GHGRS:

Applicant Proposed Mitigation Measures: As a condition of approval, the project proponent shall implement the following measure:

MM GHG-1: The project owner shall participate in the San Jose Clean Energy (SJCE) at the Total Green level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level.

Stationary Source Emissions

As shown in the emissions calculations in Table 4.3-25 in Section 4.3 Air Quality, the project's annual GHG emissions from testing and maintenance of the backup generators would be 1,928 short tons (or 1,749 metric tons). This is below the BAAQMD threshold of 10,000 MTCO₂e/yr and is, therefore, less than significant. **(Less Than Significant Impact with Mitigation)**

Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

City of San José GHGRS

The applicant would apply for building permits from the City of San Jose. For commercial or industrial projects subject to development review by the City of San Jose, the City's 2030 GHGRS presents the City's comprehensive path to reduce GHG emissions to achieve the 2030 reduction target, based on SB32, BAAQMD, and OPR. Additionally, the 2030 GHGRS leverages other important City plans and policies, including the General Plan, Climate Smart San Jose, and the City Municipal Code in identifying reductions strategies that achieve the City's target. The City of San Jose's 2030 GHGRS represents San Jose's qualified climate action plan in compliance with CEQA.

The applicant would incorporate measures from the GHGRS, as specified by the City during the design review process to ensure compliance with applicable laws, ordinances, regulations, and standards. Conformance with the applicable design codes and policies will be enforced during the City design review process.

As discussed above, the project would be consistent with the 2030 GHGRS (refer to Appendix E).

Bay Area 2017 Clean Air Plan (CAP)

The Bay Area 2017 Clean Air Plan includes performance objectives, consistent with the state's climate protection goals under AB 32 and SB 375, designed to reduce GHG emissions to 1990 levels by 2030 and 80 percent below 1990 levels by 2050. Due to the relatively high electrical demand of the project, energy efficiency measures are included in the design and operation of the onsite electrical and mechanical systems. This would be consistent with the general purpose of Energy and Climate Measure (ECM)-1 – Energy Efficiency in the 2017 Bay Area Clean Air Plan.

Plan Bay Area 2040/California SB 375

Under the requirements of SB 375, the MTC and ABAG developed a Sustainable Communities Strategy (SCS) with the adopted Plan Bay Area 2040 to achieve the Bay Area's regional GHG reduction target. Plan Bay Area 2040 sets a 15 percent GHG emissions reduction per capita target from passenger vehicles by 2035 when compared to the project 2005 emissions. However, these emission reduction targets are intended for land use and transportation strategies only. The project would be required implement a TDM program to reduce vehicle trips and VMT and would not contribute to a substantial increase in passenger vehicle travel within the region.

California SB 100

SB 100 advances the RPS renewable resources requirement to 50 percent by 2026 and 60 percent by 2030. It also requires renewable energy resources and zero-carbon resources to supply 100 percent of all retail sales of electricity by 2045. The project's GHG emissions are predominantly from electricity usage. Because all electricity supplied to the project by PG&E or SJCE would be subject to the RPS requirements promulgated under SB 100, the project would not conflict with plans, policies, or regulations adopted pursuant to SB 100.

ARB Scoping Plan

The vast majority of the project's GHG emissions would result from energy use. Multiple measures contained in the ARB's Scoping Plan address GHG emissions from energy use. For example, the Cap-and-Trade Program, through the regulation of upstream electricity producers, will account for GHG emissions in the power mix and requires these emissions to be reduced by the amount needed to achieve the state's 2030 GHG goal.

Conclusion

With implementation of the efficiency measures to be incorporated into the project and the implementation of MM GHG-1, GHG emissions related to the project would be consistent with applicable plans and policies adopted to reduce GHG emissions and would comply with all regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The potential for the project to conflict with an applicable plan, policy or regulation for GHG reductions would be less than significant with mitigation incorporated. **(Less Than Significant Impact with Mitigation)**

4.8.2.2 *Cumulative Impacts*

Would the project result in a cumulatively considerable contribution to a significant cumulative GHG emissions impact?

As discussed in Section 4.8.2.1, GHG emissions worldwide contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single land use project could generate sufficient GHG emissions on its own to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects in San Jose, the entire state of California, and across the nation and around the world, contribute cumulatively to the phenomenon of global climate change and its associated environmental impacts. The above analysis of the project's GHG emissions impacts is, therefore, also an analysis of the project's contribution to cumulative GHG emissions impacts. **(Less than Significant Cumulative Impact with Mitigation)**

4.9 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based on a Phase I Environmental Site Assessment (ESA) completed by Cornerstone Earth Group in June 2021. The report is attached as Appendix F. The 2021 Phase I ESA is based in part on a Phase I ESA completed by Partner Engineering and Science, Inc. for 1849 Fortune Drive in April of 2017 (Appendix G), a Phase I ESA completed by Ramboll US Consulting, Inc. for 2400 Ringwood in October 2020 (Appendix H), and a Phase I ESA completed by Ramboll US Consulting, Inc. for 1849 Fortune Drive in November 2020 (Appendix I).

4.9.1 Environmental Setting

4.9.1.1 *Regulatory Framework*

Overview

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. Cal/OSHA enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

Federal and State

Federal Aviation Regulations Part 77

Federal Aviation Regulations, Part 77 Objects Affecting Navigable Airspace (FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of potential structures and minimizing other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft in flight. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above the ground.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the

environment. Over five years, \$1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA accomplished the following objectives:

- Established prohibitions and requirements concerning closed and abandoned hazardous waste sites;
- Provided for liability of persons responsible for releases of hazardous waste at these sites; and
- Established a trust fund to provide for cleanup when no responsible party could be identified.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life-threatening. These actions can be completed only at sites listed on the EPA's National Priorities List.

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.³⁸

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), enacted in 1976, is the principal federal law in the United States governing the disposal of solid waste and hazardous waste. RCRA gives the EPA the authority to control hazardous waste from the "cradle to the grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes.

The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization, phasing out land disposal of hazardous waste, and corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.³⁹

³⁸ United States Environmental Protection Agency. "Superfund: CERCLA Overview." Accessed May 11, 2020. <https://www.epa.gov/superfund/superfund-cercla-overview>.

³⁹ United States Environmental Protection Agency. "Summary of the Resource Conservation and Recovery Act." Accessed May 11, 2020. <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>.

Government Code Section 65962.5

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by state and local agencies and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB).⁴⁰

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

California Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) Program aims to prevent accidental releases of regulated hazardous materials that represent a potential hazard beyond the boundaries of a property. Facilities that are required to participate in the CalARP Program use or store specified quantities of toxic and flammable substances (hazardous materials) that can have off-site consequences if accidentally released. The Santa Clara County Department of Environmental Health reviews CalARP risk management plans as the CUPA.

Asbestos-Containing Materials

Friable asbestos is any asbestos-containing material (ACM) that, when dry, can easily be crumbled or pulverized to a powder by hand, allowing the asbestos particles to become airborne. Common examples of products that have been found to contain friable asbestos include acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes. Common examples of non-friable ACMs are asphalt roofing shingles, vinyl floor tiles, and transite siding made with cement. The EPA phased out use of friable asbestos products between 1973 and 1978. National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines require that potentially friable ACMs be removed prior to building demolition or remodeling that may disturb the ACMs.

CCR Title 8, Section 1532.1

The United States Consumer Product Safety Commission banned the use of lead-based paint in 1978. Removal of older structures with lead-based paint is subject to requirements outlined by the Cal/OSHA Lead in Construction Standard, CCR Title 8, Section 1532.1 during demolition activities. Requirements include employee training, employee air monitoring, and dust control. If lead-based paint is peeling, flaking, or blistered, it is required to be removed prior to demolition.

⁴⁰ California Environmental Protection Agency. "Cortese List Data Resources." Accessed October 28, 2021. <https://calepa.ca.gov/sitecleanup/corteselist/>.

City of San José

Envision San José 2040 General Plan

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to hazards and hazardous materials and are applicable to the project.

General Plan Policies - Hazards and Hazardous Materials	
Hazardous Materials	
EC-6.1	Require all users and producers of hazardous materials and wastes to clearly identify and inventory the hazardous materials that they store, use or transport in conformance with local, state and federal laws, regulations and guidelines.
EC-6.2	Require proper storage and use of hazardous materials and wastes to prevent leakage, potential explosions, fires, or the escape of harmful gases, and to prevent individually innocuous materials from combining to form hazardous substances, especially at the time of disposal by businesses and residences. Requires proper disposal of hazardous materials and wastes at licensed facilities.
EC-6.4	Require all proposals for new or expanded facilities that handle hazardous materials that could impact sensitive uses off-site to include adequate mitigation to reduce identified hazardous materials impacts to less than significant levels.
Environmental Contamination	
EC-7.1	For development and redevelopment projects, require evaluation of the proposed site's historical and present uses to determine if any potential environmental conditions exist that could adversely impact the community or environment.
EC-7.2	Identify existing soil, soil vapor, groundwater and indoor air contamination and mitigation for identified human health and environmental hazards to future users and provide as part of the environmental review process for all development and redevelopment projects. Mitigation measures for soil, soil vapor and groundwater contamination shall be designed to avoid adverse human health or environmental risk, in conformance with regional, state and federal laws, regulations, guidelines and standards.
EC-7.4	On redevelopment sites, determine the presence of hazardous building materials during the environmental review process or prior to project approval. Mitigation and remediation of hazardous building materials, such as lead-paint and asbestos-containing materials, shall be implemented in accordance with state and federal laws and regulations.
EC-7.5	On development and redevelopment sites, require all sources of imported fill to have adequate documentation that it is clean and free of contamination and/or acceptable for the proposed land use considering appropriate environmental screening levels for contaminants. Disposal of groundwater from excavations on construction sites shall comply with local, regional, and state requirements.

4.9.1.2 *Existing Conditions*

Prior Phase I Environmental Site Assessments

Prior to the joint Phase I ESA for 2400 Ringwood Avenue and 1849 Fortune Drive completed in October 2021, the following reports were completed for the project site; a 2020 Phase I ESA by Ramboll, a 2017 Phase I ESA by Partner Engineering and Science, Inc., and a 2015 Draft Phase I ESA by Northgate Environmental Management, while the following reports were completed for 2400 Ringwood Avenue; a 2020 Phase I ESA by Ramboll, a 2006 Phase I ESA by Clayton, and a 1996 report by WHF. Below is a brief summary of the findings from these reports.

2400 Ringwood Avenue

The 2400 Ringwood Avenue parcel historically was used for agricultural purposes from at least the 1930s until construction of the existing building in 1996. The building has been used as a medical equipment servicing facility by Olympus Corporation of the Americas. Activities conducted by Olympus reportedly involved receiving damaged endoscopes and endoscope support equipment, cleaning, repairing, testing, and shipping repaired equipment. The primary hazardous materials used at the Olympus facility were isopropyl alcohol for wipe cleaning (stored in one-gallon containers in the chemical storage room); a propriety glue (stored quantities under 20 gallons in a heating unit on the shop floor); small quantities of lubricating oils (stored in a flammable material storage cabinet in the chemical storage room); and janitorial and maintenance products (stored in janitorial closets near the employee restrooms). An emergency generator with an integral, double-walled diesel fuel tank also was noted to be present during a Phase I ESA completed in 2020 by Ramboll. No evidence of releases were observed. Two additional Phase I ESA reports were completed in 1996 by WHF and in 2006 by Clayton, neither of which identified any Recognized Environmental Conditions on site.

1849 Fortune Drive

The 1849 Fortune Drive parcel was historically used for agricultural purposes from at least the 1930s until construction of the existing building in 1981 for use by SEEQ Technology Incorporated (SEEQ) for fabrication of semiconductor microchips. SEEQ operated at the property until 1995, when Micrel Semiconductor (Micrel) acquired the property and continued semiconductor microchip manufacturing operations. Micrel was acquired by Microchip Technologies in 2015. In 2016, manufacturing operations ceased, and certain facility decommissioning activities were undertaken. HC 1849 Fortune LLC reportedly acquired the property in 2017 under an agreement to complete remaining facility decommissioning activities. Facility decommissioning activities were completed in 2019, and the property has remained vacant since that time.

Past semiconductor fabrication operations at the 1849 Fortune Drive parcel reportedly involved dry etching, wet etching, developing, diffusion, epitaxy, implanting, aligning, polishing, and spinning, which included the use of solvents, gases, acids, and other chemicals. These past operations involved the use of an acid waste neutralization system comprised of epoxy-coated subgrade trenches containing piping, a sump, as well as aboveground process tanks and generation of hazardous wastes. The site was listed as a large quantity generator (LQG) of hazardous waste since 1982 and routinely generated and treated hazardous waste on-site. Waste was either treated by acid neutralization and disposed to the sanitary sewer, containerized and disposed (solids and liquids) off-site, or passed through scrubbers prior to discharge to the atmosphere (gaseous compounds).

Two vapor degreasers containing halogenated solvents were noted to have been present. A Phase I ESA completed for the site in 2017 by Partner Engineering and Science, Inc. noted that BAAQMD records included a 1992 violation for a liquid solvent leak at a vapor degreaser. Also, records from the City of San Jose Fire Department were noted to include a record of inspection dated May 9, 1992 that indicated that a degreaser “that had been relocated to Building 2 leaked”. The leak was reportedly within secondary containment and was cleaned up. An August 1991 Hazardous Materials Management Plan (HMMP) for SEEQ Technology, Inc. reportedly lists a Vapor Degreaser Room, identified as “Area T”, with the quantity of chemicals identified as 35 gallons, including isopropyl alcohol, acetone, and trichlorotrifluoroethane (Freon 113). The Freon 113 was presumed to be the solvent used in the vapor degreaser at the time. Hazardous waste disposal records reportedly indicated that 1.6 tons of hazardous waste with the California State Waste Code 211 for “Halogenated Solvents” were disposed from the site in 1996, among other wastes.

As part of the semiconductor fabrication operations, acid wastewater was transferred through the plant in piping located within a sub-slab trench and discharged to a below grade, concrete lined collection sump, from which it was pumped to an acid waste neutralization system (AWNS). The AWNS consisted of a series of above grade treatment tanks located in a covered exterior area on the western side of the building. Acid waste was treated with calcium hydroxide before being discharged to the sanitary sewer. Waste hydrofluoric acid (HF) from the process reportedly was piped overhead in the plant and then underground outside the western building border to a 2,500-gallon waste HF aboveground storage tank located in a fenced enclosure to the west building. A 2002 Hazardous Waste Application listed the following annual waste generation quantities: waste process acid (125,000,000 gallons), waste HF and water (82,000 gallons), mixed solvent waste (45,000 pounds), waste resistant strip (86,884 pounds), acid contamination solid probes (3,000 pounds), debris contaminated with arsenic (490 pounds), debris contaminated with resistive strip (1,460 pounds), waste paint (250 pounds), and lab packs (250 pounds).

The Santa Clara County Department of Environmental Health records included a 2012 Assessment Report on the Waste HF system by Chow Engineering that indicated the piping to the HF tank was in “very poor condition.” Two 2008 Santa Clara County Department of Environmental Health Inspection Forms reportedly noted violations for improper labeling and materials grouping, and a 2001 inspection with secondary containment violations indicated that no secondary containment was present to capture potential releases. In addition, an October 29, 1993 San Jose Fire Department Record of Inspection noted liquid spillage under sinks and waste piping and indicated waste piping needs leaks repaired.⁴¹

The site was identified as being listed on a database of historical underground storage tanks (USTs). Information from the State Water Resources Control Board (SWRCB) identified two USTs as being installed in 1982 for SEEQ Technology. The first UST was identified as a 375-gallon acid waste “sump” that was ½ inch thick, epoxy-lined fiberglass within a concrete vault. The second UST was identified as a 350 gallon “tank” that stored acid waste and was constructed of ½-inch thick epoxy-lined polypropylene and double lined. A site contact interviewed by Partner Engineering and Science in 2017 indicated that the historical UST database listing likely referred to the underground wastewater sump used to accumulate wastewater from the interior sub-slab trenches and direct it to

⁴¹ Partner Engineering and Science, Inc. Phase I ESA 1849 Fortune Drive. 2017.

the AWNS. The wastewater sump was observed to have what appeared to be a plastic liner in the bottom portion of it, in which wastewater was observed.

Facility decommissioning and closure activities were conducted under regulatory agency oversight between 2016 through 2019, which involved removal of equipment, wipe sampling of certain surfaces, and soil sampling beneath the previous acid waste neutralization system areas (as well as subsequent excavation and off-site disposal of arsenic-impacted soils from this area). The facility closure activities did not involve the collection of soil vapor or groundwater samples, or the collection of soil samples in areas of the property other than in the vicinity of the former acid neutralization system.

Both the Phase I ESA completed in 2020 by Ramboll and the Phase I ESA completed in 2017 by Partner Engineering and Science, Inc. identified Recognized Environmental Conditions associated with the past industrial operations and history of extensive chemical usage. The Phase I ESA completed in 2015 by Northgate stated “we could not rule out the possibility that undocumented releases may have occurred at some time in the past. Additional evaluation of the potential presence of subsurface contaminated at the site would require on-site soil and groundwater sampling and analysis.” All prior reports noted that there is a potential for residual agricultural chemicals to remain in the soil as a result of historical agricultural activities.

Evaluation of the Likelihood of Contamination Incidents At and Near the Site

The most recent Phase I ESA for the entire project site (both 2400 Ringwood Avenue and 1849 Fortune Drive) by Cornerstone in 2021 conducted a review of federal, state, and local regulatory agency databases provided by Environmental Data Resources (EDR) to evaluate the likelihood of contamination incidents at and near the site. The purpose of the records review is to obtain reasonably available information to help identify Recognized Environmental Conditions. The findings are summarized below.

On-Site Database Listings

Past occupants of 1849 Fortune Drive, including SEEQ, Micrel, and Microchip, were identified on multiple regulatory agency databases associated with the storage of hazardous materials and the generation of hazardous wastes. These listing appear consistent with operation of the former semiconductor fabrication facility discussed previously. HC 1849 Fortune LLC, a reported former property owner, and Hackman Capital Partners also were also listed in databases that appear to be associated with waste disposal activities during facility decommissioning work in 2018 and 2019. SEEQ was listed on the HIST UST database for two USTs.

Olympus was identified at the 2400 Ringwood Avenue address on the HAZNET database, which contains data extracted from the copies of hazardous waste manifests received each year by the DTSC. Listed wastes disposed between 1997 and 2019 were categorized as laboratory waste chemicals; unspecified solvent mixtures; other organic solids; unspecified aqueous solutions; liquids with pH less than or equal to two; unspecified oil-containing waste; unspecified organic liquid mixture; liquids with pH less than or equal to two with metals; other inorganic solid waste; asbestos containing waste; off-specification, aged or surplus inorganics; alkaline solution without metals pH

greater than or equal to 12.5; hydrocarbon solvents; unspecified alkaline solutions; oxygenated solvents; unspecified sludge waste; and waste oil and mixed oil.

Olympus also was listed on the Resource Conservation and Recovery Act (RCRA) NonGen/NLR database. This database lists facilities that generate, transport, store, treat, and/or dispose of hazardous waste as defined by the RCRA. Non-generators do not presently generate RCRA hazardous waste. NLR means that the business is no longer registered. No violations were reported.

Nearby Spill Incidents

No off-site spill incidents were reported that appear likely to significantly impact soil, soil vapor or groundwater beneath the site. The potential for impact was based on Cornerstones interpretation of the types of incidents, the locations of the reported incidents in relation to the site, and the assumed groundwater flow direction.

Site Reconnaissance

Cornerstone performed a site reconnaissance in 2021 to evaluate current site conditions and to attempt to identify Site Recognized Environmental Conditions, which was conducted by walking representative areas of the site, including the interiors of the on-site structures, the periphery of the structures and the site periphery.

Observations at 2400 Ringwood Avenue

During the site visit in June of 2021, the 2400 Ringwood Avenue parcel was developed with a single-story commercial building occupied by Olympus and used as a servicing facility for medical equipment (endoscopes and associated electronic equipment). Activities conducted were observed to consist of various electronics repairs, device cleaning, replacement of components, application of lubricants, limited bench top soldering, testing, warehousing of associated parts, shipping and receiving, and ancillary administrative activities. Observed hazardous materials consisted primarily of reagent alcohol (isopropyl alcohol, ethanol and methanol) that was stored in one-gallon and smaller containers. Smaller containers of various lubricants, adhesives, sealants, and building maintenance products were also present. These materials were stored in metal flammable materials storage cabinets. Waste alcohol wipes, waste alcohol, and various universal wastes (e.g., light bulbs, batteries, etc.) were observed to be stored for subsequent off-site disposal. Four 55-gallon drums of foam packaging components were located within the shipping department, and an emergency generator with an integral diesel AST was present within a fenced enclosure on the south side of the building. General housekeeping at the facility appeared orderly and no evidence of hazardous materials spills was observed.

Observations at 1849 Fortune Drive

During the site visit in June of 2021, the 1849 Fortune Drive parcel was vacant. The former semiconductor fabrication equipment was observed to have been removed and most interior partitions and building finishes (flooring, ceilings, etc.) had been removed. Trenches within the building slab that formerly transferred acid waste to the Awns were covered with plywood that was secured to the concrete building slab. Equipment pads on the north and east sides of the building

contained chillers and cooling towers. An emergency generator with an integral diesel AST was present on the northern side of the building on a bermed concrete pad.

Equipment pads adjacent to the west side of the building were observed to contain chillers, cooling towers, air handling equipment, boilers, a vacuum pump, a reclaimed water AST, a corrosive storage cabinet, bunkers and bermed areas formerly used for storage of toxic gasses, acids, flammable materials, and hazardous waste, and a bermed area formerly containing the AWNS. The sump formerly used for the collection of acid waste was observed near the former AWNS location. The sump was covered with secured plywood and not accessible. An adjacent section of the piping trench leading to the sump was accessed by removing a section of the metal covering; no liquids or waste transfer piping were observed within the trench.

A fenced enclosure to the west of the building contained a concrete bermed area that formerly supported a waste HF AST. The AST had been removed and what appeared to be water was observed in the bermed area. Another fenced enclosure located north of the former HF AST contained a discarded boiler, electrical switchgear, four unlabeled 55-gallon drums (one was partially full of an unknown liquid and three were empty). A fenced enclosure at the northwest corner of the property formerly contained a liquid hydrogen AST; the AST was observed to have been removed.

A few other concrete pads were observed along the western side of the site, on or immediately adjacent to the former railroad right-of-way on the western portion of the site. Based on information contained in prior reports, these pads and some dirt covered/unpaved areas on APN 244-17-005 formerly supported maintenance sheds, “chem tech” sheds, a slurry shed and former chemical storage bunkers.

In addition to the unlabeled drums noted above, a few additional empty 55-gallon and smaller drums and an empty 5-gallon container of polishing slurry were observed throughout the facility, along with two compressed gas cylinders near a chiller on the northern side of the building. One of the cylinders was labeled as containing freon⁴², the other was unlabeled.

Six electrical transformers were observed on-site that had been vandalized, resulting in transformer oil spills. The spilled oil was observed to have traversed concreted pads and asphalt paved drives, and in some cases was released to or drained to soil. Most of the spilled oil appeared contained to the site; however, what appeared to be oil was observed within a below grade electrical vault and in electrical conduits extending to some of the transformers. The routing of these conduits is not known. Transformer core materials and insulation (formerly immersed in oil) were observed to be discarded near some of the transformers, mainly on unpaved areas on the former railroad right-of-way on the western portion of the site.

Based on observed placards on the transformers, four of the transformers were manufactured between 2000 and 2014. Two manufacturing dates are unknown/not accessible; one of these, which appeared older than the others, was labeled as having been tested for polychlorinated biphenyls (PCBs) and noted to contain less than 50 ppm PCBs. Each of the six transformers had an oil capacity of between 500 and 600 gallons. Thus, over 3,000 gallons may have spilled on the site. Smaller oil

⁴² Freon is an aerosol propellant, refrigerant, or organic solvent consisting of one or more of a group of chlorofluorocarbons and related compounds, according to definitions from Oxford Languages.

spills (likely a few gallons or less) were observed on concrete pads below a chiller on the north side of the building and below a vacuum pump on the western equipment pad. These spills also appeared to be the result of vandalism and the associated removal of copper wire and piping.

Due to the health and safety concerns related to repeated vandalism at the site, the City of San José is processing a permit to allow demolition of the building (likely to begin in early 2022).

4.9.2 Impact Discussion

For the purpose of determining the significance of the project's impact on hazards and hazardous materials, would the project:

- a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

4.9.2.1 *Project Impacts*

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Operation of the data center would include the use and storage of diesel fuel for testing and maintenance of the backup generators. Some oils and lubricants could be stored on-site for maintenance of mechanical equipment in the equipment yards. Additionally, the future tenants of the advanced manufacturing facility may use and store hazardous materials as part of their operation.

Each generator unit and its integrated fuel tanks would be designed with double walls. The interstitial space between the walls of each tank would be continuously monitored electronically for the existence of liquids. This monitoring system would be electronically linked to an alarm system in the engineering office that would alert personnel if a leak were detected. Additionally, the standby

generator units would be housed within a self-sheltering enclosure that prevents the intrusion of storm water.

Diesel fuel would be delivered on an as-needed basis in a compartmentalized tanker truck with a maximum capacity of 8,500 gallons. The tanker truck would park on the access road to the south of the generator yard and would extend the fuel fill hose through one of multiple hinged openings in the precast screen walls surrounding the generator yard equipment.

To prevent potential spills during refueling, a spill catch basin is located at each fill port for the generators. To prevent a release from entering the storm drain system, storm drains would be temporarily blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices would be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events. To further minimize the potential for diesel fuel to end up in stormwater, to the extent feasible, fueling operations would be scheduled at times when storm events are improbable.

Warning signs and/or wheel chocks would be used in the loading and/or unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed transfer lines. An emergency pump shut-off would be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures would be posted at the loading and unloading areas.

Hazardous materials storage at the proposed data center and advanced manufacturing facility would be regulated under local, state and federal regulations. For example, the project would be subject to the Aboveground Petroleum Storage Act (APSA) due to the volume of fuel that would be stored in aboveground tanks. Tank facilities under APSA must comply with all APSA requirements and prepare and implement a Spill Prevention, Control, and Countermeasure Plan. The spill prevention measures described above would be incorporated into the Plan. Additionally, a Hazardous Materials Business Plan would be completed for the safe storage and use of chemicals and would incorporate all relevant regulations. Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the project. **(Less Than Significant Impact)**

b) Would the project 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?

Project Operation

As described in the discussion under Impact HAZ-a the proposed project would include the use and storage of diesel fuel for testing and maintenance of the backup generators associated with the data center. Additionally, the future tenants of the advanced manufacturing facility may use and store hazardous materials as part of their operation. A Hazardous Materials Business Plan and a Spill Prevention, Control, and Countermeasure Plan would be completed for the safe storage and use of chemicals. Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the project. **(Less than Significant Impact)**

Soil and Groundwater Contamination Impacts during Construction

As described in Section 4.9.1.2, contaminated soil exists on the site. Construction activities could result in the exposure of construction workers (and surrounding land uses) to hazardous materials.

Impact HAZ-1: Residual soil contamination could expose construction workers and members of the public to hazardous materials during construction activities.

Applicant Proposed Mitigation Measures: As a condition of approval, the project proponent shall implement the following measures to reduce impacts from hazardous materials to a less than significant level:

MM HAZ-1.1: Prior to issuance of demolition or grading permits, the project applicant shall prepare a Site Management Plan and Health and Safety Plan to guide activities during demolition, excavation, and initial construction to ensure that potentially contaminated soils are identified, characterized, removed, and disposed of properly. The purpose of the Site Management Plan and Health and Safety Plan is to establish appropriate management practices for handling impacted soil or other materials that may be encountered during construction activities. The Site Management Plan shall provide the protocols for sampling of in-place soil to facilitate the profiling of the soil for appropriate off-site disposal or reuse, and for construction worker safety, dust mitigation during construction and potential exposure of contaminated soil to future users of the site. The soil profiling shall include (but not limited to) the collection of shallow soil samples (upper one-foot) and analyses for lead and organochlorine pesticides. The soil profiling shall be performed prior to any significant earthwork.

If there are no contaminants identified on the project site that exceed applicable screening levels for construction workers and residential users published by the Regional Water Quality Control Board, Department of Toxic Substances Control, and/or Environmental Protection Agency, the Site Management Plan does not need to be submitted to an oversight agency and only submitted to the City prior to construction earthwork activities. If contaminants are identified at concentrations exceeding applicable screening levels, the project applicant shall obtain regulatory oversight from Santa Clara County Department of Environmental Health (SCCDEH) or the Department of Toxic Substances Control (DTSC) under a Site Cleanup Program. The Site Management Plan and planned remedial measures shall be reviewed and approved by the SCCDEH or DTSC. A copy of the Site Management Plan and Health and Safety Plan shall be submitted to the Supervising Environmental Planner of the Department of Planning, Building and Code Enforcement and the Supervising Environmental Compliance Officer in the City of San José's Environmental Services Department.

Asbestos

Asbestos-containing materials (ACMs) may be present in the building materials of the building at 1849 Fortune Drive. Demolition of this building could expose construction workers or residents in the vicinity of the project site to harmful levels of ACMs. The project is required to conform to the following regulatory programs and to implement the following measures to reduce impacts to the presence of ACMs:

- a) In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site buildings to determine the presence of asbestos-containing materials and/or lead-based paint.
- b) Prior to demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, California Code of Regulations (CCR) 1523.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings would be disposed of at landfills that meet acceptance criteria for the waste being disposed.
- c) All potentially friable ACMs shall be removed in accordance with NESGAP guidelines prior to any building demolition or renovation that may disturb the materials. All demolition activities will be undertaken in accordance with Cal/OSHA standards contained in Title 8 of CCR, Section 1529, to protect workers from exposure to asbestos.
- d) A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above.
- e) Materials containing more than one percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one percent asbestos shall be completed in accordance with BAAQMD requirements.

Lead Based Paint Impacts

Due to the age of the existing building on site (post-1980 construction), lead-based paint are unlikely to be on-site. Therefore, demolition of the existing buildings on the project site would not expose construction workers or residents in the vicinity of the project site to harmful levels of lead.

With implementation of Applicant Proposed Mitigation Measure MM HAZ-1.1, the project would not 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. **(Less Than Significant Impact with Mitigation)**

-
- c) **Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**
-

The nearest school to the project site is Mabel Mattos Elementary School (1750 McCandless Drive in Milpitas), approximately 0.3 miles northwest of the site⁴³. The project site, therefore, is not within one-quarter mile of an existing school. Although hazardous materials may be encountered during

⁴³ The school is located .3 miles northwest in a straight line (as the crow flies), or 0.7 miles via car.

construction activities, potential exposure would be limited to the project site, and mitigation measures would be implemented to reduce impacts to nearby receptors (including schools and residences) to less than significant levels (see Applicant Proposed Mitigation Measure MM HAZ-1.1). The project would not handle acutely hazardous materials or hazardous waste during project operation. For these reasons, the project would not impact schools within the project area. **(Less Than Significant Impact)**

-
- d) Would the project 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?**
-

Due to the known contamination on the site, the site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Implementation of identified mitigation measures (see Applicant Proposed Mitigation Measure MM HAZ-1.1) would ensure that the project would not create a significant hazard to the public or the environment. **(Less than Significant Impact with Mitigation Incorporated)**

-
- e) If located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**
-

The proposed project is not located in the vicinity of an airport or private airstrip. The nearest airports to the project site are the Norman Y. Mineta San José International Airport, approximately three miles southwest of the site and Reid-Hillview Airport, approximately six miles southeast of the site. The site is not within the airport influence area (AIA) of either airport and would not be subject to Santa Clara County Airport Land Use Commission (ALUC) evaluation. Therefore, the proposed project would not result in a safety hazard for people residing in the area. **(No Impact)**

-
- f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**
-

Fire access roads would be included in the proposed project in compliance with the requirements of the California Fire Code Section 503 and be subject to approval by the Fire and Public Works Departments of the City of San José. Development of the project site under the proposed project would not physically interfere with an adopted emergency response or evacuation plan. **(Less than Significant Impact)**

-
- g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?**
-

The project site is located in an urbanized area of San José. According to the California Department of Forestry and Fire Protection (CAL FIRE), the project site is not located within a moderate, high, or very high fire hazard severity zone.⁴⁴ **(No Impact)**

4.9.2.2 *Cumulative Impacts*

Would the project result in a cumulatively considerable contribution to a significant cumulative hazards and hazardous materials impact?

The geographic area for cumulative hazards and hazardous materials impacts is the project site and immediate vicinity.

As described in the discussion under Impact HAZ-a the proposed project would include the use and storage of diesel fuel for testing and maintenance of the backup generators associated with the data center. Additionally, the future tenants of the advanced manufacturing facility may use and store hazardous materials as part of their operation. A Hazardous Materials Business Plan would be completed for the safe storage and use of chemicals and a Spill Prevention, Control, and Countermeasure Plan would be implemented. Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the project and ensure the project would not result in or substantially contribute to a significant cumulative impact related to the use and storage of hazardous materials.

Because the project would implement mitigation measures to remediate existing soil contamination on the site (see Applicant Proposed Mitigation Measure MM HAZ-1.1), thereby reducing contamination in the project area, the project would not result in or substantially contribute to a cumulative impact related to soil and groundwater contamination.

As described in Section 4.3 Air Quality, the project would not result in or substantially contribute to a cumulative impact related to hazardous air emissions. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

⁴⁴ CAL FIRE. "Draft Fire Hazard Severity Zones." Accessed October 27, 2021.
http://frap.fire.ca.gov/webdata/maps/statewide/fhszl06_1_map.jpg.

4.10 HYDROLOGY AND WATER QUALITY

4.10.1 Environmental Setting

4.10.1.1 *Regulatory Framework*

Federal and State

The federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality in California. Regulations set forth by the Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB) have been developed to fulfill the requirements of this legislation. EPA regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into the waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the Regional Water Quality Control Boards (RWQCBs). The project site is within the jurisdiction of the San Francisco Bay RWQCB.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) established the National Flood Insurance Program (NFIP) to reduce impacts of flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes Flood Insurance Rate Maps (FIRMs) that identify Special Flood Hazard Areas (SFHAs). An SFHA is an area that would be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood.

Statewide Construction General Permit

The SWRCB has implemented an NPDES General Construction Permit for the State of California (Construction General Permit). For projects disturbing one acre or more of soil, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) must be prepared by a qualified professional prior to commencement of construction. The Construction General Permit includes requirements for training, inspections, record keeping, and, for projects of certain risk levels, monitoring. The general purpose of the requirements is to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

Regional and Local

San Francisco Bay Basin Plan

The San Francisco Bay RWQCB regulates water quality in accordance with the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan lists the beneficial uses that the San Francisco Bay RWQCB has identified for local aquifers, streams, marshes, rivers, and the San Francisco Bay, as well as the water quality objectives and criteria that must be met to protect these uses. The San Francisco Bay RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements, including permits for nonpoint sources such as the urban runoff

discharged by a City's stormwater drainage system. The Basin Plan also describes watershed management programs and water quality attainment strategies.

Municipal Regional Permit Provision C.3.

The San Francisco Bay RWQCB re-issued the Municipal Regional Stormwater NPDES Permit (MRP) in 2015 to regulate stormwater discharges from municipalities and local agencies (co-permittees) in Alameda, Contra Costa, San Mateo, and Santa Clara Counties, and the cities of Fairfield, Suisun City, and Vallejo.⁴⁵ Under Provision C.3 of the MRP, new and redevelopment projects that create or replace 10,000 square feet or more of impervious surface area are required to implement site design, source control, and Low Impact Development (LID)-based stormwater treatment controls to treat post-construction stormwater runoff. LID-based treatment controls are intended to maintain or restore the site's natural hydrologic functions, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g., rainwater harvesting for non-potable uses). The MRP also requires that stormwater treatment measures are properly installed, operated, and maintained.

In addition to water quality controls, the MRP requires new development and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation, or other impacts to local rivers, streams, and creeks. Projects may be deemed exempt from these requirements if they do not meet the minimized size threshold, drain into tidally influenced areas or directly into the Bay, or drain into hardened channels, or if they are infill projects in subwatersheds or catchment areas that are greater than or equal to 65 percent impervious.

Water Resources Protection Ordinance and District Well Ordinance

The Santa Clara Valley Water District (Valley Water) operates as the flood control agency for Santa Clara County. Their stewardship also includes creek restoration, pollution prevention efforts, and groundwater recharge. Permits for well construction and destruction work, most exploratory boring for groundwater exploration, and projects within Valley Water property or easements are required under Valley Water's Water Resources Protection Ordinance and District Well Ordinance.

City of San José

Post-Construction Urban Runoff Management (City Council Policy No. 6-29)

The City of San José's Policy No. 6-29 implements the stormwater treatment requirements of Provision C.3 of the MRP. City Council Policy No. 6-29 requires new development and redevelopment projects to implement post-construction Best Management Practices (BMPs) and Treatment Control Measures (TCMs). This policy also established specific design standards for post-construction TCMs for projects that create or replace 10,000 square feet or more of impervious surfaces.

⁴⁵ MRP Number CAS612008

Post-Construction Hydromodification Management (City Council Policy No. 8-14)

The City of San José's Policy No. 8-14 implements the hydromodification management requirements of Provision C.3 of the MRP. Policy No. 8-14 requires new development and redevelopment projects that create or replace one acre or more of impervious surface area, and are located within a subwatershed that is less than 65 percent impervious, to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt generation, or other impacts to local rivers, streams, and creeks. The policy requires these projects to be designed to control project-related hydromodification through a Hydromodification Management Plan (HMP). Projects that do not meet the minimum size threshold, drain into tidally influenced areas or directly into the Bay, or are infill projects in subwatersheds or catchment areas that are greater than or equal to 65 percent impervious would not be subject to the HMP requirement.

City of San José Floodplain Ordinance

The City's Floodplain Ordinance establishes minimum elevations for finished building floors based on base flood elevations (BFEs) established for the NFIP, and generally prohibits any improvements that will cause a cumulative rise of more than one foot to the base flood elevation at any point in San José.

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to hydrology and water quality and are applicable to the proposed project.

General Plan Policies - Hydrology and Water Quality	
Flooding and Stormwater Runoff	
EC-5.1	The City shall require evaluation of flood hazards prior to approval of development projects within a Federal Emergency Management Agency (FEMA) designated floodplain. Review new development and substantial improvements to existing structures to ensure it is designed to provide protection from flooding with a one percent annual chance of occurrence, commonly referred to as the "100-year" flood or whatever designated benchmark FEMA may adopt in the future. New development should also provide protection for less frequent flood events when required by the State.
EC-5.5	Prepare and periodically update appropriate emergency plans for the safe evacuation of occupants of areas subject to possible inundation from dam and levee failure and natural flooding. Include maps with pre-established evacuation routes in dam failure plans.
EC-5.7	Allow new urban development only when mitigation measures are incorporated into the project design to ensure that new urban runoff does not increase flood risks elsewhere.
Stormwater	
ER-8.1	Manage stormwater runoff in compliance with the City's Post-Construction Urban Runoff (6-29) and Hydromodification Management (8-14) Policies.

General Plan Policies - Hydrology and Water Quality	
ER-8.3	Ensure that private development in San José includes adequate measures to treat stormwater runoff.
ER-8.4	Assess the potential for surface water and groundwater contamination and require appropriate preventative measures when new development is proposed in areas where storm runoff will be directed into creeks upstream from groundwater recharge facilities.
ER-8.5	Ensure that all development projects in San José maximize opportunities to filter, infiltrate, store and reuse or evaporate stormwater runoff onsite.
Water	
ER-9.6	Require the proper construction and monitoring of facilities that store hazardous materials in order to prevent contamination of the surface water, groundwater and underlying aquifers. In furtherance of this policy, design standards for such facilities should consider high groundwater tables and/or the potential for freshwater or tidal flooding.
Water Conservation and Quality	
MS-3.5	Minimize area dedicated to surface parking to reduce rainwater that comes into contact with pollutants.
MS-20.3	Protect groundwater as a water supply source through flood protection measures and the use of stormwater infiltration practices that protect groundwater quality. In the event percolation facilities are modified for infrastructure projects, replacement percolation capacity will be provided.
General Provision of Infrastructure	
IN-1.1	Provide and maintain adequate water, wastewater, and stormwater services to areas in and currently receiving these services from the City.
IN-1.2	Consistent with fiscal sustainability goals, provide and maintain adequate water, wastewater, and stormwater services to areas in the city that do not currently receive these City services upon funding and construction of the infrastructure necessary to provide them.
Water Supply, Sanitary Sewer and Storm Drainage	
IN-3.4	<p>Maintain and implement the City's Sanitary Sewer Level of Service Policy and Sewer Capacity Impact Analysis (SCIA) Guidelines to:</p> <ol style="list-style-type: none"> 1. Prevent sanitary sewer overflows (SSOs) due to inadequate capacity so as to ensure that the City complies with all applicable requirements of the Federal Clean Water Act and State Water Board's General Waste Discharge Requirements for Sanitary Sewer Systems and National Pollutant Discharge Elimination System permit. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters. 2. Maintain reasonable excess capacity in order to protect sewers from increased rate of hydrogen sulfide corrosion and minimize odor and potential maintenance problems. 3. Ensure adequate funding and timely completion of the most critically needed sewer capacity projects.

General Plan Policies - Hydrology and Water Quality	
	4. Promote clear guidance, consistency and predictability to developers regarding the necessary sewer improvements to support development within the City.
IN-3.7	Design new projects to minimize potential damage due to storm waters and flooding to the site and other properties.
IN-3.9	Require developers to prepare drainage plans for proposed developments that define needed drainage improvements per City standards.

4.10.1.2 *Existing Conditions*

Water Quality

The project site is located within the Lower Penitencia Creek Watershed.⁴⁶ The water quality of the creek can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as “non-point” source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Grading and excavation activities during construction could increase the amount of surface water runoff (i.e., particles of fill or excavated soil) from the site, or could erode soil downgradient, if the flows are not controlled).

Flooding

According to the FEMA’s Flood Insurance Rate Map, the project site is located within Zone AO.⁴⁷ Zone AO is defined as “areas subject to inundation by one-percent annual chance shallow flooding, usually sheet flow on sloping terrain, where average depths are between one and three feet.” The existing elevation ranges from approximately 40 to 77 feet above mean sea level (msl).

Inundation Hazards

The proposed project site is located approximately 0.3 miles southeast of Lower Penitencia Creek, 1.25 miles east of the Coyote Creek, and 1.30 miles west of Berryessa Creek. The project is within the Lower Penitencia Creek Watershed. A portion of the site at 1849 Fortune Drive is within the Anderson Dam failure inundation area under the “fair weather” scenario, which assumes that dam failure occurs during non-storm conditions with a normal full pool elevation in the reservoir and normal flow conditions downstream of the dam.⁴⁸

In the ocean, seismically-induced waves are caused by displacement of the sea floor by a submarine earthquake and are called tsunamis. Seiches are waves produced in a confined body of water such as a lake or reservoir by earthquake ground shaking or landsliding. Seiches are possible at reservoir, lake or pond sites. The project area is not subject to inundation from a seiche, tsunami, or mudflow.⁴⁹

⁴⁶ City of San José. Watersheds of San José Map. Accessed October 21, 2021.

<https://www.sanjoseca.gov/home/showpublisheddocument/1240/636618313753300000>

⁴⁷ Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel No. 06085C0227H, October 14, 2021.

⁴⁸ Santa Clara Valley Water District. Leroy Anderson Dam Flood Inundation Maps. 2016.

⁴⁹ Association of Bay Area Governments, San Francisco Bay Area Hazards. October 14, 2021.

Groundwater

The project site is located in the Santa Clara Valley Groundwater Basin between the Diablo Mountains to the east and Santa Cruz Mountains to the west. The Santa Clara Valley Groundwater Basin is filled by valley floor alluvium and the Santa Clara Formation. Groundwater at the project site was encountered at depths of 8 to 16 feet below ground surface (bgs) and flows to the west—northwesterly or north.⁵⁰ Groundwater levels typically fluctuate seasonally depending on the variation in rainfall, irrigation from landscaping, and other factors. The project site does not contribute to the recharging of the County's groundwater aquifers managed by the Santa Clara Valley Water District.

Storm Drainage

The City of San José owns and maintains the municipal storm drainage system in the project vicinity. Stormwater on site currently discharges to several storm drain laterals along Ringwood Avenue, Fortune Drive, and Trade Zone Boulevard. The runoff eventually empties into the Lower Penitencia Creek and flows into the San Francisco Bay.

4.10.2 Impact Discussion

For the purpose of determining the significance of the project's impact on hydrology and water quality, would the project:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - a. result in substantial erosion or siltation on- or off-site;
 - b. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - c. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - d. impede or redirect flood flows?
- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

⁵⁰ *Cornerstone Earth Group*. Phase I Environmental Site Assessment: 2400 Ringwood Avenue and 1849 Fortune Drive. June 18, 2021.

-
- a) **Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**
-

Construction-Related Water Quality Impacts

Construction of the proposed project, including demolition, grading, and excavation activities, may result in temporary impacts to surface water quality. Surface runoff that flows across the site may contain sediments that are ultimately discharged into the storm drainage system. Construction of the project would disturb more than one acre of soil and, therefore, compliance with the National Pollution Discharge Elimination System (NPDES) General Permit for Construction Activities is required. As part of development of the proposed project, a Notice of Intent (NOI) would be submitted to the State Water Quality Control Board (SWQCB). Prior to initiation of construction or demolition activities a Storm Water Pollution Prevention Plan (SWPPP) would be prepared in accordance with the NPDES requirements. The SWPPP would identify specific Best Management Practices (BMPs) that would be used at the project site to treat and control stormwater, reduce sedimentation, and prevent erosion.

All development projects in San José shall comply with the City's Grading Ordinance. The City of San José Grading Ordinance requires the use of erosion and sediment controls to protect water quality while a site is under construction. Prior to issuance of a permit for grading activity occurring during the rainy season (October 1 to April 30), the applicant is required to submit an Erosion Control Plan to the Director of Public Works for review and approval. The Plan must detail the Best Management Practices (BMPs) that would be implemented to prevent the discharge of stormwater pollutants.

The Municipal Regional Permit and City Council Policy 8-14 requires regulated projects to include measures to control hydromodification impacts where the project would otherwise cause increased erosion, silt pollutant generation, or other adverse impacts to local rivers and creeks. Development projects that create and/or replace one acre or more of impervious surface and are located in a subwatershed or catchment that is less than 65 percent impervious must manage increases in runoff flow and volume so that post-project runoff shall not exceed estimated pre-project rates and durations. Projects located within catchment areas that drain to hardened channels that extend continuously to the Bay, or projects located within tidally-influenced creek areas or Bayland areas, are not subject to the City's hydromodification requirements.

According to Appendix E-2, HMP Applicability Map, of the "C.3 Stormwater Handbook" published by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) the project site is located in a "red area", defined as catchments and subwatersheds greater than or equal to 65% impervious. According to the MRP, hydromodification controls (HMC) are not required for projects located in red areas of the HMP Applicability Map. Therefore, the Trade Zone Park will not

incorporate HMC into the project's development.⁵¹ The standard permit conditions below would be implemented and are incorporated into Applicant Proposed Mitigation Measure MM HYD-1.

Impact HYD-1: Construction activities could pollute stormwater or cause sedimentation.

Applicant Proposed Mitigation Measures: As a condition of approval, the project proponent shall implement the following measures to reduce hydrology impacts to a less than significant level:

MM HYD-1.1: Consistent with the General Plan, standard permit conditions that shall be implemented to prevent stormwater pollution and minimize potential sedimentation during construction include, but are not limited to, the following:

- Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- All exposed or disturbed soil surfaces shall be watered at least twice daily to control dust as necessary.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be covered and all trucks shall maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites shall be swept daily (with water sweepers).
- Vegetation in disturbed areas shall be replanted as quickly as possible.
- All unpaved entrances to the site shall be filled with rock to remove mud from tires prior to entering City streets. A tire wash system shall be installed if requested by the City.
- The project applicant shall comply with the City of San José Grading Ordinance, including implementing erosion and dust control during site preparation and with the City of San José Zoning Ordinance requirements for keeping adjacent streets free of dirt and mud during construction.

The project, with the implementation of the SWPPP and standard permit conditions contained in applicant proposed MM HYD-1, would not result in significant construction-related water quality impacts. **(Less than Significant Impact)**

⁵¹ Santa Clara Valley Urban Runoff Pollution Prevention Program. Appendix E: Hydromodification Management Requirements. Accessed October 21, 2021. https://scvurppp.org/pdfs/1516/c3_handbook_2016/Appendix_E.pdf

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The project does not propose to pump groundwater or install groundwater extraction wells. In addition, as discussed in Section 4.10.1.2, the project site is not within an area used for groundwater recharge. For these reasons, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. **(Less than Significant Impact)**

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

The project site is exempt from the hydromodification control requirements in the Municipal Regional NPDES permit and Council Policy 8-14 because it is within a subwatershed with 65 percent or more impervious surface.

The project would not alter the course of a stream or river. As part of the development of the proposed project, a SWPPP would be prepared in compliance with NPDES requirement and would ensure erosion or siltation impacts are less than significant.

Impervious and Pervious Surfaces

The project drainage infrastructure would include on-site storm drain lines that would connect to the existing City of San José storm drain system. Bioretention areas would be installed in on-site landscape areas as part of the project, which would help to detain stormwater runoff and infiltrate water into the soil. Additional C.3/post-construction measures, such as directing runoff to vegetated swales, would be implemented. On-site drainage facilities would be designed to meet City of San José standards and would drain to the existing storm drain system.

The current site includes 80.4 percent impervious cover and 19.6 percent pervious cover. The project would result in approximately 93.1 percent impervious cover and 6.9 percent pervious cover on the site, as shown in Table 4.10-1.

Table 4.10-1: Pervious/Impervious Surfaces					
	Impervious (sf)	Pervious (sf)	Total Area (sf)	Percent Pervious	Percent Impervious
Existing	348,633	84,807	433,440	19.6	80.4
Proposed	403,564	29,876	433,440	6.9	93.1

The project would include stormwater quality best management practices (BMPs) such as directing site runoff into bioretention areas with infiltration rates of at least five inches per hour for treatment and detention before being conveyed off-site to existing stormdrains in Trade Zone Boulevard, Ringwood Avenue, and Fortune Drive. Although the project would increase the amount of impervious surfaces on the site, the proposed detention system would limit runoff from the proposed project to the equivalent of existing conditions. **(Less than Significant Impact)**

d) Would the project risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones?

Flooding, Tsunami and Seiche

The project site is not within an area subject to a seiche. A seiche is the resonant oscillation of water generated in an enclosed body of water, such as San Francisco Bay, from seismic activity. Seiches are related to tsunamis for enclosed bays, inlets, and lakes. These tsunami-like waves can be generated by earthquakes, subsidence or uplift of large blocks of land, submarine and onshore landslides, sediment failures and volcanic eruptions. The strong currents associated with these events may be more damaging than inundation by waves. The largest seiche wave ever measured in the San Francisco Bay, following the 1906 earthquake, was four inches high. The Bay Area has not been adversely affected by seiches during its history within this seismically active region of California.⁵² Thus the risk of inundation of seiche at the project site is low.

Tsunami hazards for the Santa Clara County coastline have been modeled by the California Emergency Management Agency (Cal EMA) to identify areas at risk for tsunami inundation. Multiple source events were selected to represent local and distant earthquakes, and hypothetical extreme undersea, near-shore landslides occurring around the San Francisco Bay region. As defined by the Santa Clara County Tsunami Hazard Areas mapping tool, the project site is outside of the tsunami hazard zone. Therefore, the project is unlikely to be affected by seiches or tsunamis and therefore would not release pollutants due to inundation.

The Federal Emergency Management Agency (FEMA) manages the NFIP and creates Flood Insurance Rate Maps (FIRMs) that designates 100-year floodplain zones and delineate other flood hazard areas. A 100-year floodplain zone is the area that has a one in one hundred (one percent) chance of being flooded in any one year based on historical data. According to the FEMA's Flood Insurance Rate Map, the project site is located within Zone AO.⁵³ Zone AO is defined as "areas subject to inundation by one-percent annual chance shallow flooding, usually sheet flow on sloping terrain, where average depths are between one and three feet."

Dam Inundation Hazards

The southwestern corner of the project site is within the dam failure inundation area for Anderson

⁵² US Army Corps of Engineers San Francisco District, Port of Oakland. *Oakland Harbor Navigation Improvement (-50 foot) Project SCH No. 97072051 Final Environmental Impact Statement/Report*, May 1998, updated January 2000.

⁵³ Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel No. 06085C0227H, October 14, 2021.

Dam⁵⁴. Anderson Dam is maintained by the Santa Clara Valley Water District (SCVWD) and the dam is continuously monitored for seepage and settling and inspected when an earthquake occurs. Due to the inspection and monitoring program, the distance from the site (approximately 25 miles), and the nature of the on-site uses, proposed site improvements are not anticipated to result in a new substantial hazard from dam failure. While inundation resulting from dam failure could result in damage to structures, the probability of such a failure is extremely remote.

The project would not risk release of pollutants due to project inundation in flood hazard, dam failure tsunami, or seiche zones. **(Less than Significant Impact)**

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed under Impacts HYD-a and HYD-b, the project would comply with applicable water quality control regulations and would not substantially decrease groundwater supplies or interfere with groundwater recharge. **(Less than Significant Impact)**

4.10.2.2 Cumulative Impacts

Impact HYD-C: The project would not result in a cumulatively considerable contribution to a cumulatively significant hydrology and water quality impact. **(Less than Significant Cumulative Impact)**

The geographic area for cumulative hydrology and water quality impacts is the Lower Penitencia Watershed. With the implementation of standard permit conditions to reduce impacts to water quality discussed and applicable regulations discussed in Section 4.10.1, development projects that could impact this watershed (including the proposed project) are required to undertake steps to avoid, minimize, and/or mitigate flooding and water quality impacts. For these reasons, the cumulative projects in compliance with applicable regulations would not result in significant cumulative hydrology or water quality impacts. **(Less than Significant Cumulative Impact)**

⁵⁴ Santa Clara Valley Water District. *Anderson Dam 2016 Flood Inundation Maps*. 2016. Accessed October 25, 2021. <https://www.valleywater.org/sites/default/files/Lexington%20Dam%20Inundation%20Map%202016.pdf>

4.11 LAND USE AND PLANNING

4.11.1 Environmental Setting

4.11.1.1 *Regulatory Framework*

Regional and Local

Envision San José 2040 General Plan

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to land use and are applicable to the proposed project.

General Plan Policies – Land Use	
CD-1.1	Require the highest standards of architectural and site design, and apply strong design controls for all development projects, both public and private, for the enhancement and development of community character and for the proper transition between areas with different types of land uses.
CD-1.12	Use building design to reflect both the unique character of a specific site and the context of surrounding development and to support pedestrian movement throughout the building site by providing convenient means of entry from public streets and transit facilities where applicable, and by designing ground level building frontages to create an attractive pedestrian environment along building frontages. Unless it is appropriate to the site and context, franchise-style architecture is strongly discouraged.
CD-1.23	Further the Community Forest Goals and Policies in this Plan by requiring new development to plant and maintain trees at appropriate locations on private property and along public street frontages. Use trees to help soften the appearance of the built environment, help provide transitions between land uses, and shade pedestrian and bicycle areas.
CD-4.9	For development subject to design review, ensure the design of new or remodeled structures is consistent or complementary with the surrounding neighborhood fabric (including but not limited to prevalent building scale, building materials, and orientation of structures to the street).
CD-8.1	Ensure new development is consistent with specific height limits established within the City's Zoning Ordinance and applied through the zoning designation for properties throughout the City. Land use designations in the Land Use/Transportation Diagram provide an indication of the typical number of stories expected for new development, however specific height limitations for buildings and structures in San Jose are not identified in the Envision General Plan.
IP-1.1	Use the Envision General Plan Land Use/Transportation Diagram designations to indicate the general intended land use, providing flexibility to allow for a mix of land uses, intensities and development forms compatible with a wide variety of neighborhood contexts and to designate the intended roadway network to be developed over the timeframe of the Envision General Plan. Use the Zoning designation to indicate the appropriate type, form and height of development for particular properties.

General Plan Policies – Land Use	
IE-1.4	Manage land uses to enhance employment lands to improve the balance between jobs and workers residing in San José. To attain fiscal sustainability for the City, strive to achieve a minimum ratio of 1.1 jobs/employed resident by 2040. In the near term, strive to achieve a minimum ratio of 1 job per employed resident by 2025.
IE-2.8	Encourage business and property development that will provide jobs and generate revenue to support City services and infrastructure.
IE-6.2	Attract and retain a diverse mix of businesses and industries that can provide jobs for the residents of all skill and educational levels to support a thriving community.
IP-1.3	Ensure that proposals for redevelopment or significant intensification of existing land uses on a property conform to the Land Use/Transportation Diagram. Because the Diagram designation identifies the City’s long-term planned land uses for a property, non-conforming uses should transition to the planned use over the timeframe of the Envision General Plan. Allow improvements or minor expansions of existing, non-conforming land uses providing that such development will contribute to San José’s employment growth goals or advance a significant number of other Envision General Plan goals.
FS-4.6	Consider conversion from one employment land use to another except for Light Industrial or Heavy Industrial land uses, where the conversion would retain or expand employment capacity and revenue generation, particularly for intensification on-site if the proposed conversion would result in a net increase in revenue generation.
LU-2.2	<p>Include within the Envision General Plan Land Use/Transportation Diagram significant job and housing growth capacity within the following identified Growth Areas:</p> <p>Employment Lands – The Plan supports significant intensification of employment activity within each of the City’s major employment districts (North San José, Monterey Corridor, Edenvale, Berryessa/International Business Park, Mabury, East Gish and Senter Road and North Coyote Valley). Within the North San José, Berryessa/International Business Park and Old Edenvale areas, a centralized sub-area with strong transit access has been designated as an Employment Center to support mid-rise or high-rise employment development. The Employment Center in the northeast corner of the Berryessa/International Business Park area (Lundy/Milpitas BART Employment area) is also classified as a BART station area due to its proximity to the planned Milpitas BART station and existing Capitol Avenue Light Rail stations.</p>
LU-6.4	Encourage the development of new industrial areas and the redevelopment of existing older or marginal industrial areas with new industrial uses, particularly in locations which facilitate efficient commute patterns. Use available public financing to provide necessary infrastructure improvements as one means of encouraging this economic development and revitalization.
LU-6.5	Maintain and create Light Industrial and Heavy Industrial designated sites that are at

General Plan Policies – Land Use	
	least one acre in size in order to facilitate viable industrial uses.
LU-6.6	Monitor the absorption and availability of industrial land, particularly land identified for light and heavy industrial uses, to ensure a balanced supply of available land for all sectors, including industrial suppliers and services.

Comprehensive Land Use Plan, Norman Y. Mineta San Jose International Airport

The Santa Clara County Airport Land Use Commission (ALUC) adopted the Comprehensive Land Use Plan (CLUP) for the San Jose International Airport in 2011. The ALUC approved minor amendments to the CLUP in 2016. The purpose of the CLUP is to safeguard the welfare of the inhabitants in the airport vicinity and ensure that new land uses do not affect airport operations. The project site is located roughly 2.8 miles from the Airport, and is not located within the Airport Influence Area (AIA), which is a “composite of the areas surrounding the Airport that are affected by noise, height, and safety considerations”. The project site is not located within any of the Airport Safety Zones. The CLUP policies, therefore, do not apply to the project.

4.11.1.2 *Existing Conditions*

The project site consists of two parcels that encompass approximately 9.8 acres at 2400 Ringwood Avenue (APN 244-17-014) and 1849 Fortune Drive (APN 244-17-009). The project site is developed with two one-story buildings. The existing building at 2400 Ringwood Avenue encompasses approximately 80,000 square feet and the existing building at 1849 Fortune Drive encompasses approximately 55,000 square feet. Both buildings are currently unoccupied. Native and non-native trees and ornamental landscaping are located along the frontage of the property, as well as the northern, western, and southern property boundaries.

The project site is designated *TEC - Transit Employment Center* under the City’s General Plan. The *TEC – Transit Employment Center* land use designation encourages intensive job growth and permits development with retail and service commercial uses on the first two floors, with office, research and development or industrial use on upper floors; as well as wholly office, research and development, or industrial projects. This designation is applied to areas planned for intensive job growth because of their importance as employment districts to the City and high degree of access to transit and other facilities and services. Uses allowed in the *Industrial Park* designation are appropriate in the *Transit Employment Center* designation, as are supportive commercial uses.

The current zoning on the site is *Industrial Park*. According to Section 20.50.010 of the Municipal Code, the *Industrial Park* zoning designation is an exclusive designation intended for a wide variety of industrial users such as research and development, manufacturing, assembly, testing, and offices. Industrial uses are consistent with this designation insofar as any functional or operational characteristics of a hazardous or nuisance nature can be mitigated through design controls. Areas exclusively for industrial uses may contain a very limited amount of supportive commercial uses, in addition to industrial uses, when those uses are of a scale and design providing support only to the needs of businesses and their employees in the immediate industrial area. These commercial uses should be located within a larger industrially utilized building to protect the character of the area and maintain land use compatibility. In addition, warehouse retail uses are allowed where they are

compatible with adjacent industrial uses and will not constrain future use of the subject site for industrial purposes. The zoning permits medium manufacturing, while data centers are allowed upon issuance of a Special Use Permit, and utility facilities are allowed upon issuance of a Conditional Use Permit.

The project area consists primarily of commercial and industrial land uses to the south, east, and west, and residential uses to the north across Trade Zone Boulevard. Buildings in the area to the south and west are similar in height and scale to the existing buildings on the project site. Buildings to the east are similar in height and scale to the proposed buildings.

4.11.2 Impact Discussion

For the purpose of determining the significance of the project's impact on land use and planning, would the project:

- a) Physically divide an established community?
- b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

4.11.2.1 *Project Impacts*

a) Would the project physically divide an established community?

Examples of projects that have the potential to physically divide an established community include new freeways and highways, major arterial streets, and railroad lines. The project, which proposes to construct two three-story data center buildings, one four-story advanced manufacturing facility, a utility substation to be owned and operated by PG&E, two generator equipment yards, offsite underground and aboveground transmission lines, surface parking and a parking garage, landscaping, and associated pipeline for water and wastewater, does not include construction of dividing infrastructure.

The project site is located in an industrial area surrounded primarily by industrial development and commercial uses. It would not include any physical features that would physically divide the community (e.g., blocking of roadways or sidewalks) and would not interfere with the movement of residents through a neighborhood. For these reasons, construction of the proposed project would not divide an established community. **(No Impact)**

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

As described within the individual sections of this document, with implementation of the Standard Permit Conditions, Project Design Measures, and regulatory requirements, the project would not cause a significant environmental impact due to a conflict with plans, policies or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The City of San José provided a Preliminary Review letter to the project applicant on July 2, 2021 (refer to Appendix J). The letter includes a preliminary analysis of the project's consistency with the City's General Plan and other applicable City regulations and policies. The following discussion is based in part upon the contents of the Preliminary Review letter.

San José 2040 General Plan

The project site is designated *TEC - Transit Employment Center* under the City's General Plan and would retain its designation with the proposed project. As described previously, the *TEC – Transit Employment Center* land use designation encourages intensive job growth and permits research and development and/or industrial projects such as the proposed project. The heights of the proposed buildings are consistent with the maximum height of 25 stories specified in the General Plan for the *Transit Employment Center* land use classification. The floor area ratio (FAR) of the project would be 1.32, which is consistent with the maximum FAR of 12 specified in the General Plan for the *Transit Employment Center* land use classification.

As described in this section and throughout the SPPE Application, the project is consistent with relevant policies in the General Plan. Section 4.11.1, above, includes a table listing General Plan policies related to Land Use that are applicable to the project and with which the project would be consistent. In its Preliminary Review letter, the City identified several specific General Plan policies it considers particularly relevant to the project (IE-2.8, IE-6.2, FS-4.6, LU-2.2, and IP-1.3). These policies focus on the importance of developing land uses that will contribute jobs to the City, especially in areas of the City that are planned for employment growth such as the project area. The City stressed that the proposed advanced manufacturing facility is a key component of the project's consistency with these policies due to the number of jobs it would contribute to the City. Because the existing buildings on the site are unoccupied, the project would contribute approximately 198 jobs to the City, 125 of which would be associated with the advanced manufacturing facility and 73 of which would be associated with the data center. For these reasons, the proposed project is consistent with applicable General Plan policies and the General Plan land use designation on the site.

Municipal Code

Zoning Consistency and Planned Development Zoning District Development Standards

The site is currently zoned *Industrial Park (IP)*, which permits medium manufacturing, while data centers are allowed upon issuance of a Special Use Permit, and utility facilities are allowed upon issuance of a Conditional Use Permit. In its Preliminary Review letter, the City recommended the applicant apply for a Planned Development Rezoning from the current *IP Zoning District* to the *IP(PD) Planned Development Zoning District* (see Appendix J). Consistent with the City's recommendation, the project applicant is applying for a Planned Development Rezoning and a Planned Development Permit. Pursuant to Section 20.60.030 of the Zoning Code, the use regulations situated in a Planned Development District are as follows:

1. Unless and until a planned development permit has been issued and been effectuated, property in such territory may be used only as if it were in its base district alone.
2. If a planned development permit is effective, any use or combination of uses provided for in said permit is allowed in accordance with and in strict compliance with all terms, provisions

and conditions of said permit. Each permitted use shall be confined and limited to the particular location designated therefore in said permit. No use, other than the particular uses specified in the permit, shall be permitted, except as set forth elsewhere in this Title 20.

3. If a planned development permit permits a residential use, incidental transient occupancy in compliance with part 2.5 of Chapter 20.80 is a permitted use of the permitted dwelling.
4. If a planned development permit has been issued, the planned development district may nevertheless be disregarded and property in such territory used as if it were in its base district alone if such use is confined to part of the subject territory not covered by the permit and a requirement to make such use of such part is not a condition of such permit.

The following are Planned Development Zoning District Development Standards requirements established by the City of San José:

- Except where a planned development permit has been implemented, the regulations for development, signs, off-street parking and off-street loading applicable to its base district zoning shall apply to all property located in territory in the planned development district.
- When a PD permit has been implemented, the provisions of such permit shall prevail over the regulations applicable to the base district zoning of the property. No structure, facility, improvement or sign of any kind shall be constructed upon such property except in strict compliance with all provisions of such PD permit. In particular:
 - No structure, facility, improvement or sign shall be constructed upon such property except the particular structures, facilities, improvements, and signs specified in such permit.
 - Each structure, facility, improvement or sign shall have the exact height, floor area, and dimensions specified for it in such permit.
 - Each structure or facility used for off-street parking and off-street loading shall have the exact number of off-street parking and off-street loading spaces, and other areas, specified for it in such permit.
 - Each structure, facility, improvement or sign shall be constructed at the particular location and cover the exact surface area designated for it in such permit.
 - Each structure, facility, improvement and sign shall be constructed and maintained in strict compliance with all conditions of the PD permit.

Per the City's requirements described in the Preliminary Review letter, the project has outlined draft development standards for the proposed allowed uses under the *IP(PD) Planned Development Zoning District* (refer to Appendix J). The proposed land uses are consistent with the *Transit Employment Center* General Plan Land Use Designation, all General Plan policies listed in Section 4.11.1.1, and all applicable City Council policies. Figure 2.2-4 also shows that the project is consistent with vehicle and bicycle parking requirements for data center and manufacturing land uses. Additionally, the project would be consistent with City requirements related to design standards, building and site design, site access and circulation, landscaping, services, and utilities. Please refer to the proposed development standards included in Appendix J for additional information demonstrating the project's consistency with the requirements of a Planned Development Zoning District.

With the proposed rezoning to *IP(PD) Planned Development Zoning District* and implementation of the proposed development standards, the project would be consistent with the City's Municipal Code.

Based on the discussion above, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purposes of avoiding or mitigating an environmental effect. **(Less than Significant Impact)**

4.11.2.2 *Cumulative Impacts*

Would the project result in a cumulatively considerable contribution to a significant cumulative land use and planning impact?

The geographic area for cumulative land use impacts is the City of San José. Construction of the cumulative projects within the City would consist primarily of redevelopment of currently (or previously) developed sites. Development on a number of these sites would result in a change of uses and/or an intensification of development.

The compatibility of new development with adjacent land uses, and the general character of surrounding areas are considered as a part of the City of San José's architectural and environmental review processes.

All development projects in San José, including the proposed project, are subject to conformance with applicable land use plans (including the General Plan) for the purposes of avoiding or mitigating environmental effects. In addition, the setback, design, and operational requirements of the Municipal Code minimize land use compatibility issues. The cumulative projects, in conformance with the applicable General Plan goals and policies, would not result in significant cumulative land use compatibility impacts or conflict with a policies or regulation adopted for the purpose of avoiding or mitigating an environmental impact. For these reasons, the cumulative projects, combined with the proposed project, would not result in significant cumulative land use impacts. **(Less Than Significant Cumulative Impact)**

4.12 MINERAL RESOURCES

4.12.1 Environmental Setting

4.12.1.1 *Regulatory Framework*

State

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA) was enacted by the California legislature in 1975 to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property, and the environment. As mandated under SMARA, the State Geologist has designated mineral land classifications in order to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

Pursuant to the mandate of the SMARA, the SMGB has designated the Communications Hill Area (Sector EE), bounded generally by the Southern Pacific Railroad, Curtner Avenue, SR 87, and Hillsdale Avenue as containing mineral deposits that are of regional significance as a source of construction aggregate materials. Neither the State Geologist nor the SMGB have classified any other areas in San José as containing mineral deposits of statewide significance or requiring further evaluation.

4.12.1.2 *Existing Conditions*

Mineral resources found in Santa Clara County include construction aggregate deposits such as sand, gravel, and crushed stone. The only area in the City of San José that is designated by the State Mining and Geology Board under the Surface Mining and Reclamation Act of 1975 (SMARA) as containing mineral deposits which are of regional significance is Communications Hill. Communications Hill is located over eight miles southeast of the project site and generally bound by the Southern Pacific Railroad, Curtner Avenue, State Route 87, and Hillsdale Avenue.⁵⁵

4.12.2 Impact Discussion

For the purpose of determining the significance of the project's impact on mineral resources, would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and 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?

⁵⁵ City of San José. 2011. *Envision San José 2040 General Plan Final Program EIR*.

4.12.2.1 *Project Impacts*

-
- a) **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state?**
-

Based on the United States Geological Survey (USGS) map of mines and mineral resources, the project site is not comprised of known mineral resources or mineral resource production areas.⁵⁶ Therefore, the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the residents in the state or region. **(No Impact)**

-
- b) **Would the project 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?**
-

The project site is not delineated in the General Plan or other land use plan as a locally important mineral resource recovery site. For this reason, the project would not result in the loss of availability of locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

4.12.2.2 *Cumulative Impacts*

-
- Would the project result in a cumulatively considerable contribution to a significant cumulative mineral resources impact?**
-

As mentioned in Section 4.12.2.1, the only mineral resources identified in the City are located in the area of Communications Hill. Communications Hill is located over eight miles southeast of the project site. Since the project would not result in impacts to mineral resources, the project has no potential to combine with other projects to result in cumulative impacts to these resources. **(No Cumulative Impact)**

⁵⁶ United States Geological Survey. *Mineral Resources Online Spatial Data: Interactive maps and downloadable data for regional and global Geology, Geochemistry, Geophysics, and Mineral Resources*. <https://mrdata.usgs.gov/> Accessed October 14, 2021.

4.13 NOISE

The technical report required to complete this section is currently being prepared. This section and the associated technical report will be provided in a subsequent submittal.

4.14 POPULATION AND HOUSING

4.14.1 Environmental Setting

4.14.1.1 *Regulatory Framework*

State

Housing-Element Law

State requirements mandating that housing be included as an element of each jurisdiction's general plan is known as housing-element law. The Regional Housing Need Allocation (RHNA) is the state-mandated process to identify the total number of housing units (by affordability level) that each jurisdiction must accommodate in its housing element. California housing-element law requires cities to: 1) zone adequate lands to accommodate its RHNA; 2) produce an inventory of sites that can accommodate its share of the RHNA; 3) identify governmental and non-governmental constraints to residential development; 4) develop strategies and a work plan to mitigate or eliminate those constraints; and 5) adopt a housing element and update it on a regular basis.⁵⁷ The City of San José Housing Element and related land use policies were last updated in 2015. The City's Planning Division and Housing Department are updating the current 2014 – 2023 Housing Element for the 2023 – 2031 cycle.

Regional and Local

Plan Bay Area 2040

Plan Bay Area 2040 is a long-range transportation, land-use, and housing plan intended support a growing economy, provide more housing and transportation choices, and reduce transportation-related pollution and GHG emissions in the Bay Area. Plan Bay Area 2040 promotes compact, mixed-use residential and commercial neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).⁵⁸

ABAG allocates regional housing needs to each city and county within the nine-county San Francisco Bay Area, based on statewide goals. ABAG also develops forecasts for population, households, and economic activity in the Bay Area. ABAG, MTC, and local jurisdiction planning staff created the Regional Forecast of Jobs, Population, and Housing, which is an integrated land use and transportation plan through the year 2040 (upon which Plan Bay Area 2040 is based).

4.14.1.2 *Existing Conditions*

The population of San José was estimated to be approximately 1,029,782 in May 2021 with an average of 3.14 persons per household.⁵⁹ The City currently has approximately 337,442 housing

⁵⁷ California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed October 22, 2021. <http://hcd.ca.gov/community-development/housing-element/index.shtml>.

⁵⁸ Association of Bay Area Governments and Metropolitan Transportation Commission. "Project Mapper." <http://projectmapper.planbayarea.org/>. Accessed October 22, 2021.

⁵⁹ State of California, Department of Finance. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021." Accessed October 25, 2021. <https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>

units⁶⁰ and, by 2040, the City's population is projected to reach 1,357,845 with 448,310 households.⁶¹

The City of San José currently has a higher number of employed residents than jobs (approximately 0.8 jobs per employed resident), but this trend is projected to reverse with full build out under the General Plan.

The project site is currently developed with two buildings: a one-story, approximately 80,000 square foot manufacturing building and a one-story, approximately 55,000 square foot, unoccupied building. There are no residences on-site.

4.14.2 Impact Discussion

For the purpose of determining the significance of the project's impact on population and housing, would the project:

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

4.14.2.1 *Project Impacts*

-
- a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**
-

The project would demolish the existing buildings on the site to construct two three-story data center buildings, one four-story advanced manufacturing facility, a utility substation to be owned and operated by PG&E, two generator equipment yards, surface parking and parking garage, landscaping and associated pipeline for water and wastewater. The project would employ approximately 198 individuals, which is roughly equivalent to the approximately 200 individuals employed by the current development on the site. The proposed project would not induce population growth in the City or substantially alter the City's job/housing ratio and would, therefore, result in a less than significant population and housing impacts. **(Less than Significant Impact)**

⁶⁰ State of California, Department of Finance. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021." Accessed October 25, 2021. <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>

⁶¹ Association of Bay Area Governments. *2019 Projections Data*. May 1, 2019.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The existing project site does not include residents or housing units and, therefore, the project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

4.14.2.2 *Cumulative Impacts*

Impact POP-C: The project would not result in a cumulatively considerable contribution to a cumulatively significant population and housing impact. **(Less than Significant Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

The geographic area for cumulative population and housing impacts is the City of San José. The project would not include residential uses and would not impact population levels in the City. The project would employ approximately 198 individuals, which is roughly equivalent to the approximately 200 individuals employed by the current development on the site. For this reason, the project would not make a cumulatively considerable contribution to a worsening of the jobs/housing imbalance. **(Less than Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

4.15 PUBLIC SERVICES
4.15.1 Environmental Setting
4.15.1.1 *Regulatory Framework*

State

Government Code Section 66477

The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

Government Code Section 65995 through 65998

California Government Code Section 65996 specifies that an acceptable method of offsetting a project's effect on the adequacy of school facilities is the payment of a school impact fee prior to the issuance of a building permit. Government Code Sections 65995 through 65998 set forth provisions for the payment of school impact fees by new development by "mitigating impacts on school facilities that occur (as a result of the planning, use, or development of real property" (Section 65996[a]). The legislation states that the payment of school impact fees "are hereby deemed to provide full and complete school facilities mitigation" under CEQA (Section 65996[b]).

Developers are required to pay a school impact fee to the school district to offset the increased demands on school facilities caused by the proposed residential development project. The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Regional and Local

Countywide Trails Master Plan

The Santa Clara County Trails Master Plan Update is a regional trails plan approved by the Santa Clara County Board of Supervisors. It provides a framework for implementing the County's vision of providing a contiguous trail network that connects cities to one another, cities to the county's regional open space resources, County parks to other County parks, and the northern and southern urbanized regions of the County. The plan identifies regional trail routes, sub-regional trail routes, connector trail routes, and historic trails.

City of San José

Envision San José 2040 General Plan

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to public facilities and services and are applicable to the project.

General Plan Policies - Public Facilities and Services	
Education	
ES-1.9	Provide all pertinent information on 2040 General Plan amendments, rezonings and other development proposals to all affected school districts in a timely manner.
ES-1.15	Integrate school construction and/or renovation plans into the Village planning process.
ES-1.16	Continue to work with public and private schools through programs such as the Street Smarts School Safety Education Program to improve pedestrian and bicycle safety and encourage walking and biking to and from school.
Libraries	
ES-2.2	Construct and maintain architecturally attractive, durable, resource-efficient, and environmentally healthful library facilities to minimize operating costs, foster learning, and express in built form the significant civic functions and spaces that libraries provide for the San José community. Library design should anticipate and build in flexibility to accommodate evolving community needs and evolving methods for providing the community with access to information sources. Provide at least 0.59 square feet of space per capita in library facilities.
ES-2.12	Maintain City programs that encourage civic leadership in green building standards for library facilities.
Law Enforcement and Fire Protection	
ES-3.1	Provide rapid and timely Level of Service response time to all emergencies: <ol style="list-style-type: none"> 1. For police protection, achieve a response time of six minutes or less for 60 percent of all Priority 1 calls, and of eleven minutes or less for 60 percent of all Priority 2 calls. 2. For fire protection, achieve a total response time (reflex) of eight minutes and a total travel time of four minutes for 80 percent of emergency incidents. 3. Enhance service delivery through the adoption and effective use of innovative, emerging techniques, technologies and operating models. 4. Measure service delivery to identify the degree to which services are meeting the needs of San José's community. 5. Ensure that development of police and fire service facilities and delivery of services keeps pace with development and growth in the city.
ES-3.3	Locate police and fire service facilities so that essential services can most efficiently be provided and level of service goals met. Ensure that the development of police and fire facilities and delivery of services keeps pace with development and growth of the city.
ES-3.4	Construct and maintain architecturally attractive, durable, resource-efficient, environmentally sustainable and healthful police and fire facilities to minimize operating costs, foster community engagement, and express the significant civic functions that these facilities provide for the San José community in their built form. Maintain City programs that encourage civic leadership in green building standards for all municipal facilities.
ES-3.5	Co-locate public safety facilities with other public or private uses to promote efficient use of space and provision of police and fire protection services within dense, urban portions of the city.

General Plan Policies - Public Facilities and Services	
ES-3.6	Work with local, State, and Federal public safety agencies to promote regional cooperation in the delivery of services. Maintain mutual aid agreements with surrounding jurisdictions for emergency response.
ES-3.8	Use the Land Use/Transportation Diagram to promote a mix of land uses that increase visibility, activity and access throughout the day and to separate land uses that foster unsafe conditions.
ES-3.9	Implement urban design techniques that promote public and property safety in new development through safe, durable construction and publicly-visible and accessible spaces.
ES-3.10	Incorporate universal design measures in new construction, and retrofit existing development to include design measures and equipment that support public safety for people with diverse abilities and needs. Work in partnership with appropriate agencies to incorporate technology in public and private development to increase public and personal safety.
ES-3.11	Ensure that adequate water supplies are available for fire-suppression throughout the City. Require development to construct and include all fire suppression infrastructure and equipment needed for their projects.
ES-3.13	Maintain emergency traffic preemption controls for traffic signals.
ES-3.14	Encourage property maintenance and pursue appropriate code enforcement to reduce blight, crime, fire hazards or other unsafe conditions associated with under-maintained and under-utilized properties.
ES-3.15	Apply demand management principles to control hazards through enforcement of fire and life safety codes, ordinances, permits and field inspections.
ES-3.18	Maintain a program consistent with requirements of State law to inspect buildings not under authority of the Office of the State Fire Marshall.
ES-3.19	Remove excessive/overgrown vegetation (e.g., trees, shrubs, weeds) and rubbish from City-owned property to prevent and minimize fire risks to surrounding properties.
ES-3.20	Require private property owners to remove excessive/overgrown vegetation (e.g., trees, shrubs, weeds) and rubbish to the satisfaction of the Fire Chief to prevent and minimize fire risks to surrounding properties.

4.15.1.2 *Existing Conditions*

Fire Protection Services

Fire protection services for the project site are provided by the San José Fire Department (SJFD). The SJFD responds to all fires, hazardous materials spills, and medical emergencies (including injury accidents) in the City. The closest fire station to the project site is Station No. 23 located at 1771 Via Cinco De Mayo, approximately 1.1 miles east of the project site.

For fire protection services, the City has a total response time goal of eight minutes and a total travel time goal of four minutes for 80 percent of emergency incidents (per General Plan Policy ES-3.1).

Police Protection Services

Police protection services for the project site are provided by the San José Police Department (SJPD), which is headquartered at 201 West Mission Street, approximately 4.8 miles south of the project site. SJPD is divided into four geographic divisions: Central, Western, Foothill, and Southern. The project site is directly served by the SJPD Central Division, which includes three lieutenants, four patrol officers and two crime prevention specialists.⁶² For the last several years, the most frequent calls for service in the City have dealt with larceny, burglary, vehicle theft, and assault.

For police protection services, SJPD has a service goal of six minutes or less for 60 percent of all Priority 1 (emergency) calls and 11 minutes or less for 60 percent of all Priority 2 (non-emergency) calls (per General Plan Policy ES-3.1).

Parks

The City of San José owns and maintains approximately 3,435 acres of parkland, including neighborhood parks, community parks, and regional parks. The City also has 54 community centers and neighborhood centers. Other recreational facilities include five public pools, six public skate parks and over 55 miles of trails.

The City's Department of Parks, Recreation, and Neighborhood Services is responsible for development, operation, and maintenance of all City park facilities. Nearby City park and recreational facilities include Brooktree Park (approximately 1.5 miles southeast) and Northwood Park (approximately 1.1 miles northeast).

Schools and Libraries

Residences near the project site are assigned to Orchard Elementary, a K-8 (located 921 Fox Lane, approximately 1.6 miles southwest) and Independence High School (located at 617 N. Jackson Avenue, approximately 3.8 miles southeast). The nearest library to the project site is Berryessa Branch Library, located at 3355 Noble Avenue, San José, approximately 3.9 miles east of the site.

4.15.2 Impact Discussion

For the purpose of determining the significance of the project's impact on public services, would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

- a) Fire protection?
- b) Police protection?
- c) Schools?

⁶² San José Police Department. Central Division. Accessed October 15, 2021. <https://www.sjpd.org/about-us/organization/bureau-of-field-operations/central-division>

- d) Parks?
- e) Other public facilities?

4.15.2.1 *Project Impacts*

-
- a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services?**
-

The project site is currently served by the SJFD. The proposed project may result in an incremental increase in the need for fire services associated with increased building area and employment levels, but would not require the construction of new facilities or stations.

The project would be constructed in conformance with current building and fire codes, and the SJFD would review project plans to ensure appropriate safety features are incorporated to reduce fire hazards. The potential incremental increase in fire protection services would not require new or expanded fire protection facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services. **(Less than Significant Impact)**

-
- b) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services?**
-

The project site is currently served by the SJPD. The project may result in an incremental increase in the need for police services associated with increased building area and employment levels, but would not require the construction of new facilities or stations.

The Police Department would review the final site design, including proposed landscaping, access, and lighting, to ensure that the project provides adequate safety and security measures. The potential incremental increase in police protection services would not require new or expanded police protection facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response times or other performance objectives for police protection services. **(Less than Significant Impact)**

-
- c) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools?**
-

The proposed project would not generate substantial population growth in the project area or result in the use of public facilities in the area by new residents. The project proposes a data center and advanced manufacturing facility, not a residential use, and would therefore not generate students. The project would not require new or expanded school facilities, the construction of which could cause environmental impacts. **(No Impact)**

-
- d) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks?**
-

The proposed project would not generate substantial population growth in the project area or result in the use of public facilities in the area by new residents. Some employees at the project site may visit local parks; however, this use would not create the need for any new facilities or adversely impact the physical condition of existing facilities. **(Less than Significant Impact)**

-
- e) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities?**
-

The proposed project would not generate substantial population growth in the project area or result in the use of public facilities in the area by new residents. Some employees at the project site may visit library facilities; however, this would not create the need for any new facilities or adversely impact the physical condition of existing facilities. **(No Impact)**

4.15.2.2 Cumulative Impacts

Would the project result in a cumulatively considerable contribution to a significant cumulative public services impact?

The geographic area for cumulative public services impacts is the City of Santa Clara. All cumulative projects would be built in conformance with current codes and public safety requirements in the General Plan. The project would not develop residences, and therefore, would not result in a cumulatively considerable contribution to a cumulative park and recreational facility impacts. For this reason, the cumulative projects would result in a less than significant cumulative impact to police, fire, and recreational facilities. **(Less than Significant Cumulative Impact)**

The project does not propose construction of residences, and therefore, would not contribute to cumulative school or library impacts. **(No Cumulative Impact)**

4.16 RECREATION

4.16.1 Environmental Setting

4.16.1.1 *Regulatory Framework*

State

Government Code Section 66477

The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

City of San José

Greenprint 2009 Update

In December 2009, the City Council adopted the City of San José Greenprint 2009 Update, which is the City's 20-year strategic plan for parks, recreational facilities, and programs. As part of the Greenprint and Green Vision, the City has identified two goals related to the trail network: 1) complete 100 miles of interconnected trails by 2022, and 2) complete 130 miles of the network by 2035.

The Greenprint identifies the Central/Downtown Planning Area as having the greatest parkland deficit, with a projected need for roughly 300 additional acres of neighborhood/community-serving parkland to meet the City's service objective by 2020.⁶³ Given its population density, the most practical strategy for increasing recreation amenities will be the development of privately owned pocket parks, plazas, and other small scale recreation facilities; however, completion of planned park facilities such as Del Monte Park and build-out of the Guadalupe River Park Master Plan will help offset the acreage needed.⁶⁴

According to the Greenprint, there are no areas in the Central/Downtown Planning area that are underserved by community centers, based on a three-mile radius from residential uses. The City is working on a major update of its existing Greenprint, called Activate San José, expected to be complete in 2018.

Parkland Dedication Ordinance and the Park Impact Ordinance

The City of San José has adopted the Parkland Dedication Ordinance (PDO, Municipal Code Chapter 19.38) and Park Impact Ordinance (PIO, Municipal Code Chapter 14.25) requiring new residential development to either dedicate sufficient land to serve new residents, or pay fees to offset the increased costs of providing new park facilities for new development. Under the PDO and PIO, a

⁶³ Given that the 2040 General Plan allows for additional growth in Downtown compared to the 2020 General Plan, the current need exceeds the previous estimates for parkland acreage identified in the Greenprint.

⁶⁴ City of San José. *Greenprint 2009 Update for Parks, Recreation Facilities and Trails*. 2009.

project can satisfy half of its total parkland obligation by providing private recreational facilities on-site. For projects over 50 units, it is the City's decision as to whether the project will dedicate land for a new public park site or accept a fee in-lieu of land dedication. Deed-restricted affordable housing projects that meet the City's affordability criteria are subject to the PDO and PIO and receive a 50 percent credit toward the parkland obligation. The acreage of parkland required is based on the minimum acreage dedication formula outlined in the PDO.

Envision San José 2040 General Plan

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to recreation and are applicable to the project.

General Plan Policies - Recreation	
Parks, Trails, Open Space, and Recreation	
PR-1.1	Provide 3.5 acres per 1,000 population of neighborhood/community serving parkland through a combination of 1.5 acres of public park and 2.0 acres of recreational school grounds open to the public per 1,000 San José residents.
PR-1.2	Provide 7.5 acres per 1,000 population of citywide/regional park and open space lands through a combination of facilities provided by the City of San José and other public land agencies.
PR-1.3	Provide 500 square feet per 1,000 population of community center space.
PR-1.9	As Village and Corridor areas redevelop, incorporate urban open space and parkland recreation areas through a combination of high-quality, publicly accessible outdoor spaces provided as part of new development projects; privately, or in limited instances publicly, owned and maintained pocket parks; neighborhood parks where possible; as well as through access to trails and other park and recreation amenities.
PR-2.4	To ensure that residents of a new project and existing residents in the area benefit from new amenities, spend Park Dedication Ordinance (PDO) and Park Impact Ordinance (PIO) fees for neighborhood serving elements (such as playgrounds/ tot-lots, basketball courts, etc.) within a 3/4 mile radius of the project site that generates the funds.
PR-2.5	Spend, as appropriate, PDO/PIO fees for community serving elements (such as soccer fields, dog parks, sport fields, community gardens, community centers, etc.) within a 3-mile radius of the residential development that generates the PDO/PIO funds.
PR-2.6	Locate all new residential developments over 200 units in size within 1/3 of a mile walking distance of an existing or new park, trail, open space or recreational school grounds open to the public after normal school hours or include one or more of these elements in its project design.
PR-3.2	Provide access to an existing or future neighborhood park, a community park, recreational school grounds, a regional park, open space lands, and/or a major City trail within a 1/3 mile radius of all San José residents by either acquiring lands within 1/3 mile or providing safe connections to existing recreation facilities outside of the 1/3 mile radius. This is consistent with the United Nation's Urban Environmental Accords, as adopted by the City for recreation open space.

General Plan Policies - Recreation	
PR-6.2	Develop trails, parks and recreation facilities in an environmentally sensitive and fiscally sustainable manner.
PR-6.5	Design and maintain park and recreation facilities to minimize water, energy and chemical (e.g., pesticides and fertilizer) use. Incorporate native and/or drought-resistant vegetation and ground cover where appropriate.
PR-7.2	Condition land development and/or purchase property along designated Trails and Pathways Corridors in order to provide sufficient trail right-of-way and to ensure that new development adjacent to the trail and pathways corridors does not compromise safe trail access nor detract from the scenic and aesthetic qualities of the corridor. Locate trail right-of-ways consistent with the provisions of the City's Riparian Corridor Policy Study and any adopted Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP).
PR-8.5	Encourage all developers to install and maintain trails when new development occurs adjacent to a designated trail location. Use the City's Parkland Dedication Ordinance and Park Impact Ordinance to have residential developers build trails when new residential development occurs adjacent to a designated trail location, consistent with other parkland priorities. Encourage developers or property owners to enter into formal agreements with the City to maintain trails adjacent to their properties.
PR-8.7	Actively collaborate with school districts, utilities, and other public agencies to provide for appropriate recreation uses of their respective properties and rights-of-ways. Consideration should be given to cooperative efforts between these entities and the City to develop parks, pedestrian and bicycle trails, sports fields and recreation facilities.

4.16.1.2 *Existing Conditions*

The City of San José owns and maintains approximately 3,435 acres of parkland, including neighborhood parks, community parks, and regional parks. The City also has 54 community centers and neighborhood centers. Other recreational facilities include five public pools, six public skate parks and over 55 miles of trails.

As discussed in Section 4.14 Public Services, the City's Department of Parks, Recreation, and Neighborhood Services is responsible for development, operation, and maintenance of all City park facilities. Nearby City park and recreational facilities include Brooktree Park (approximately 1.5 miles southeast) and Northwood Park (approximately 1.1 miles northeast), and Pinewood (approximately 1.5 miles northwest).

4.16.2 Impact Discussion

For the purpose of determining the significance of the project's impact on recreation:

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

4.16.2.1 *Project Impacts*

-
- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**
-

The project site is currently utilized by approximately 200 employees, while the proposed project would include approximately 198 employees onsite during peak hours. Therefore, the project employees on site that would potentially utilize nearby parks and recreational facilities would remain unchanged from existing site conditions. The project is not anticipated to place a physical burden on existing nearby parks and recreational facilities. While employees may utilize nearby parks and recreational facilities, the use of these facilities would not result in substantial physical deterioration. **(Less than Significant Impact)**

-
- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**
-

The proposed project would not include recreational facilities. Some employees may use nearby parks and recreational facilities; however, this would not require the construction or expansion of recreational facilities. **(Less than Significant Impact)**

4.16.2.2 *Cumulative Impacts*

-
- Would the project result in a cumulatively considerable contribution to a significant cumulative recreation impact?**
-

The geographic area for cumulative park/recreational facility impacts is the City of San Jose. The proposed project would be an industrial development and would not include new residences. While employees of the project may use nearby parks and trails during lunch breaks, this would be a reduction compared to current site employment levels and the project would not result in permanent new residents that would substantially increase park use such that physical deterioration would occur. The project would not substantially contribute to the cumulative impacts to parks in the area. For these reasons, cumulative impacts to recreational facilities would be less than significant. **(Less Than Significant Cumulative Impact)**

4.17 TRANSPORTATION

The technical report required to complete this section is currently being prepared. This section and the associated technical report will be provided in a subsequent submittal.

4.18 TRIBAL CULTURAL RESOURCES

The following discussion is based in part on an NAHC Sacred Lands Search Results. The results and tribal contact information provided by NAHC is included in Appendix K.

4.18.1 Environmental Setting

4.18.1.1 *Regulatory Framework*

State

Assembly Bill 52

AB 52, effective July 2015, established a new category of resources for consideration by public agencies called Tribal Cultural Resources (TCRs). AB 52 requires lead agencies to provide notice of projects to tribes that are traditionally and culturally affiliated with the geographic area if they have requested to be notified. Where a project may have a significant impact on a tribal cultural resource, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or until it is concluded that mutual agreement cannot be reached.

Under AB 52, TCRs are defined as follows:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either:
 - Included or determined to be eligible for inclusion in the California Register of Historic Resources, or
 - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
- A resource determined by the lead agency to be a TCR.

4.18.1.2 *Existing Conditions*

Native Americans occupied Santa Clara Valley and the greater Bay Area for more than 5,000 years. The exact time period of the Ohlone (originally referred to as Costanoan) migration into the Bay Area is debated by scholars. Dates of the migration range between 3000 B.C. and 500 A.D. Regardless of the actual time frame of their initial occupation of the Bay Area and, in particular, Santa Clara Valley, it is known that the Ohlone had a well-established population of approximately 7,000 to 11,000 people with a territory that ranged from the San Francisco Peninsula and the East Bay, south through the Santa Clara Valley and down to Monterey and San Juan Bautista.

The Ohlone people were hunter/gatherers focused on hunting, fishing, and collecting seasonal plant and animal resources, including tidal and marine resources from San Francisco Bay. The customary way of living, or lifeway, of the Costanoan/Ohlone people disappeared by about 1810 due to disruption by introduced diseases, a declining birth rate, and the impact of the California mission system established by the Spanish in the area beginning in 1777.

4.18.2 Impact Discussion

For the purpose of determining the significance of the project's impact on tribal cultural resources, would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
- b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.18.2.1 *Project Impacts*

-
- a) **Would the project cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?**
-

No tribal cultural features, including sites, features, places, cultural landscapes or sacred places have been identified based on available information. A record search of the NAHC Sacred Lands File was completed for the site and the results were negative.⁶⁵

AB 52 requires lead agencies to complete formal consultations with California Native American tribes during the CEQA process to identify tribal cultural resources that may be subject to significant impacts by a project. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact. This consultation requirement applies only if the tribes have sent written requests for notification of projects to the lead agency. The Ohlone Tribe submitted a request in July of 2018 for notification of projects requiring a Negative Declaration, a Mitigated Negative Declaration, or an Environmental Impact Report that would involve ground-disturbing activities within the City of San José. At the time of the preparation of this SPPE Application, two tribes have sent written requests for notification of projects to the City of San José and one verbal request has been made.

- On July 9, 2018, a representative of the Ohlone Indian Tribe, Inc., requested notification of projects in accordance with Public Resources Code Section 21080.3.1 subd (b). In response to a more specific verbal request in a meeting with City staff and the representative on July 12, 2018, clarification was received that such notification be sent only for projects in the City of San José that involve

⁶⁵ Native American Heritage Commission. Personal Communication with Katy Sanchez. November 29, 2021.

ground disturbing activities in downtown, and that such requests may be sent via e-mail only for future projects require a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report. As this project is not in downtown, no notification was sent to the Ohlone Indian Tribe, Inc.

- On June 17, 2021, Chairwoman Geary of the Tamien Nation verbally requested AB52 notification and the written notice received June 28, 2021, requesting notification of projects in accordance with Public Resources Code Section 21080.3.1 subd (b), for all proposed projects that require a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report.
- On June 30, 2021, Kanyon Sayers-Roods of the Band of Costanoan Ohlone people verbally requested AB52 notification for all proposed projects that require a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report.

Any subsurface artifacts found on-site would be addressed consistent with the identified Standard Permit Conditions and mitigation measures. Additionally, during construction the project would comply with Applicant Proposed Mitigation Measures that require a Native American monitor on-site (refer to *Section 4.5.2 Cultural Resources*). Therefore, the proposed project would have a less than significant impact on tribal cultural resources. **(Less than Significant)**

b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

As discussed under Impact TCR-1, there are no known TCRs on-site, and the project includes measures to reduce potential impacts to less than significant levels should TCRs be unexpectedly discovered during project construction as well as requiring the presence of a Native American monitor during project construction. For this reason, the project would not cause a substantial adverse change in the significance of a TCR that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. **(Less than Significant Impact)**

4.18.2.2 Cumulative Impacts

Would the project result in a cumulatively considerable contribution to a significant cumulative tribal cultural resources impact?

The geographic study area for cumulative impacts to TCRs is the surrounding area (within 1,000 feet of the project site). No tribal cultural features, including sites, features, places, cultural landscapes or sacred places have been identified at the site based on available information. As a result, the project would not contribute to a cumulative impact to TCRs. **(No Cumulative Impact)**

4.19 UTILITIES AND SERVICE SYSTEMS

4.19.1 Environmental Setting

4.19.1.1 *Regulatory Framework*

State

State Water Code

Pursuant to the State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The City of San José Municipal Water Department adopted its most recent UWMP in June 2015.

Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Assembly Bill 341

AB 341 sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025.

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code, establishing mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and indoor environmental quality. These standards include the

following mandatory set of measures, as well as more rigorous voluntary guidelines, for new construction projects to achieve specific green building performance levels:

- Reducing indoor water use by 20 percent;
- Reducing wastewater by 20 percent;
- Recycling and/or salvaging 50 percent of nonhazardous construction and demolition debris; and
- Providing readily accessible areas for recycling by occupants.

Local

Envision San José 2040 General Plan

The Envision San José 2040 General contains the following policies which are specific to utilities and service systems and applicable to the proposed project:

Policy	Description
IN-3.3	Meet the water supply, sanitary sewer and storm drainage level of service objectives through an orderly process of ensuring that, before development occurs, there is adequate capacity. Coordinate with water and sewer providers to prioritize service needs for approved affordable housing projects.
IN-3.7	Design new projects to minimize potential damage due to stormwaters and flooding to the site and other properties.
IN-3.9	Require developers to prepare drainage plans that define needed drainage improvements for proposed developments per City standards.
MS-3.1	Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial, and developer-installed residential development unless for recreation needs or other area functions.
MS-3.2	Promote use of green building technology or techniques that can help to reduce the depletion of the City's potable water supply as building codes permit.
MS-3.3	Promote the use of drought tolerant plants and landscaping materials for nonresidential and residential uses.
IN-3.10	Incorporate appropriate stormwater treatment measures in development projects to achieve stormwater quality and quantity standards and objectives in compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit.
EC-5.16	Implement the Post-Construction Urban Runoff Management requirements of the City's Municipal NPDES Permit to reduce urban runoff from project sites.

In addition to the above-listed San José General Plan policies, new development in San José is also required to comply with programs that mandate the use of water-conserving features and appliances and the Santa Clara County Integrated Watershed Management (IWM) Program, which minimizes solid waste.

San José Zero Waste Strategic Plan/Climate Smart San José

The Climate Smart San Jose provides a comprehensive approach to achieving sustainability through new technology and innovation. The Zero Waste Strategic Plan outlines policies to help the City of San José foster a healthier community and achieve its Climate Smart San Jose goals, including 75 percent waste diversion by 2013 and zero waste by 2022. The Climate Smart San Jose also includes ambitious goals for economic growth, environmental sustainability, and enhanced quality of life for San José residents and businesses.

San José Sewer System Management Plan

The purpose of the Sewer System Management Plan (SSMP) is to provide guidance to the City in the operation, maintenance, and rehabilitation of the sewer assets of the City of San José. The SSMP includes construction standards and specifications for the installation and repair of the collection system and its associated infrastructure.

Private Sector Green Building Policy

The City of San José's Green Building Policy for new private sector construction encourages building owners, architects, developers, and contractors to incorporate meaningful sustainable building goals early in the design process. This policy establishes baseline green building standards for private sector construction and provides a framework for the implementation of these standards. It is also intended to enhance the public health, safety, and welfare of San José residents, workers, and visitors by fostering practices in the design, construction, and maintenance of buildings that will minimize the use and waste of energy, water, and other resources.

4.19.1.2 *Existing Conditions*

Water Service

Potable water service to the project site is provided by the City of San José Water Company (SJWC). The water provided comes from a mix of imported surface water and groundwater. The site is served by a 12 inch water pipeline in Ringwood Avenue, Trade Zone Boulevard, and Fortune Drive. The project area is served with recycled water pipelines in both Fortune Drive and Ringwood Avenue.⁶⁶ The existing water use on-site is approximately 45,924,840 gallons per year.⁶⁷

Sanitary Sewer/Wastewater Treatment

Sanitary sewer lines that would service the project site are owned and operated by the City of San José. The project site is currently connected to the City's sewer system via a network of sanitary

⁶⁶ City of San José. San José Municipal Water System. Recycled Water Pipeline System. September 1, 2021. <https://www.sanjoseca.gov/home/showpublisheddocument/522/637662536440600000>

⁶⁷ This calculation is based off of CalEEMod's Appendix D Default Data Tables, dated May 2021. The existing indoor water use was calculated using the default water use rate for an industrial park of 231,250 gallons per year per 1,000 square feet. The existing outdoor water use was calculated using the default water use rate for an office park of 108,934 gallons per year per 1,000 square feet (office park default was used for this calculation because CalEEMod does not have a default rate for outdoor water use of an industrial park). The two buildings combined square footage of 135,000 square feet was used for the calculations. The calculation was as follows: (135 x 231,250) + (135 x 108,934) = 45,924,840

pipelines in Fortune Drive (15 inch pipeline), Ringwood Avenue (18 inch pipeline), and Trade Zone Boulevard (24 inch, 18 inch, and 8 inch pipelines).

Wastewater from the project area is treated at the San José/Santa Clara Regional Wastewater Facility (RWF), formerly known as the San José/Santa Clara Water Pollution Control Plant. The RWF has the capacity to treat 167 million gallons per day of sewage during dry weather flow.⁶⁸ In 2020, the RWF's average dry weather effluent flow was 101 million gallons per day.⁶⁹ Fresh water flow from the RWF is discharged to the South San Francisco Bay or delivered to the South Bay Water Recycling Project for distribution.

The City of San José generates approximately 69.8 million gallons per day of dry weather sewage flow. The City's share of the RWF's treatment capacity is 108.6 million gallons per day; therefore, the City has approximately 38.8 million gallons per day of excess treatment capacity.⁷⁰ The site currently generates approximately 43,628,598 gallons per year.⁷¹

Storm Drainage System

The City of San José Public Works Department operates and maintains the storm drainage system that serves the project site. The project site is currently served by stormdrain pipelines in Fortune Drive (24 inch pipeline), Ringwood Avenue (15 to 18 inch pipelines), and Trade Zone Boulevard (36 inch pipeline). The site is currently developed with 348,633 square feet of impervious surface (80.4 percent) and 84,807 square feet of pervious surface (19.6 percent).

Solid Waste

Santa Clara County's Integrated Waste Management Plan (IWMP) was approved by the California Integrated Waste Management Board in 1996 and reviewed in 2004, 2007, 2011, and 2016. Each jurisdiction in the County has a landfill diversion requirement of 50 percent per year. According to the IWMP, the County has adequate disposal capacity beyond 2030.⁷² Solid waste generated within the County is landfilled at Guadalupe Mines, Kirby Canyon, Newby Island, and Zanker Road landfills. The site currently generates 230 tons of solid waste per year.⁷³

All municipal solid waste in San José is landfilled at Newby Island Sanitary Landfill (NISL). The City has an existing contract with NISL through 2041. The City has an annual disposal allocation for

⁶⁸ City of San José. "San José/Santa Clara Regional Wastewater Facility." Accessed November 30, 2021. <https://www.sanjoseca.gov/your-government/environment/water-utilities/regional-wastewater-facility>.

⁶⁹ City of San José. "2020 Pollution Prevention Annual Report." 2020. <https://www.sanjoseca.gov/home/showpublisheddocument/70354/637514779377070000>.

⁷⁰ City of San José. *Envision San José 2040 General Plan FEIR*. September 2011. Page 648.

⁷¹ The Envision San José 2040 General Plan Integrated Final Program EIR states that average wastewater flow rates are approximately 70 to 80 percent of domestic water use and 85 to 95 percent of business use (assuming no internal recycling or reuse programs). For the purpose of this analysis, 95 percent of the site's domestic water use of 45,924,840 gallons per year was assumed.

⁷² Santa Clara County. *Five-Year CIWMP/RAIWMP Review Report*. June 2016.

⁷³ CalEEMod Appendix D: Default Data Tables. Table 10.1: Solid Waste Disposal Rates. September 2016. Industrial Park land use: 1.15 tons per employee. The site has an estimated 200 employees.

395,000 tons per year. As of May 2018, NISL had approximately 16.9 million cubic yards of capacity remaining.⁷⁴

4.19.2 Impact Discussion

For the purpose of determining the significance of the project's impact on utilities and service systems, would the project:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- e) Be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?

4.19.2.1 *Project Impacts*

-
- a) **Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**
-

Water Facilities

The water demands of the project would be met by SJWC, as is discussed under checklist question b) below. The project would install new domestic and fire water lines on-site that would connect with the existing City infrastructure systems located along Fortune Drive, Ringwood Avenue, and Trade Zone Boulevard. The project would not require the construction or expansion of water delivery systems or the expansion of the boundaries of the SJWC service area. Therefore, the project would not result in significant environmental effects related to the relocation or construction of new or expanded water facilities.

Wastewater Treatment Facilities

The project would be served by the City's existing sanitary sewer system and connect to the existing sanitary sewer lines in Fortune Drive, Ringwood Avenue, and Trade Zone Boulevard. In order to connect to the existing sanitary sewer system, the project would install sanitary sewer laterals during

⁷⁴ Ibid.

grading of the site, which would result in minimal impacts. It is estimated that the project, which would have an indoor water demand of 9,713 gpd (refer to checklist question b), would generate approximately 9,227.35 gpd of wastewater.⁷⁵ The City's design review process will include an evaluation of the project's discharge relative to existing capacity to determine whether upsizing of sanitary sewer lines would be needed. Refer to checklist question c) for a discussion of the availability of treatment capacity at the RWF for the project.

Stormwater Drainage Facilities

As discussed in Section 4.10 Hydrology and Water Quality, the project would result in a net increase of impervious surface at the project site (12.7 percent increase). However, the project would install new on-site storm drains that would connect to existing storm drains on Fortune Drive, Ringwood Avenue, and Trade Zone Boulevard. Although the project would increase the amount of impervious surfaces at the site, the project would comply with the MRP and City of San José Policy 6-29, which would remove pollutants and reduce the rate and volume of runoff from the project site. Installation of storm drains would occur during grading of the site and would result in minimal impacts. Therefore, the project would not require the construction of additional storm drainage facilities that could cause significant environmental effects.

Electric Power, Natural Gas, and Telecommunication Facilities

The project would include an approximately 0.33 mile off-site underground 60kV transmission line extension from the project site, under the center of the roadway on Trade Zone Boulevard, and connecting to Montague Expressway, within the City of Milpitas. The project also would include an approximately 0.33 mile off-site aboveground 60kV transmission line extension from the project site, along the southern sidewalk of Trade Zone Boulevard, and connecting to Montague Expressway, within the City of San José. Photo 1 shows the proposed routes of the transmission lines. The project would replace existing utility poles on Trade Zone Boulevard for the aboveground transmission line.

Electricity for the project would be supplied by PG&E through a new transmission switching station constructed on-site and owned and operated by PG&E. Unlike the typical electrical generating facility reviewed by the Commission, the SVYBGF would be designed to operate only when electricity from PG&E is unavailable to the data centers. The SVYBGF would not be electrically interconnected to the electrical transmission grid or the Advanced Manufacturing Building. Rather, it would consist of two generation yards electrically interconnected solely to each of the data center buildings (SVYDC05 and SVYDC06) it serves.

The project would be required to detail the exact locations for all utility connections and utility plans would be subject to review by the City. The project would coordinate with the appropriate electric power, natural gas, and telecommunication providers, including PG&E, on providing service to the site. The project would utilize existing utility connections to connect to the City's natural gas and telecommunications systems. Although the project would increase the demand on existing facilities

⁷⁵The Envision San José 2040 General Plan Integrated Final Program EIR states that average wastewater flow rates are approximately 70 to 80 percent of domestic water use and 85 to 95 percent of business use (assuming no internal recycling or reuse programs). For the purpose of this analysis, 95 percent of the site's domestic indoor water use of 3,545,245 gallons per year, or 9,713 gallons per day, was assumed. $9,713 \text{ gallons water per day} \times 0.95 = 9,227.35 \text{ gallons wastewater per day}$.

in the City, relocation of existing or construction of new facilities would not be needed to serve the proposed project. Therefore, the proposed project would not result in significant impacts from construction or relocation of new or expanded electric power, natural gas, or telecommunications utilities. **(Less than Significant Impact)**

b) Would the project have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The project would have an estimated indoor water demand of 3,545,245 gallons per year and an estimated outdoor water demand of 72,092,521 gallons per year, for a total project water demand of approximately 75,637,766 gallons per year. The existing water demand is approximately 45,924,840 gallons per year, resulting in a net water demand 29,712,926 gallons per year. The project would utilize recycled water for landscape irrigation.

The Envision San José 2040 General Plan Integrated Final Program EIR determined that the three water suppliers for the City could serve the planned growth under the Envision 2040 General Plan until 2025. Water demand could exceed water supply with implementation of the General Plan during dry and multiple dry years after 2025. The General Plan has specific policies to reduce water consumption including expansion of the recycled water system and implementation of water conservation measures. The Envision San José 2040 General Plan Integrated Final Program EIR concluded that with implementation of existing regulations and adopted General Plan policies, full build out under the General Plan would not exceed the available water supply. The project is not considered a ‘water demand project’ pursuant to CEQA Guidelines section 15155(E), which defines an industrial, manufacturing/processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area as a water demand project.

Implementation of the proposed project would not create the need for major new utility or water supply infrastructure and would have a less than significant impact on the City’s water supply. **(Less than Significant Impact)**

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?

The RWF is responsible for treating wastewater generated within the City of San José. The RWF has the capacity to treat 167 million gallons of wastewater per day.⁷⁶ Currently, the RWF is operating under a 120 million gallon per day dry weather effluent flow constraints.

The Envision San José 2040 General Plan Integrated Final Program EIR states that average wastewater flow rates are approximately 70 to 80 percent of domestic water use and 85 to 95 percent of business use (assuming no internal recycling or reuse programs). The proposed project would generate approximately 8,256 gpd of wastewater. The project, by itself, would not exceed the

⁷⁶ City of San José. [San José-Santa Clara Regional Wastewater Facility](http://sanJoseca.gov/index.aspx?nid=1663). Accessed December 18, 2019: <http://sanJoseca.gov/index.aspx?nid=1663>.

treatment capacity of the RWF. The proposed project is consistent with the development assumptions and planned growth in the General Plan; therefore, implementation of the project would not result in significant impacts to capacity of wastewater treatment facilities. With implementation of the project, the RWF would still operate below the required 120 million gallons per day constraint and would not increase the need for wastewater treatment beyond the capacity of the RWF. **(Less than Significant Impact)**

d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Santa Clara County's IWMP was approved by the California Integrated Waste Management Board in 1996 and reviewed in 2004, 2007, 2011, and 2016. Each jurisdiction in the County has a landfill diversion requirement of 50 percent per year. According to the IWMP, the County has adequate disposal capacity beyond 2030.⁷⁷ The project would be required to conform to City plans and policies to reduce solid waste generation, and would be served by a landfill with adequate capacity. **(Less Than Significant Impact)**

e) Would the project be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?

Consistent with CALGreen requirements, the proposed project would be required to provide on-site recycling facilities, develop a construction waste management plan, salvage at least 65 percent of nonhazardous construction/demolition debris (by weight), and implement other waste reduction measures. Additionally, the estimated increases in solid waste generation from future development would be avoided through implementation of the City's Zero Waste Strategic Plan. The Zero Waste Strategic Plan, in combination with existing regulations and programs, would ensure that the proposed project would not result in significant impacts on solid waste disposal capacity in excess of state or local standards or in excess of NISL remaining capacity of 16.9 million cubic yards. **(Less Than Significant Impact)**

4.19.2.2 Cumulative Impacts

Would the project result in a cumulatively considerable contribution to a significant cumulative utilities and service systems impact?

The geographic study area for cumulative impacts to utilities and service systems is citywide or within the applicable utility's service area, as noted below. On its own, the project would not require the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, natural gas, or telecommunications facilities. The Envision San José 2040 General Plan Integrated Final Program EIR found that buildout of the General Plan would not result in impacts related to water supply, wastewater treatment and storm drainage facilities, or solid waste infrastructure. Any proposed new or expanded facilities necessitated by future cumulative

⁷⁷ Santa Clara County. *Five-Year CIWMP/RAIWMP Review Report*. June 2016.

development would be subject to environmental review and is not anticipated to result in significant environmental effects. Therefore, the project would not result in cumulatively significant effects on the environment related to the relocation or construction of new or expanded facilities.

The geographic area for cumulative water supply is the service area of the SJWC. The project would be within normal growth projections for the SJWC system. As described above, SJWC has determined that there is sufficient capacity to serve future development within the SJWC service area and the project. For these reasons, there is no significant cumulative water supply impact.

The geographic area for cumulative wastewater treatment is the service area of the RWF. As discussed under checklist question c), there is sufficient treatment capacity at the RWF for the buildout of the General Plan and the project. As such, the project would not result in a cumulatively significant impact on wastewater treatment facilities.

The geographic area for cumulative landfill capacity is the County. As discussed under checklist question d), the Envision San José 2040 General Plan Integrated Final Program EIR determined that the increase in waste generated by build out of the General Plan (which includes the project and future cumulative projects) would not result in an exceedance of capacity at existing landfills or otherwise impair the attainment of solid waste reduction goals. Cumulative projects in the City would be required to conform to City plans and policies to reduce solid waste generation and increase waste diversion, such as the Zero Waste Strategic Plan and General Plan Policies IN-1.5, IN-5.1, IN-5.3, IN-5.4, and IP-3.8. As such, the project would not result in a cumulatively significant solid waste impact.

All cumulative projects are required to adhere to the requirements of the Zero Waste Strategic Plan and General Plan policies, thereby complying with applicable statutes and regulations related to solid waste, including CALGreen, AB 939, AB 341, and local waste diversion requirements. Therefore, the project would not result in a cumulatively significant impact due to noncompliance with federal, state, or local management and reduction statutes and regulations related to solid waste.

4.20 WILDFIRE

4.20.1 Environmental Setting

4.20.1.1 *Regulatory Framework*

State

Fire Hazard Severity Zones

CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. Referred to as Fire Hazard Severity Zones (FHSZs), these maps influence how people construct buildings and protect property to reduce risk associated with wildland fires. FHSZs are divided into areas where the state has financial responsibility for wildland fire protection, known as state responsibility areas (SRAs), and areas where local governments have financial responsibility for wildland fire protection, known as local responsibility areas (LRAs). Homeowners living in an SRA are responsible for ensuring that their property is in compliance with California's building and fire codes. Only lands zoned for very high fire hazard are identified within LRAs.

California Fire Code Chapter 47

Chapter 47 of the California Fire Code sets requirements for wildland-urban interface fire areas that increase the ability of buildings to resist the intrusion of flame or burning embers being projected by a vegetation fire, in addition to systematically reducing conflagration losses through the use of performance and prescriptive requirements.

California Public Resources Code Section 4442 through 4431

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that uses an internal combustion engine; specify requirements for the safe use of gasoline-powered tools on forest-covered land, brush-covered land, or grass-covered land; and specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas. These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code Section 4442);
- Appropriate fire suppression equipment would be maintained during the highest fire danger period, from April 1 to December 1 (Public Resources Code Section 4428);
- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain appropriate fire suppression equipment (Public Resources Code Section 4427); and
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (Public Resources Code Section 4431).

California Code of Regulations Title 14

The California Board of Forestry and Fire Protection has adopted regulations, known as SRA Fire Safe Regulations, which apply basic wildland fire protection standards for building, construction, and development occurring in a SRA. The future design and construction of structures, subdivisions and developments in SRAs are required to provide for the basic emergency access and perimeter wildfire protection measures discussed in Title 14.

Fire Management Plans

CAL FIRE has developed an individual Unit Fire Management Plan for each of its 21 units and six contract counties. CAL FIRE has developed a strategic fire management plan for the Santa Clara Unit, which covers the project area and addresses citizen and firefighter safety, watersheds and water, timber, wildlife and habitat (including rare and endangered species), unique areas (scenic, cultural, and historic), recreation, range, structures, and air quality. The plan includes stakeholder contributions and priorities and identifies strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work with the local fire issues.

4.20.1.2 *Existing Conditions*

The project site is located in an urbanized area of San José. The project site is not located in or near a state responsibility area or near lands classified as very high fire hazard severity zones.⁷⁸

4.20.2 Impact Discussion

For the purpose of determining the significance of the project's impact on wildfire, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan?
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

4.20.2.1 *Project Impacts*

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the project would not result in wildfire impacts. **(No Impact)**

⁷⁸ California Board of Forestry and Fire Protection. *Fire Hazard Severity Zones Maps*. Accessed October 7, 2021. <https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>

4.20.2.2 *Cumulative Impacts*

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the project would not result in cumulative wildfire impacts. (**No Cumulative Impact**)

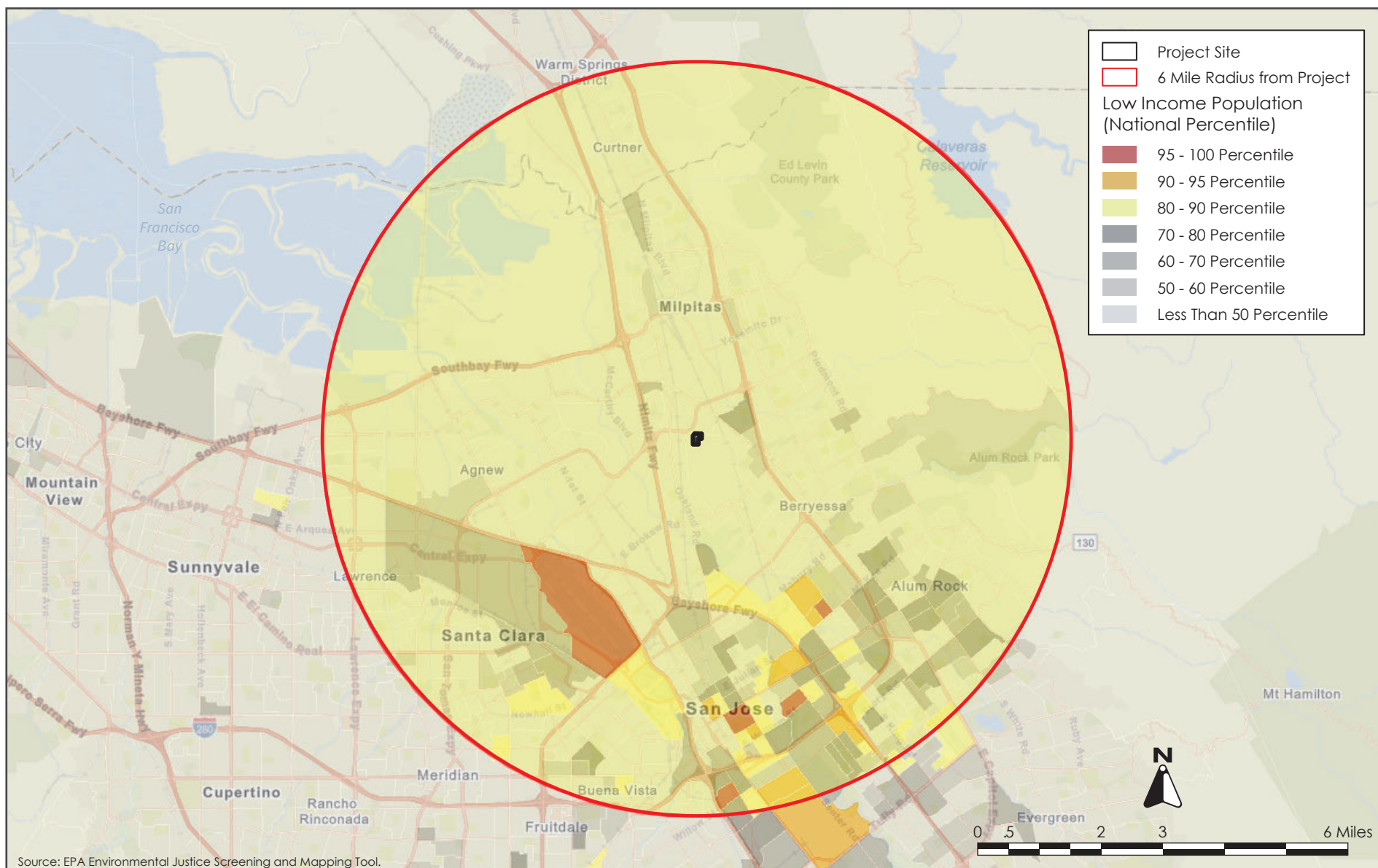
4.21 ENVIRONMENTAL JUSTICE

4.21.1 Environmental Setting

Based on California Department of Education data shown in Table 4.21-1, students attending schools within six miles of the project site fall into the school districts of Alum Rock Union Elementary, Berryessa Union Elementary, East Side Union High, Franklin-McKinley Elementary, Fremont Union High, Luther Burbank, Milpitas Unified, Mount Pleasant Elementary, Santa Clara County Office of Education, Santa Clara Unified, San Jose Unified, and Sunnyvale. The percentage of students in these districts enrolled in the free or reduced price meal program is larger than those in the reference geography, and thus are considered an environmental justice (EJ) population based on a low income population as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*. Figure 4.21-1 shows low income population distribution by census blocks within 6 miles of the project.

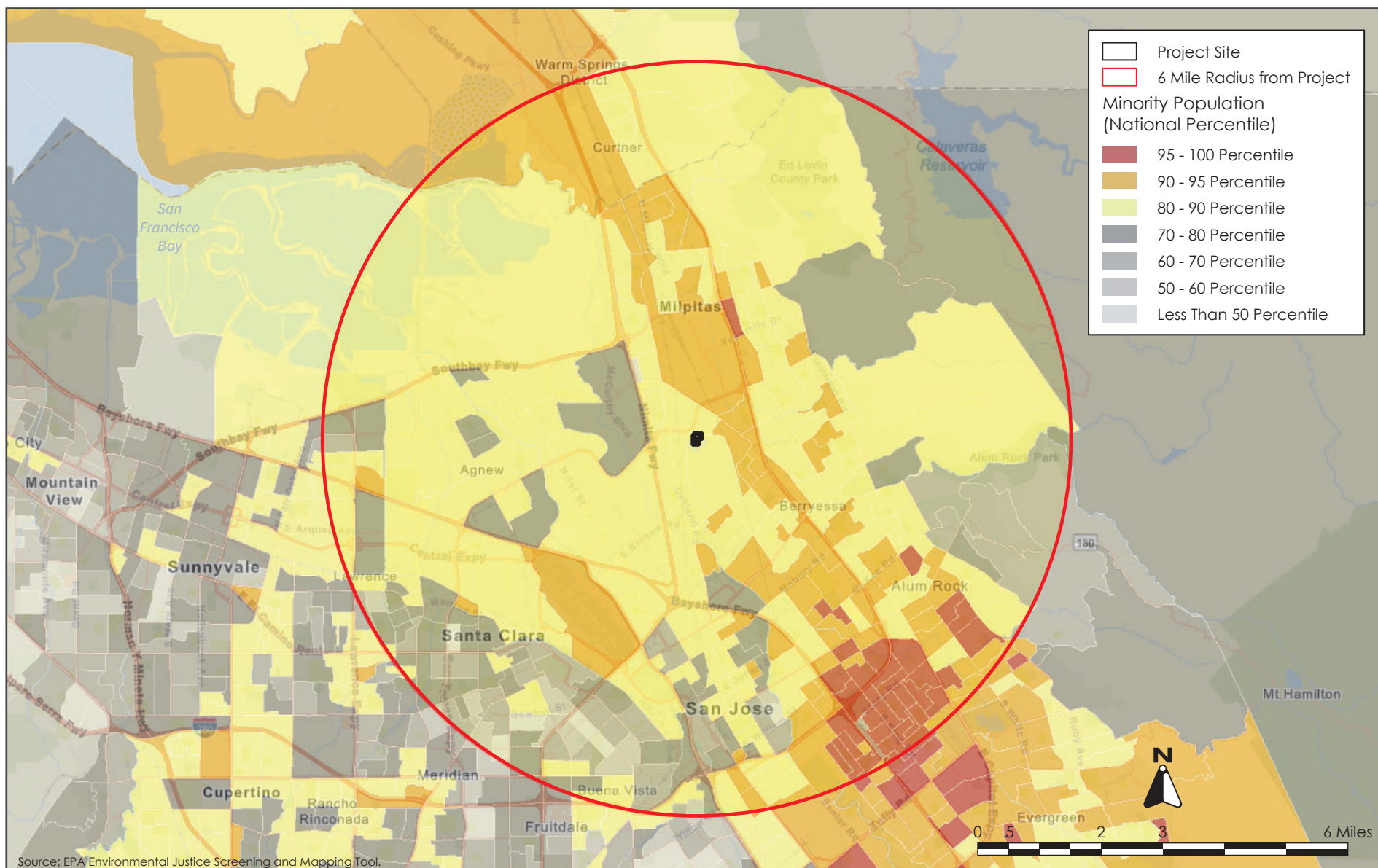
Table 4.21-1: Low Income Data within the Project Area			
School Districts in Six Mile Radius	Enrollment Used for Meals	Free or Reduced Price Meals	
Alum Rock Union Elementary	9,850	7,526	76.4%
Berryessa Union Elementary	6,534	1,765	27.0%
East Side Union High	25,946	11,117	42.8%
Franklin-McKinley Elementary	8,980	6,381	71.1%
Fremont Union High	10,836	1,135	10.5%
Luther Burbank	475	397	83.6%
Milpitas Unified	10,413	2,887	27.7%
Mount Pleasant Elementary	1,929	982	50.9%
San Jose Unified	28,710	10,622	37.0%
Santa Clara County Office of Education	12,508	6,954	55.6%
Santa Clara Unified	14,808	5,373	36.3%
Sunnyvale	5,950	1,344	22.6%
Reference Geography			
Santa Clara County	253,625	82,218	32.4%
Source: California Department of Education, Data & Statistics, Free or Reduced Price Meals Data 2020-2021, https://www.cde.ca.gov/ds/sd/sd/filessp.asp .			

Figure 4.21-2 shows 2014 – 2018 American Community Survey data of blocks within a six-mile radius of the project with a minority population greater than or equal to 50 percent. The population in these blocks represents an environmental justice (EJ) population based on race and ethnicity as defined in the United States Environmental Protection Agency’s *Guidance on Considering Environmental Justice During the Development of Regulatory Actions* (US EPA 2015).



LOW INCOME POPULATION DISTRIBUTION BY CENSUS BLOCKS WITHIN 6 MILES OF PROJECT

FIGURE 4.21-1



MINORITY POPULATION DISTRIBUTION WITHIN 6 MILES OF PROJECT

FIGURE 4.21-2

4.21.2 Environmental Impacts

The following technical areas discuss impacts to EJ populations: Aesthetics, Air Quality, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Population and Housing, and Utilities and Service Systems. This section will be revised once the technical assessments for Cultural and Tribal Resources, Transportation and Traffic, and Noise have been completed

Aesthetics

Environmental justice (EJ) populations may experience disproportionate visual impacts if the siting of visually intrusive or degrading projects, particularly industrial facilities, occurs within or near EJ communities to a greater extent than within the community at large.

As depicted in Figure 4.21-2, the project site is located in an area with a high minority population. However, as discussed in Section 4.1 Aesthetics, the proposed project is located within an urbanized area of San José which already experiences light and/or glare from the surrounding development. The project would be reviewed for consistency with the City's Design Guidelines, and other applicable codes, policies, and regulations to ensure that the project would not adversely affect the visual quality of the project area, and would conform to existing architectural and landscaping standards. The proposed project would be required to comply with the City's Outdoor Lighting on Private Development Policy (Policy 4-3). Implementation of the proposed project would not substantially degrade the existing visual quality or character of the site or its surrounding area. Therefore, the proposed project would not have the potential to affect high minority populations. **(Less than Significant Impact)**

Air Quality

The Air Quality section identified the potential public health impacts (i.e. cancer and non-cancer health effects) which could affect the EJ population represented in Figures 4.21-1 and 4.21-2. These potential public health risks were evaluated quantitatively based on the most sensitive population, which includes the EJ population, by conducting a health risk assessment. The results were presented by level of risks. The potential construction and operation risks are associated with exposure to diesel particulate matter (DPM), total organic gases (TOG) in diesel exhaust, and evaporative and exhaust TOGs from gasoline vehicles. The toxic air contaminants (TACs) from TOG include 1,3-Butadiene, Acetaldehyde, Benzene, Ethylbenzene, Formaldehyde, n-Hexane, Methanol, Methyl Ethyl Ketone, Napthalene, Propylene, Styrene, Toluene, and Xylene. The analysis determined that no one (including the public, off-site nonresidential workers, recreational users, and EJ populations) would experience any acute or chronic cancer or non-cancer effects of health significance during construction and operation of the project. Therefore, construction and operation of the project would not cause significant adverse direct or indirect public health impacts from the project's toxic air emissions and no additional mitigation is needed. Likewise, the project would not cause disproportionate public health impacts on sensitive populations, such as the EJ population represented in Figures 4.21-1 and 4.21-2.

The air quality analysis considers the most sensitive and most protective of the population which includes the EJ population; therefore, the conclusions of the analysis would include that of the EJ

population. Project impacts were evaluated, and it was concluded that air quality impacts during the construction of the project would be less than significant with mitigation incorporated and air quality impacts for all criteria pollutants during operation of the project would be less than significant with mitigation incorporated. Both construction and operational emissions from the project with mitigation incorporated would not cause or contribute to a violation of any state or federal ambient air quality standard, or conflict with applicable plans and programs to attain or maintain ambient air quality. Based on these conclusions, the project would not cause disproportionate air quality impacts for sensitive populations like the EJ population represented in Figures 4.21-1 and 4.21-2. **(Less than Significant Impact)**

Hazards and Hazardous Materials

EJ populations may experience disproportionate hazards and hazardous materials impacts if the storage and use of hazardous materials within or near EJ communities occur to a greater extent than within the community at large. The possibility of a disproportionate impact upon the EJ population resulting from the planned storage and use of hazardous materials on the site is low. The project would contain diesel fuel, a hazardous material, to run the emergency generators. As discussed in Section 4.9 Hazards and Hazardous Materials, each generator unit and its integrated fuel tanks would be designed with double walls. The interstitial space between the walls of each tank would be continuously monitored electronically for the existence of liquids. This monitoring system would be electronically linked to an alarm system in the engineering office that would alert personnel if a leak were detected. Additionally, the standby generator units would be housed within a self-sheltering enclosure that prevents the intrusion of storm water. Therefore, the likelihood of a spill of sufficient quantity to impact the surrounding community and EJ population would be very unlikely and is considered less than significant. Additionally, implementation of applicant proposed mitigation measures would reduce impacts to less than significant levels. **(Less than Significant Impact with mitigation)**

Hydrology and Water Quality

A disproportionate hydrologic or water quality impact on an EJ population could occur if a project required substantial groundwater resources or contributed significantly to surface water or groundwater quality degradation.

As discussed in Section 4.10 Hydrology and Water Quality, the project is not located within a designated groundwater recharge zone, and therefore would not require substantial groundwater resources. The project is not expected to significantly contribute to surface water degradation, as it would include stormwater quality best management practices (BMPs) such as directing site runoff into bioretention areas. The project would be required to comply with the Clean Water Act by controlling the discharge of pollutants in storm water during its construction and operation phases. Additionally, implementation of applicant proposed mitigation measures would reduce hydrology impacts to less than significant levels. The project is, therefore, not expected to negatively impact water quality and would not result in a disproportionate impact to the local EJ population. Additionally, implementation of applicant proposed mitigation measures would reduce impacts from construction activities to less than significant levels. The project's hydrology and water quality impacts would be reduced to less than significant for all the area's population, including the EJ population. **(Less than Significant Impact with mitigation)**

Land Use and Planning

A disproportionate land use impact on an EJ population could occur if a project would physically divide the established community of an EJ population or if a project near an EJ population would conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental impacts on a population.

As discussed in Section 4.11 Land Use and Planning, the project would not divide an existing community, as the site is on land designated and zoned for industrial uses and is generally surrounded by industrial uses and commercial uses. The project site is designated *TEC - Transit Employment Center* under the City's General Plan and would be consistent with the land use designation. No conflicts with plans, policies, or related land use regulations would occur.

The site is currently zoned *Industrial Park (IP)*, which permits medium manufacturing, while data centers are allowed upon issuance of a Special Use Permit, and utility facilities are allowed upon issuance of a Conditional Use Permit. In its Preliminary Review letter, the City recommended the applicant apply for a Planned Development Rezoning from the current *IP Zoning District* to the *IP(PD) Planned Development Zoning District* (see Appendix J). Consistent with the City's recommendation, the project applicant is applying for a Planned Development Rezoning and a Planned Development Permit. The project would not pose significant individual impacts relating to land use and planning; therefore, no disproportionate impacts on the EJ population would occur either. **(No Impact)**

Population and Housing

The potential for population and housing impacts is predominantly driven by the temporary influx of nonlocal construction workers seeking lodging closer to a project site. For the project, the construction workers would be drawn from the greater Bay Area and thus would not likely seek temporary lodging closer to the project site. The operations workers are also anticipated to be drawn from the greater Bay Area and would not likely seek housing closer to the project site. If some operations workers were to relocate closer to the project site, there would be sufficient housing in the project area.

A population and housing impact could disproportionately affect an EJ population if the project were to displace minority or low-income residents from where they live, causing them to find housing elsewhere. If this occurs, an EJ population may have a more difficult time finding replacement housing due to racial biases and possible financial constraints. As discussed in Section 4.14 Population and Housing, the project would not displace any residents or remove any housing; therefore, there would be no disproportionate impact to EJ populations from this project. **(No Impact)**

Utilities and Service Systems

A disproportionate utility or service system impact on an EJ population could occur if a project required substantial water resources or significantly impacted wastewater treatment facility and

landfill capacity. As determined in Section 4.19 Utilities and Service Systems section, adequate water supply is available to serve the project. The project would, therefore, not result in a disproportionate impact to the local EJ population.

There is also significant remaining capacity at the local landfill and wastewater treatment facilities that would be utilized by the project. No changes or expansion to the landfill or wastewater treatment facility would be needed to accommodate this project. The project would also be required to comply with state and local regulations that apply to construction and operation waste. These regulations would require that wastes are managed to meet waste diversion goals and protect public health and safety. The project would, therefore, not have a disproportionate impact on the EJ population.

The project's Utilities and Service Systems impacts would be less than significant for all the area's population, including the EJ population. **(Less than Significant)**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

The project would not result in significant impacts to the environment and, therefore, would not have the potential to substantially degrade the quality of the environment.

The project is located in an area largely devoid of sensitive biological resources. Measures included in the project would ensure impacts to nesting birds are reduced to less than significant levels. The project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal.

There are no known historic, cultural, or tribal resources on or adjacent to the site. The project includes measures to reduce potential impacts to unknown buried resources on the site, should they

be encountered, to less than significant levels. The project, therefore, would not eliminate important examples of the major periods of California history or prehistory.

2. Does the project have impacts that are individually limited, but cumulatively considerable?

A number of projects have been recently approved, reasonably foreseeable, or are under development in the City of San José in the vicinity of the project site. These include the development or redevelopment of commercial, industrial, and office uses. While these individual projects may result in significant impacts in particular issue areas, it is assumed that the projects will comply with existing regulations and statutes and will incorporate measures to reduce potential impacts to a less than significant level, if necessary. For example, all projects are required to incorporate best management practices and comply with local and regional regulations to reduce impacts to water quality to the maximum extent feasible.

An analysis of cumulative impacts is included in each individual impact section of this SPPE Application. The project would not result in, or make a considerable contribution to, any significant cumulative impacts.

3. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, hazardous materials and noise. With the implementation measures included in the project and described in the specific sections of this SPPE Application, the proposed project would not result in substantial adverse effects on human beings, individually or cumulatively.

SECTION 5.0 ALTERNATIVES

5.1 EVALUATION CRITERIA

The primary goal of the Trade Zone Boulevard Technology Park (Trade Zone Park) is to develop a site within the technology core area of San José to include Advanced Manufacturing and data centers necessary to serve the technology needs of the region. The Trade Zone Park will consist of the SVY Data Center (SVYDC) each with backup generation identified as the SVY Backup Generating Facility (SVYBGF) and an Advanced Manufacturing Building (AMB).

The AMB will be a state-of-the-art incubation space that includes training facilities to develop employees for the region's growing demand. The primary objective of the AMB is to serve specific demand within the San Jose region for highly trained employees with the technical skills necessary for the growing demand for Advanced Manufacturing workers.

The SVYDC has been designed to reliably meet the increased demand of digital economy, its customers and the continued growth of the cloud. The SVYDC's purpose is to provide its customers with mission critical space to support their servers, including space conditioning and a steady stream of high-quality power supply. Interruptions of power could lead to server damage or corruption of the data and software stored on the servers by STACK's clients. The SVYDC will be supplied electricity by PG&E through a new transmission switching station constructed on the SVYDC site and owned and operated by PG&E.

To ensure a reliable supply of high-quality power, the SVYBGF was designed to provide backup electricity to the SVYDC only in the event electricity cannot be supplied from PG&E and delivered to the SVYDC building. To ensure no interruption of electricity service to the servers housed in the SVYDC building, the servers will be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from input power interruptions. However, to provide electricity during a prolonged electricity interruption, the UPS systems will require a flexible and reliable backup power generation source to continue supplying steady power to the servers and other equipment. The SVYBGF provides that backup power generation source.

The Trade Zone Park's Project Objectives are as follows:

- Develop a state-of-the-art data center large enough to meet projected growth;
- Locate the Data Center near technology infrastructure and near existing STACK data centers to minimize latency and optimize for customer regional economies of scale;
- Develop an Advanced Manufacturing building that facilitates the growth of the advanced manufacturing sector in North San José and continues a presence of advanced manufacturing activities in this market;
- Develop the Data Center and Advanced Manufacturing Building as a mixed-use campus on land with zoning consistent with these uses and at a location acceptable to the City of San José;
- Develop a Data Center that can be constructed in phases which can be timed to match projected growth;

- To incorporate the most reliable and flexible form of backup electric generating technology into the SVYBGF considering the following evaluation criteria.
 - Reliability. The selected backup electric generation technology must be extremely reliable in the case of an emergency loss of electricity from the utility.
 - The SVYBGF must provide a higher reliability than 99.999 percent in order for the SVYDC to achieve an overall reliability of equal to or greater than 99.999 percent reliability.
 - The SVYBGF must provide reliability to greatest extent feasible during natural disasters including earthquakes.
 - The selected backup electric generation technology must have a proven built-in resilience so if any of the backup unit fails due to external or internal failure, the system will have redundancy to continue to operate without interruption with no single point of failure
 - The selected backup electric generation technology must include achieved in practice engineering methods, procedures and equipment.
 - The SVYDC must have on-site means to sustain power for 24-hours minimum in failure mode, inclusive of utility outage.
 - Commercial Availability and Feasibility. The selected backup electric generation technology must currently be in use and proven as an accepted industry standard for technology sufficient to receive commercial guarantees in a form and amount acceptable to financing entities. It must be operational within a reasonable timeframe where permits and approvals are required and with a supply of fuel that is within service level agreement thresholds to sustain customers and server uptime.
 - Technical Feasibility. The selected backup electric generation technology must utilize systems that are compatible with one another and be maintainable in a reasonable fashion achieving timely switch outs, repairs and maintenance. Warranty and support must be within practical means to achieve optimum uptime during failures within the utility power supply. The back up solution must also achieve industry standard start times in the event of an outage in order to avoid interruption of power to the equipment within the data center.

As part of the preliminary planning and design of the SVYDC and the SVYBGF, STACK and its design team considered alternatives to the proposed backup generators and use of a smaller capacity system. For completeness purposes, a discussion of the No Project Alternative is also included.

5.2 REDUCED CAPACITY SYSTEM

STACK considered a backup generating system with less emergency generators but like the No Project Alternative discussed below, any generating capacity less than the total demand of the data center at maximum occupancy would not allow STACK to provide the critical electricity that would be needed during an emergency to protect the equipment and provide reliable uptime for cloud operating services. It is important to note that in addition to the electricity that is directly consumed by the servers themselves, the largest load of the data center is related to cooling the rooms where the servers are located. In order for the servers to reliably function, they must be kept within temperature and humidity tolerance ranges. The industry standard is to design and operate a building that can

meet those ranges even during a loss of electricity provided by the existing electrical service provider. Therefore, in order for STACK to provide the reliability required by its clients it was necessary to provide a backup generating system that could meet the maximum load of the SVYDC during full occupancy and include redundancy as described in Section 2.2.3. A reduced capacity system would not fulfill the basic project objectives of the SVYDC.

5.3 BACKUP ELECTRIC GENERATION TECHNOLOGY ALTERNATIVES

STACK considered using potentially available alternative technologies: gas-fired turbines; flywheels; gas-fired reciprocating internal combustion engines, batteries; fuel cells; and alternative fuels. As discussed below, none of the technologies considered could meet the overall Project Objectives because they were commercially or technically infeasible and/or would not meet the necessary standard of reliability during an emergency.

5.3.1 Flywheels

Flywheel energy storage systems use electric energy input which is stored in the form of kinetic energy. Kinetic energy can be described as “energy of motion,” in this case the motion of a spinning mass, called a rotor. The rotor spins in a nearly frictionless enclosure. When short-term backup power is required because utility power fluctuates or is lost, the inertia allows the rotor to continue spinning and the resulting kinetic energy is converted to electricity.

STACK has concluded that flywheel technology would not be a viable option and could not meet the Project Objectives for the following reasons:

- Flywheel technology does not perform within the required reliability levels of STACK and is prone to system failure.
- Flywheel technology requires an extensive amount of maintenance to keep each energy storage system functioning.
- Flywheel systems cannot provide sufficient time duration (e.g 24 hours or more) as a backup generation as the fly wheel motion can typically only sustain 10-30sec outages at a time.
- Flywheel systems are wasteful from a PUE perspective and adds to the total PUE of the facility, contradicting the goal of the project to operate the facility at the optimum PUE, operating in an less wasteful fashion.

5.3.2 Gas-Fired Turbines

STACK considered using natural gas-fired turbines instead of diesel generators to supply backup power for the SVYDC. This technology option was rejected because it would not meet the project objectives. Natural gas turbines have the advantages of better emission of NOx and CO than diesel. However, as an emergency backup choice, it has the following deficiencies:

1. The gas infrastructure is more likely to have curtailment of the natural gas supplies during due natural disasters and other emergency loss of utility power.
2. Onsite storage or delivery of natural gas to address the curtailment issues during an emergency is impossible to support long duration of backup (24 hours or longer time) due to the volume required.

3. The natural gas turbine is better suited for continuous operation instead of standby mode, which makes maintenance challenging as well as the start times are too long for the engine, resulting in the need for additional UPS power to continue to cool the data halls.
4. The natural gas turbine needs minimum loads (30%), so additional load banks are required on site, leading to the change of design in terms of reliability and the use of more fuel than is necessary and leading to the wasting of electricity through the load bank.
5. Typical turbine engines have larger system sizes (4MW-50MW), while the smaller ones such as micro-turbines of 2.5MW will use twice the physical footprint and cost twice as much as the proposed generation technology.

Therefore, natural gas turbines are not considered reliable enough to meet the extremely high reliability requirements of a mission critical data center like the SVYDC. A fixed fuel source such as a natural gas pipeline introduces another potential point of failure or load curtailment. Taking into account the natural gas outages from maintenance and repair by the utility, interruption due to construction accidents within the system, long-term damage and interruption during an earthquake, or outages caused by problems within the greater distribution system are higher probability occurrences than being able to obtain diesel fuel for longer than 24-hour outages. Therefore, this alternative was rejected as not being able to meet the Project Objectives.

5.3.3 Gas-Fired Reciprocating Engines

STACK considered using natural gas-fired reciprocating engines instead of diesel generators to supply emergency backup power for the SVYDC. This technology option was rejected because it would not meet the Project Objectives. While natural gas engines could achieve start up times sufficient to work with the UPS systems design and there are 2.5MW/3.1MW engines available, this lacks sufficient resilience to accept large block transfer of load associated with restart sequences when transferring from utility grid to backup generation. Therefore, natural gas reciprocating engines are not considered technically feasible or reliable enough to meet the industry standard or needs of the SVYDC. As discussed above, storage of sufficient natural gas on site to maintain emergency backup electricity demands of the SVYDC during an outage would not be tenable given the volume of natural gas that would be required.

5.3.4 Battery Storage

STACK considered using batteries alone as a source of emergency backup power. The primary reason batteries alone were rejected was the limited duration of battery power. Batteries can provide power quickly, which is the reason STACK has incorporated them into the overall backup electrical system design through the use of the UPS. As described in Section 2.2.4.2, batteries in the UPS System would be initiated at the first sign of electricity interruption. However, the current state of battery technology does not allow for very long durations of discharge at building loads as high as planned for the SVYDC. Maximum discharging time is about 5 hours when doubled up from one ISO container to two, which needs more physical space. In addition, Lithium-ion batteries have more restrictive California fire code regulations. Renewable non-Lithium-ion battery such as ZnMnO₂ is not commercially feasible for data centers yet. Once the standalone batteries are completely discharged, the only way they can be recharged without onsite generation is if the utility electrical system is back up and running. Since it is not possible to predict the duration of an electricity outage, batteries are not a viable option for emergency electrical power. Therefore, because battery storage

cannot provide the duration that may be necessary during an emergency, this technology option was rejected as technically and commercially infeasible and unable to allow the SVYDC to meet its Project Objectives.

The proposed diesel generators provide 24 hours of backup electricity without the need for refueling. In order to provide for the same 24-hour capacity, approximately 10 ISO containers representing approximately 10 times the amount of real estate would be required. The site will not accommodate the number of batteries necessary and due to the limitation on duration, they would not replace the diesel generators necessary for backup.

5.3.5 Fuel Cells – Backup Replacement

STACK is very familiar with fuel cell technology as it has considered fuel cells at its current data centers. Fuel cells can provide both primary and off grid power. The fuel cells utilized by Bloom Energy and others are solid Oxide Fuel Cells (SOFC) that operate in high temperature of 750 Deg C, they need to stay hot to provide power. As a choice of backup, fuel cells need to run continuously in dual modes, as a primary source, or a standby mode when the grid is off (islanding mode). The fuel cells have additional ultra-capacitors to cope with the 10-20 second load transfer time to match up with diesel generation technology.

The fuel cell has the following technical issues that negatively affect its ability to utilized as an emergency backup generation option.

1. It needs to run continuously to provide base load electricity to stay hot. This is why large data centers (Equinix, Apple, Yahoo) use Bloom Energy as primary source and maintain their existing emergency diesel generation fleet as backup.
2. Fuel cells require approximately 3 times more space than the emergency generators proposed for the SVYBGF and stacking is challenging and difficult and expensive to design to applicable codes.
3. Fuel cells rely on the natural gas as feed stock, so the issues with natural gas infrastructure and onsite storage described above also limit reliability.

There are fuel cell technologies (Proton Exchange Membrane) that utilize liquid hydrogen as a fuel. This type of fuel cell is mostly used for mobile sources and can start cold quicker similar to a combustion engine. STACK understands that there are pilot programs to scale this type of fuel cell to larger sizes. However, the issues that affect the Project Objectives of this technology include:

1. The technology is not yet commercially available at sizes necessary for a large data center.
2. The footprint is projected to be about twice the size of the proposed emergency generators.
3. Onsite storage of 24 hours of liquid hydrogen will take significant additional space not available at the site.
4. The potential for on-site and offsite impacts of a large release of liquid hydrogen which would be stored at pressure (6000 PSI) at the project site would be likely unacceptable within San José.

5.3.6 Fuel Cells – Primary Generation/Grid Backup

STACK has evaluated generating primary electricity with fuel cells on-site and relying on the electricity grid for emergency backup electricity. One example of primary power is that Equinix has partnered with Bloom Energy over the last 5 years to deploy over 45 MW of fuel cell technology at various sites around the country using fuel cells as base load. There are other sites, such as Home Depot where Bloom Energy fuel cells provide primary electricity. However, we are unaware of any data center fuel cell application where fuel cells provide the full electricity needs for the data center without the bulk of the primary power being delivered by a utility.

There are two primary reasons that this solution cannot achieve the STACK SVYDC Project Objectives. The first is that it is unlikely that Pacific Gas & Electric (PG&E) would procure and reserve the amount of electricity necessary to power the SVYDC in perpetuity as a backup source on a moment's notice. The magnitude of electricity for such an event after full buildout of the SVYDC would render such an option infeasible.

As currently designed, the SVYBGF will provide a N+1 protection scheme for the SVYDC. In other words, the primary electricity will be provided by the extremely reliable AVP electric system and if that system fails, the diesel-fired emergency generators would provide the electricity that the SVYDC requires. Utilizing fuel cells as the primary generation and relying on the grid as backup in the event of fuel cell failure would also provide a N+1 protection scheme. However, this alternative would provide lower reliability during an earthquake - the design natural disaster for California projects. During an earthquake, it is possible that the natural gas system cannot deliver the fuel to the fuel cells at the same time that the PG&E electrical system is experiencing an outage. In that case, in order to provide the same reliability as the proposed design, emergency backup generators would still be necessary (N+2) to provide electricity to the SVYDC during the design natural disaster case. Therefore, in order to have the same reliability, the same number and size of emergency backup generators would be required.

Therefore use of fuel cells as primary generation would not replace the proposed emergency backup generators in order to meet the Project Objectives.

5.3.7 Alternative Fuels

STACK evaluated the use of biodiesel and renewable diesel as replacement for the CARB diesel proposed for use in the SVYBGF. Neither alternative provides a highly reliable source of fuel, nor provides any demonstrable reduction in emissions.

Typical biodiesel fuels tend to be more unstable than petroleum-based diesel with very little, if any environmental benefit. Renewable diesel fuel has been claimed to be as stable, if not more stable as petroleum-based diesel fuels, while offering significant environmental benefits. However, no certified data has been located that can be used to document the environmental benefit claims, at this time. As the emission standards from biofuel combustion are yet to be well-established, emission guarantees would be necessary to ensure that the use of the renewable diesel would meet the needs of financing entities.

5.4 ALTERNATIVE SITES

There is no rule requiring an EIR to explore off-site project alternatives in every case. As stated in the Guidelines: "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." (Guidelines, § 15126.6, subd. (a), *italics added*.) As this implies, "an agency may evaluate on-site alternatives, off-site alternatives, or both." (Mira Mar, *supra*, 119 Cal.App.4th at p. 491.) The Guidelines thus do not require analysis of off-site alternatives in every case. Nor does any statutory provision in CEQA "expressly require a discussion of alternative project locations." (119 Cal.App.4th at p. 491 citing §§ 21001, subd. (g), 21002.1, subd. (a), 21061.)

In considering an alternative location in an EIR, the CEQA Guidelines advise that the key question is "whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location". The proposed project is a Trade Zone Park development within the City of San Jose. As demonstrated in this Application for SPPE, there are no significant effects of the project that are not mitigated to less than significant levels. Therefore, an alternative site would not be lessen otherwise significant environmental impacts.

Additionally, one of the primary project objectives is to locate the data center buildings near existing STACK data center infrastructure. STACK does not have purchasing rights (i.e. site control) to any other properties in the area, and thus would have no ability to develop a Trade Zone Park with data center buildings at an alternative location. Prior to filing the application for SPPE for the proposed project, STACK completed due diligence in the project area to determine potential sites for development and to assess the potential for significant environmental effect of the proposed project. The project site is the only site that was found that was available for redevelopment and had the required site characteristics to accommodate the proposed development and its objectives. Additionally, the potential for unmitigable environmental impacts associated with the project was extremely low at this site. For these reasons, developing a project that would meet the stated objectives at an alternative location is not feasible. Consideration of an alternative location is most relevant for a public agency choosing to locate a project, where the public agency could potentially use eminent domain to acquire another suitable site. This ability does not exist for private applicants.

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