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Small Power Plant Exemption Application

Mission College Backup Generating Facility

Submitted to the:
California Energy Commission

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TABLE OF CONTENTS

TABLE OF CONTENTS

Figures

Tables

Appendices

SECTION 1.0 INTRODUCTION AND PURPOSE

Oppidan Investment Company (Oppidan) 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 78.1 MW[1] Mission College Backup Generating Facility (MCBGF). The MCBGF will consist of a total of 45 emergency diesel-fired generators that will be used exclusively to provide backup generation to support the Mission College Data Center (MCDC), located at 2305 Mission College Boulevard in Santa Clara, California. Forty-three (43) of the emergency generators will have nameplate ratings of 2.5 MW each, four of which are redundant. An additional two of the emergency generators will be smaller house power generators to support fire suppression and other emergency operations and will have nameplate ratings of 600 kW each. Figures 1-1 through 1-3 depict the location of the MCDC and the MCBGF.

Unlike the typical electrical generating facility reviewed by the Commission, the MCBGF is designed to operate only when electricity from Silicon Valley Power (SVP) is unavailable to the MCDC. The MCBGF will not be electrically interconnected to the electrical transmission grid. Rather, it will consist of two generation yards; each separately electrically interconnected to the two data center buildings that make up the MCDC.

Section 2.0 of the SPPE Application provides a detailed description of the construction and proposed operation of the MCBGF. To describe the context of the MCBGF and its role in serving the MCDC, Section 2.0 also includes a general description of the MCDC including currently proposed modifications.

Section 3.0 of the SPPE Application provides a description of power plant efficiency, reliability and potential energy resource impacts which may result from the construction and operation of the MCBGF.

Section 4.0 of the SPPE Application includes environmental information and analyses in sufficient detail to allow the Commission to conduct an Initial Study consistent with Section 16063(d) of the California Environmental Quality Act (CEQA) Guidelines.

Section 5.0 of the SPPE Application includes a discussion of Alternative backup generation configurations and technology considered by Oppidan including an evaluation of the No Project Alternative.

Section 6.0 of the SPPE Application includes a list of references.

Section 7.0 of the SPPE Application contains a list of applicable agencies and contact information who have jurisdiction over laws, ordinances, regulations, and standards (LORS) that may be applicable to the MCBGF, as required by Subsection (i) of Appendix F of the CEC SPPE Regulations.

Section 8.0 of the SPPE Application contains a list of addresses of properties within 1,000 feet of the site provided by the City of Santa Clara for noticing purposes.

[1] Maximum total demand of the Mission College Data Center.

1.1 NEED FOR BACKUP GENERATION

The MCDC's purpose is to provide Oppidan 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 Oppidan's clients. The MCDC will be supplied electricity by SVP through a new distribution substation constructed by Oppidan in the northeast corner of the MCDC site and to be owned and operated by SVP.

To ensure a reliable supply of high quality power, the MCBGF was designed to provide backup electricity to the MCDC to be used solely in the rare event that electricity cannot be supplied from SVP and delivered to the MCDC buildings. To ensure no interruption of electricity service to the servers housed in the MCDC 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 power generation source to continue supplying steady power to the servers and other equipment. The MCBGF provides that emergency backup power generation source.

1.2 PRIOR ENVIRONMENTAL REVIEW

The City prepared an Initial Study (IS) and adopted a Mitigated Negative Declaration (MND) and a Mitigation Monitoring and Reporting Plan (MMRP) for the MCDC on July 17, 2018. The IS, MND and MMRP included backup generation facilities. A copy of the MND which includes the IS and MMRP and supporting technical studies is included in Appendix C.

The original configuration of the MCDC consisted of a single two-story 495,610 gross square foot (gsf) data center building with a total electrical load at full buildout of 65 MW. To serve this 65 MW electrical load of the original MCDC, the project applicant proposed a total of 120 625-kW backup generators providing 75 MW of backup power generation capacity.

Since approval by the City, Oppidan has reconfigured the MCDC project and now proposes that the MCDC consist of two three-story buildings encompassing a total building square footage of roughly 490,000 gsf and total electrical load at full buildout not to exceed 78.1 MW. The reconfigured MCDC will be constructed in two phases. Backup generation has been increased to serve the additional electrical load and will be served by the MCBGF.

Under the existing City approvals, Oppidan has applied for a demolition permit from the City and expects that permit to be issued in December 2019 with demolition to begin in January 2020. Our understanding is that the City intends to rely on the environmental analysis of the MCBGF performed by the Commission to supplement its environmental review of the modified MCDC to support its amendment of its prior permit allowing the modifications proposed by Oppidan and described in this SPPE Application.

To enable the City to timely conduct its review of the modified MCDC, Oppidan requests the Commission complete its review of the MCBGF by March 2018.

1.3 COMMISSION SPPE JURISDICTION

Oppidan 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.[2] 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 authority[3]. The MCBGF is not a typical power generating facility in that it consists of generators that can operate independently. In addition, the generators are arranged in generation yards to support individual buildings within the greater data center campus. None of the generators will be interconnected to the electrical transmission system and therefore no electricity can be delivered off site.[4]

1.3.1 Backup Electrical Generating Facility

Oppidan believes that although the CEC is the lead agency for making a determination of whether the MCBGF is a thermal power plant that can qualify for a SPPE, that ultimate decision does not extend to the MCDC facilities. Therefore, the Commission's lead agency status applies only to the MCBGF facilities. As described in Section 1.3.2 below, Oppidan acknowledges that the CEC should include the potential effects of the modifications to the MCDC in its CEQA analysis, but the ultimate determination of whether the MCDC should be approved, denied, or subject to mitigation measures is solely within the City's jurisdiction.

Additionally, the potential effects of the generating facilities were analyzed in the prior MND. Oppidan has optimized the MCDC which necessitates the following modifications to the generating facilities that were evaluated in the prior MND.

- Replacing the 120 625-kW emergency generators with 43, 2.5 MW emergency generators and 2, 600 kW house power emergency generators
- Relocating the generators and associated electric equipment from one generator yard to two generator yards, each serving its respective data center building

As described more fully in Section 2.3 of this application, the maximum generating capacity of the MCBGF is limited by the maximum electricity demand of the MCDC. Based on the methodology adopted by the Commission's Final Decision Granting a SPPE for the McLaren Backup Generating Facility, the maximum generating capacity of the MCBGF is determined by the maximum capacity of the load being served.[5] That maximum electricity demand is 78.1 MW. The maximum generating capacity of the MCBGF is well below the Commission's 100 MW, SPPE threshold and therefore, meets the qualifications for the grant of a SPPE.

[2] Public Resources Code (PRC) Section 25500.
[3] PRC Section 25541 and Title 20 California Code of Regulations (CCR) Section 1934.
[4] The Commission Staff has determined that notwithstanding these facts, the Commission has jurisdiction over the MCBGF. Oppidan reserves all its rights regarding whether or not the Commission has jurisdiction over the MCBGF and the filing of this SPPE Application is not an admission by Oppidan that the Commission has exclusive jurisdiction over the MCBGF or the MCDC.
[5] Final Decision Granting SPPE for the McLaren Backup Generating Facility, 17-SPPE-01, CEC-800-2018-003-CMF, page 8.

1.3.2 Treatment of Data Center Facilities Not Within Scope of SPPE

Since the MCDC is not within the scope of the Commission's decision on whether or not to grant an SPPE, the potential effects of the MCDC should be analyzed in a manner to allow the City of Santa Clara to adopt the analysis for purposes of considering its decision to modify the original permit. As discussed in Section 1.3, the MCDC was approved by the City. Oppidan is currently proposing modifications to the MCDC that resulted from optimizing the site for its customer(s). These modifications do not extend outside the original site. The Commission should evaluate the potential effects of these proposed modifications by comparing them to the MCDC as approved by the City of Santa Clara. In other words, the Commission should be treating the proposed modifications to the MCDC in the same manner as if it were processing an Addendum to the previously approved and adopted MND. These proposed modifications include:

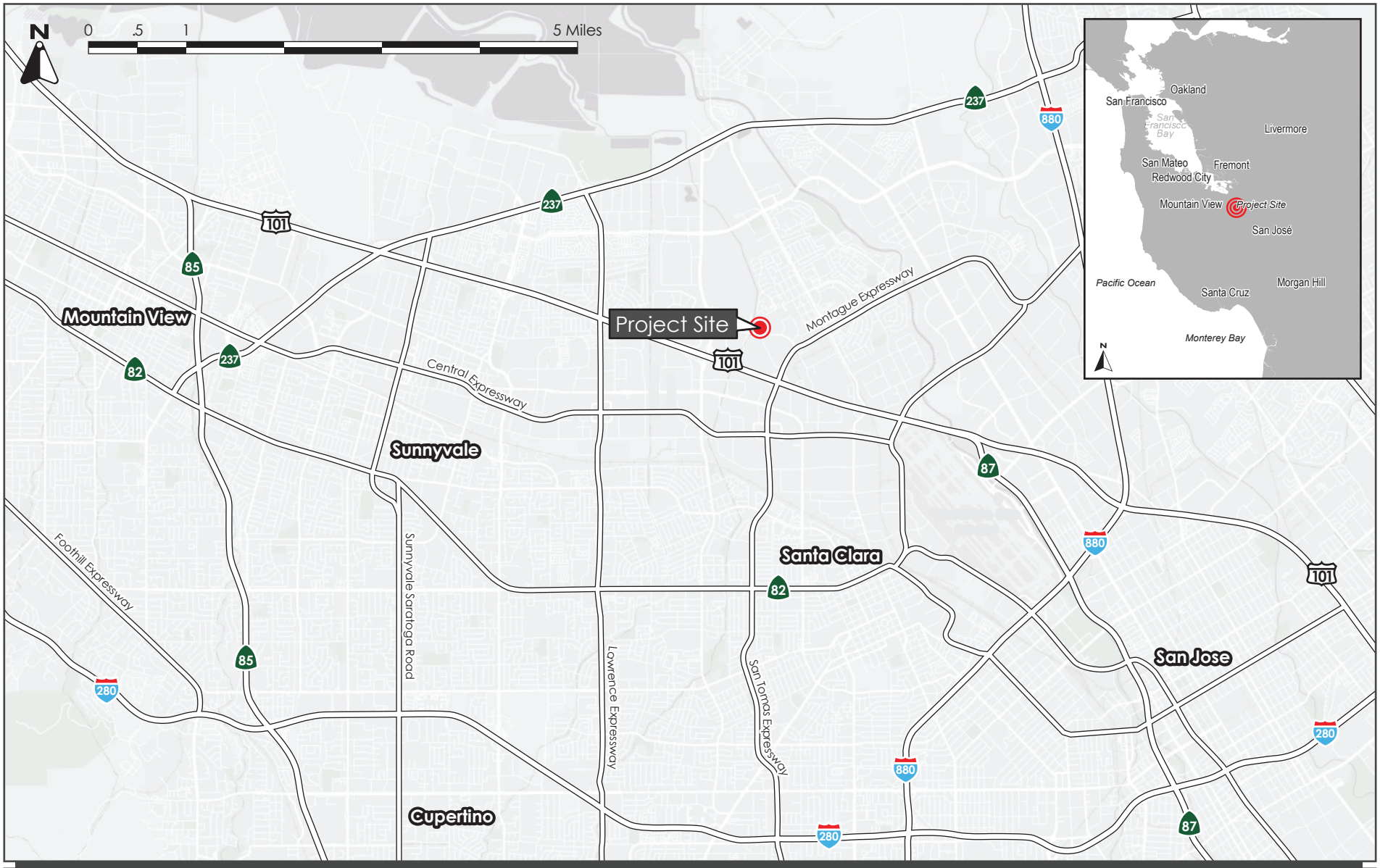
- Construction of two, three-story data center buildings encompassing a total square footage of 490,000 instead of one 495,610 square foot, two-story data center building;
- Increasing the height of the data center buildings from 59 feet to 82 feet (70 feet and 87 feet with parapets);
- Replacing the refrigerant-based cooling system with an evaporative-cooling with air handlers based system that relies on roof-mounted up-blast fans to circulate air over the computer servers. Additionally, this system will use recycled water. As a result of the new system, water use will be reduced by over 90 percent from the original approved project. Relocation of the SVP electrical distribution substation from the west side of the site to the northeast corner of the site; and
- Relocation of the main access entrance to the site.

The table below compares the main attributes of the proposed MCDC to the project originally approved by the City of Santa Clara.

Table 1.3-1: Comparison of MCDC to Approved Project

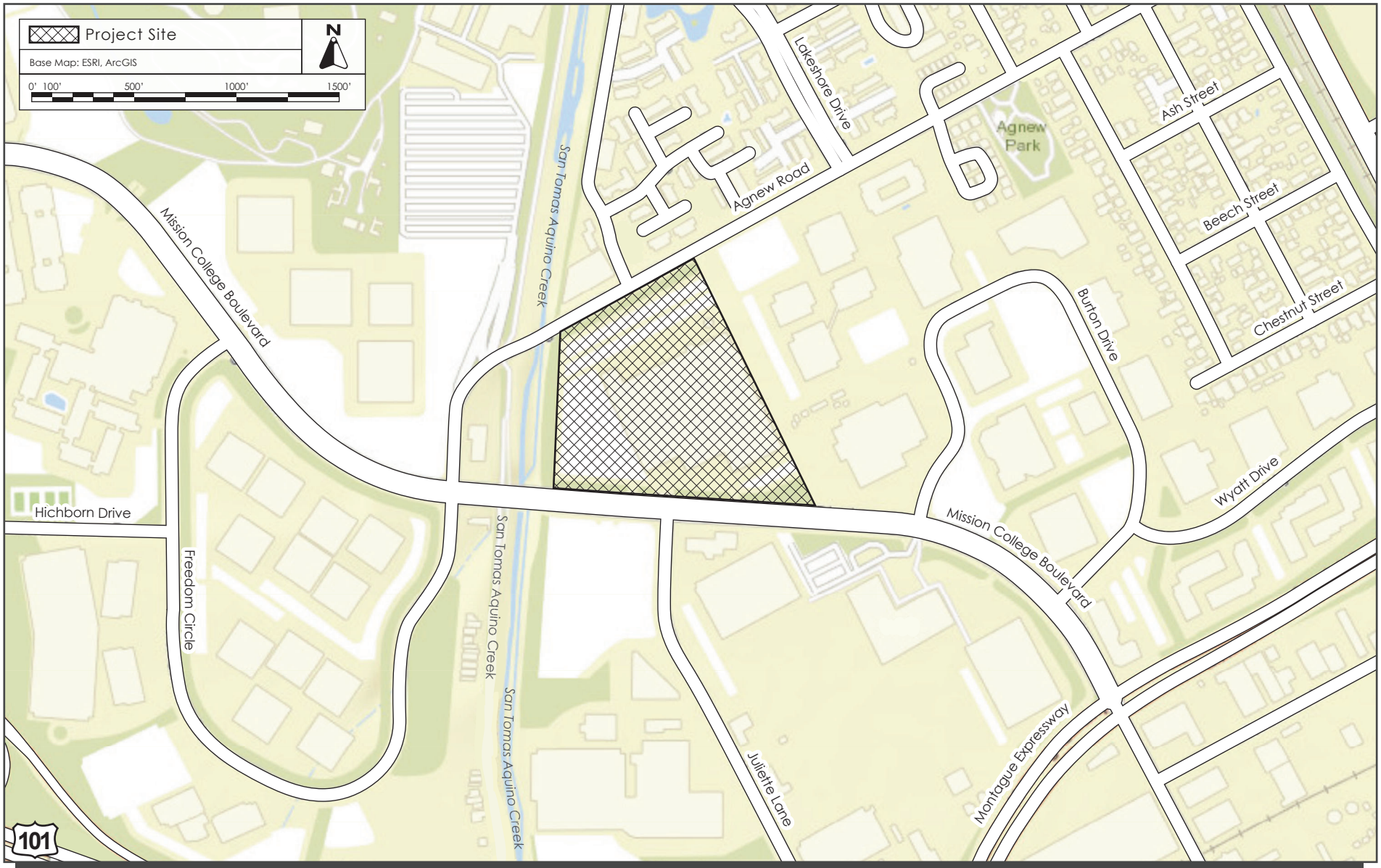
MCDC Component	Original Approved MCDC	Modified MCDC
Building Size at Full Buildout (square feet)	495,610	490,000
Overall building height (feet)	70 feet	87 feet
Impervious Surface (%)	78	56
Tree Replacement	196	273
Annual Water Usage (acre feet/year)	228.5	24.4
Stormwater Area (square feet)	21,064	16,000

To assist the Commission in providing an analysis that the City could adopt and rely upon as an Addendum, Oppidan provides a description of the MCDC highlighting the proposed modifications that will be considered by the City (see Section 2.3). In addition to the potential effects of the MCBGF, the modifications to the MCDC are considered in the environmental analyses of Section 4.0.



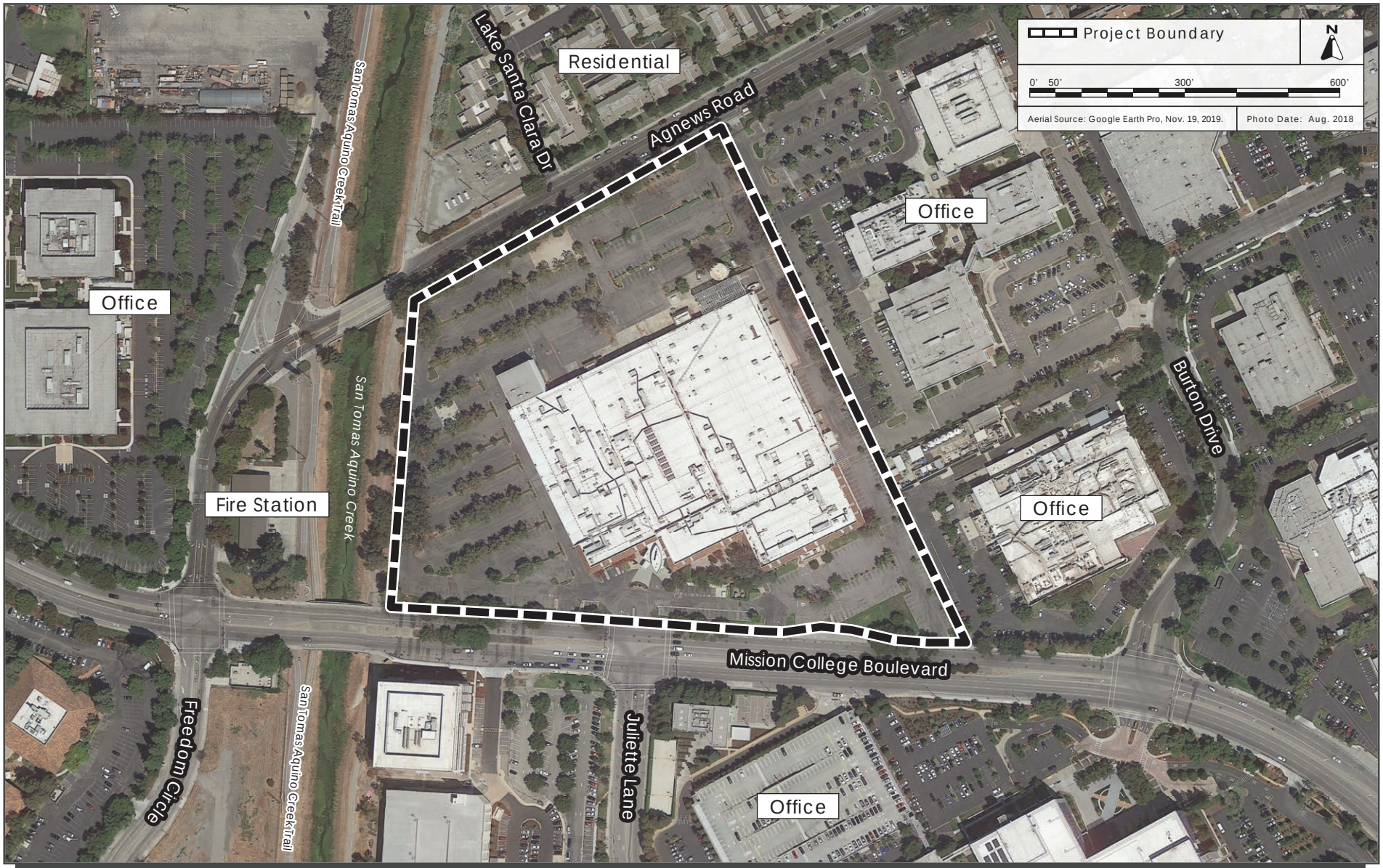
REGIONAL MAP

FIGURE 1-1



VICINITY MAP

FIGURE 1-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 1-3

SECTION 2.0 PROJECT DESCRIPTION

2.1 OVERVIEW OF PROPOSED GENERATING FACILITIES

The MCBGF will be a backup generating facility with a generation capacity of up to 78.1 MW to support the need for the MCDC to provide uninterruptible power supply for its tenant's servers. The MCBGF will consist of 43, 2.5 MW diesel-fired emergency backup generators, arranged in two generation yards, each designed to serve one of the two data center buildings that make up the MCDC. Project elements will also include switchgear and distribution cabling to interconnect the two generation yards to their respective buildings. In addition, the MCBGF will include two house power diesel fired generators, each capable of generating 600 kW to support its respective building phase in an emergency.

2.2 GENERATING FACILITY DESCRIPTION, CONSTRUCTION AND OPERATION

2.2.1 Site Description

The MCDC site is located at 2305 Mission College Boulevard within the City of Santa Clara, APN 104-13-096. The site is currently developed with a two-story, 358,000 sf office/R&D building, and an associated employee parking lot. The building facades are primarily stucco with regularly spaced reflective glass windows. Oppidan has applied for, and expects to receive, a demolition permit from the City in December 2019. The building is scheduled for demolition to begin in January 2019. The main entrance to the building is located on the southern side of the structure facing Mission College Boulevard and is composed primarily of large, reflective windows. Trees and ornamental landscaping are located throughout the parking lot in landscaped islands and along the property boundaries.

The site is within a fully developed area in Santa Clara. The topography is flat and views of the eastern foothills from public viewpoints are partially blocked by existing industrial and commercial structures in the area (refer to Figures 1-1 through 1-3).

The MCDC site is located west of Montague Expressway, north of Mission College Boulevard, and south of Agnew Road. With the exception of a multifamily residential development north of the site on Agnew Road, the area consists primarily of light industrial office and R&D uses. Buildings in the area are similar in height and scale to the existing building on the site. The Norman Y. Mineta San José International Airport is located approximately 4.6 miles southeast and the site is bordered by San Tomas Aquino Creek to the west.

There are approximately 256 trees located on the site that are primarily non-native species in varying sizes and levels of health.

2.2.2 General Site Arrangement and Layout

The backup generators will be located at the site in generation yards at two separate locations within the MCDC. Each generation yard will be adjacent to the building it serves. Figure 2-1 shows the general arrangement and site layout of the MCBGF within the MCDC site. Twenty three (23) of the emergency backup generators will be dedicated to support the MCDC eastern building, which is

designated as Phase I. Twenty (20) of the emergency backup generators will be dedicated to support MCDC western building, which is designated as Phase II. Additionally, each generator yard will also include one house power generator as shown on Figure 2-1.

As shown in Figure 2-1, some of the generators will be supported in a stacked configuration for Phase I and all of the generators will be stacked for Phase II. The top-level generators will each have a day tank capable of storing 500 gallons of diesel fuel, which is fed from the lower level belly fuel tank, with a diesel storage capacity of 10,000 gallons. Generators not in a stacked configuration will have a belly fuel tank with a storage capacity of 5,000 gallons. Each of the two house power generators will be located within the generation yard supporting its respective building and will have a belly fuel tank with a storage capacity of 1,000 gallons.

Each generation yard will be electrically interconnected to the building it serves through combination of above ground cable bus to a location within the building that houses electrical distribution equipment.

2.2.3 Generating Capacity

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

1. The MCBGF uses internal combustion engines and not turbines.
2. The MCBGF internal combustion engines have a peak rating and a continuous rating.
3. The MCBGF is controlled exclusively by the MCDC through software technology and electronic devices.
4. The MCBGF has been designed to deliver up to 78.1MW during an emergency on the hottest design day; 42 MW for Phase I and 36.1 MW for Phase II.
5. Each Phase includes two completely redundant generators.
6. The MCBGF will include a total of two, 600 kW house and life safety emergency generator; each serving its respective building.
7. The MCBGF will only be operated for maintenance, testing and during emergency utility power outages.
8. The MCBGF will only operate at a load equal to the demand by the MCDC during an emergency utility outage.
9. The MCBGF is not interconnected to the transmission grid.

Based on the methodology adopted by the Commission's Final Decision Granting a SPPE for the McLaren Backup Generating Facility, the maximum generating capacity of the MCBGF is determined by the maximum of capacity of the load being served. The maximum capacity of the load being served is the maximum demand of the MCDC at total Critical IT on its design day. In addition to using the maximum data center demand, Oppidan offers the following methodologies that would be reasonable, not arbitrary and capricious, and would take into account the unique features of a backup generating facility such as the MCBGF.

2.2.3.1 *Data Center Load Demand*

The preferred and most accurate way to calculate the generating capacity of the MCBGF is to recognize that the load of the backup generators is completely dictated by the demand of the data center. Using this methodology reflects the most accurate way of describing the relationship between the MCBGF and the MCDC and describes the actual physical constraint to the generating capacity. In other words, the MCDC employs physical electronic devices and software technology (Automatic Throw-over main breakers, Building Load Management System) that limits the output of the MCBGF.

The MCDC will include load management software and electronic equipment that will automatically adjust the output of the MCBGF based only on the demand of the MCDC. The demand of the data center is not some ethereal concept derived for purposes of determining generating capacity, but is instead a physical constraint that is not controlled by Oppidan, but rather controlled through software and electronic control devices that match the output of the MCBGF during a power outage where SVP cannot serve the MCDC load. The fact that the MCBGF is not electrically connected to anything other than the data center creates this unique factual circumstance.

This unique situation must be distinguished from the case of a conventional power facility that is interconnected to the transmission grid and responds to calls from the California Independent System Operator (CaISO). In the case of a conventional power facility, the CaISO, can call on any portion of the generator's capacity, including its maximum generating capacity, as the CaISO can direct the electricity to different parts of the system. For the MCBGF there is only one place the electricity can go – the MCDC. Therefore, the most accurate way of calculating generating capacity from a backup generating facility that solely supports a data center is to understand the potential load of the receiving data center.

It is also important to note that the design demand of the MCDC, which the MCBGF has been designed to reliably supply with redundant components during an emergency, is based on the maximum critical IT load occurring during the hottest ASHRAE design day temperature for this facility. Such conditions are possible but extremely unlikely to ever occur. As described in more detail below, the MCDC load for both Phases on that worst case day is 78.1XX MW, well below the SPPE threshold.

MCDC Phase I Building will have 3 large data hall server rooms designed to provide 12.6 MW of Critical IT, for a total Critical IT load of 37.8 MW. The total Non-IT building load for Phase I for the hottest design day is 4.2 MW. Therefore, the maximum MCDC Phase I building load is 37.8 MW Critical IT + 4.2 MW of Total Non-IT Building Load, or 42 MW.

The MCDC Phase II Building is slightly smaller than the Phase I Build, and will also have three large data hall server rooms. However, for Phase II, each data hall server room is designed to provide 10.8 MW of Critical IT, for a total Critical IT load of 32.4 MW. The total Non-IT building load for Phase II for the hottest design day is 3.7 MW. Therefore the maximum MCDC Phase II building load is 32.4 MW Critical IT + 3.7 MW of Total Non-IT building load, or 36.1 MW.

Therefore the maximum electrical demand of the MCDC at full buildout of both phases would be 42 MW (Phase I) + 36.1 MW (Phase II) = 78.1 MW.

It is important to note that the average ambient temperature conditions for a data center in the Santa Clara area are much lower than the hottest design day. The average total Non-IT building load is expected to be approximately 2.9 MW for Phase I and 2.5 MW for Phase II, for an average MCDC electrical demand of the MCDC at full buildout of both phases of 75.6 MW.

The data center industry utilizes a factor called as 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 by the Critical IT load. For the worst case day the peak PUE for the MCDC at full buildout of both buildings would be 1.11 (Total 78.1 MW total electrical demand on Worst Case Day divided by 70.2 MW Total Critical IT Load). The average PUE for the MCDC at full buildout of both buildings would be 1.08 (Total 75.6 MW demand of Building average conditions divided by 70.2 MW Expected Critical IT Load).

2.2.3.2 *Capacity Less Redundant Generation*

The MCBGF has been designed with each Phase including 2 redundant generators. This makes 4 generators completely redundant.

Redundant generation should not be counted as part of a facility's generating capacity because by definition it will only replace the primary generation. Therefore, the Commission could calculate the generating capacity of the MCBGF by looking at the nameplate rating of each generator and discount the generating capacity of all of redundant generators to arrive at the generating capacity of the MCBGF. This calculation would be as follows:

43 Generators – (4) Redundant Generators = 39 Generators

39 Generators x 2.5 MW (Nameplate Rating) = 97.5 MW

2 House Power Generators x 600 kW (Nameplate Rating) = 1.2 MW

97.5 MW + 1.2 MW = 98.7 MW Facility Generating Capacity

2.2.3.3 *Regulatory Capacity Restriction*

The Commission should also consider that Oppidan is currently in negotiations with Silicon Valley Power (SVP) to supply electricity to the MCDC. SVP has provided a will-serve letter that confirms its commitment to provide up to 99 MW of electrical power to the MCDC. Oppidan requested SVP determine if it could deliver up to 99 MW in the early stages of the development and prior to completing the building design. The Substation Agreement with SVP will contractually cap the amount of electricity delivered to the MCDC to less than 99 MW to reflect the current design of 78.1 MW. Notwithstanding the building design's maximum electrical demand, the Commission could also rely on the will serve letter that SVP will not deliver more than 99 MW to the site. If SVP limits the delivery of less than 99 MW to the site, the MCBGF, which would replace that electricity during an emergency when SVP is unable to deliver, would never produce electricity in excess of 99 MW.

2.2.4 Backup Electrical System Design

2.2.4.1 *Overview*

To place the role of the MCBGF into context, the following information about the overall MCDC design is provided. The design objective of the backup electrical system is to provide sufficient equipment and redundancy to ensure that the servers housed in the MCDC buildings will never be without electricity to support critical loads. The critical loads include the load to support the building operation in addition to the electricity consumed by the servers themselves. The largest of these building loads is to provide cooling for the server rooms.

For backup supply for a Data Center, it is commonplace to build levels of systems and equipment redundancy and concurrent maintainability into the overall electrical and mechanical infrastructure. The base quantity of systems that are required to serve the design load of the facility is referred to as "N". When reliability requirements dictate that redundant systems are added to the base quantity of systems, it is commonplace in the industry to refer to the number of redundant systems as "X" in the representation "N+X".

Each electrical system will consist of an Uninterruptible Power Supply (UPS) system that will be supported by batteries and a means for automatic switching between UPS and normal power. The UPS system that will be deployed at the MCDC to provide backup to the IT loads will consist of two power shelves within each individual rack. Each rack power shelf will consist of 6 N+1 3kW automatic transfer switching power supply units (ATSPSUs) and lithium ion battery backup units (BBUs). The BBUs are designed to deliver 15kW of power.

The UPS systems provided for all non-IT loads will consist of 200kW rated UPS systems provided with the house power service for emergency backup to the fire suppression system and electrical and mechanical controls in office spaces, and 20kW rated UPS systems provided with each electrical lineup for emergency backup to the electrical and mechanical controls for IT, electrical, and mechanical rooms. For each 600kW house power generators, one of these 200kW UPS systems is provided.

The option to remove the UPS systems from the racks and instead implement a centralized UPS system is accounted for at this site. In the event that this option is used, the UPS systems that will be deployed at the MCDC will be consist of two parallel 1000KW rated UPS units will be paralleled together to provide "N Unit" of redundant Critical Capacity of 2MW. The two UPS units will share a potential 2MW of critical load by employing load sharing capabilities inherent to the UPS design. The power inputs of the two UPS units will be electrically connected to a single Main Switch Board. This main switchboard will be connected to a dedicated 2800 KVA Utility Transformer as well as dedicated to one of the MCBGF proposed 2.5 MW backup generators. For each redundant generator, a redundant UPS system is provided, similarly connected to a Main Switch Board, Utility Transformer, and redundant generator. The 200kW and 20kW UPS systems would remain in the event that a centralized UPS system is implemented.

2.2.4.2 *UPS System and Batteries*

The UPS System and Batteries are part of the MCDC and are not part of the MCBGF. The load will be automatically transferred to the bypass line without interruption in the event of an internal UPS malfunction. The UPS will operate in the following modes:

- **Normal Conditions (Double Conversion, IGBT):** Load is supplied with power flowing from the normal power input terminals, through the rectifier-charger and inverter, with the battery connected in parallel with the rectifier-charger output.

- **Normal Conditions (Delta conversion):** The output inverter and input (Delta) converter shall operate in an on-line manner to continuously regulate power to the critical load. The input power converter and output inverter shall be capable of full battery recharge while simultaneously providing regulated power to the load for all line and load conditions within the range of the UPS specifications.

- **Abnormal Supply Conditions:** If normal supply deviates from specified and adjustable voltage, voltage waveform, or frequency limits, the battery supplies energy to maintain constant, regulated inverter power output to the load without switching or disturbance.

- **Power Failure:** If normal power fails, energy supplied by the battery through the inverter continues supply-regulated power to the load without switching or disturbance.

When power is restored at the normal supply terminals of the system, controls shall automatically synchronize the inverter with the external source before transferring the load. The rectifier-charger shall supply power to the load through the inverter and simultaneously recharge the battery.
If the battery becomes discharged and normal supply is available, the rectifier-charger shall charge the battery. The rectifier-charger shall automatically shift to float-charge mode on reaching full charge.

If any element of the UPS system fails and power is available at the normal supply terminals of the system, the static bypass transfer switch shall switch the load to the normal ac supply circuit without disturbance or interruption.

Should overloads persist past the time limitations, the automatic static transfer switch shall switch the load to the bypass output of the UPS. When the fault has cleared, the static bypass transfer switch shall return the load to the UPS system.

If the battery is disconnected, the UPS shall supply power to the load from the normal supply with no degradation of its regulation of voltage and frequency of the output bus.

2.2.4.3 *Batteries*

Similarly, the batteries and battery banks are not part of the MCBGF and are described here for informational purposes only. The batteries will likely be supplied by Deka, C&D or Enersys and will be configured in banks. The banks will be connected to the UPS units as described above. The batteries will have tab washers mounted on front terminal posts capable of accepting the wiring

components of a battery monitoring system. Batteries will have a minimum design life of 10 years in float applications at 77 degrees F. The battery containers will have a Jar/Cover made of polypropylene with a Heat Seal and 100 percent testing. The LOI rating will be UL-94 VO>28 percent.

The batteries will be configured in banks with matching standalone batteries with the following characteristics:

a. Each battery bank will provide a minimum of 4 minutes of backup at 90% full load UPS current, @ 77°F/25°C, 1.67 end volts per cell, beginning of life.

b. Internal cabinet temperature sensor to be wired back to the UPS module.

c. The batteries will be lithium-ion for the 20kW and 200kW units, and valve regulated lead acid batteries for the large 2MW centralized UPS system if implemented.

2.2.5 Electrical Generation Equipment

Each of the larger 43 generators will be a Tier-2 standby diesel fired generator equipped with diesel particulate filters (DPF). The generators will be Caterpillar Model D3516C. The maximum peak generating capacity of each model is 2.5 MW with a steady state continuous generating capacity of 1.75 MW.

The two smaller house power generators will be a Tier-2 standby diesel fired generator. The generators will be a Caterpillar Model C18 600ekW. The maximum peak generating capacity of this model is 600kW with a continuous generating capacity of 420kW.

Specification sheets for each manufacturer and evidence of the steady state continuous ratings are provided in Appendix A.

Each individual generator will be provided with its own package system. Within that package, the prime mover and alternator will be made ready for the call for immediate power. There are 3 different generator package types. The first type are single level generators. This package will integrate a dedicated belly fuel tank with a capacity of 5,000 gallons. The second type are generators that are on the ground level but have a second level above them. These generators will have a belly fuel tank with a capacity of 10,000 gallons, to be shared with the generator directly over it. The third type are the generators located on the second level. These generators will have a dedicated day tank of 500 gallons.

The generators will be configured in two generator yards. For Phase I, there will be two levels. Two thirds of the generators will be placed on a concrete slab and the last third will be on a second level directly above the ground with the generators mounted on a steel support structure. Phase II generators will be configured with half of the generators placed on a concrete slab with the other half on a second level support structure. See Figure 2-1 for Phase I and Phase II Stacking Configuration.

The generators are approximately 13 feet 6 inches wide, 51 feet 5 inches long and 12 feet 2 inches high. Each unstacked generator will have a stack height of approximately 25.1 feet. Each stacked

generator will have a stack height of approximately 38.4 feet. The 600 kW house power generators will have a stack height of approximately 15.1 feet. The stacks will exhaust vertically and will not have rain caps.

When placed on slab, the generators will be spaced approximately 7 feet apart horizontally, while the second level of generators will be mounted 30 feet above the ground. The 600kW house power generator will have a dedicated belly fuel tank of 1,000 gallons. These generators are approximately 17 feet long, 6 feet 7 inches wide, and 7 feet 6 inches tall and will not be in a stacked configuration. Each generator yard will be located adjacent to the MCDC building it serves. The generator yards will be enclosed with 8 feet high chain link fencing to separate them from the balance of the property.

Each of the 2.5MW generators for each phase will each be connected to an individual lineup consisting of a Main Switch Board, and 2MW UPS system (if implemented), where two of the generators/lineups are redundant. Each non-redundant lineup feeds a maximum of 1800kW of critical IT load. All 23 for phase I and 20 lineups are inter-connected at the Main Switch Board level, therefore should any one lineup fail, either of the two redundant lineups will have enough capacity to completely pick up the dropped load. During a utility outage, all non-redundant generators will start and be connected to their dedicated loads. If no more than 2 of the generator systems fail during the utility outage, the total maximum load of 78.1 MW will supported by the generators, and will only be running at about 80% of the full capacity of the generator.

2.2.6 Major Electrical Equipment and Systems

There will be an internal switchboard to the generator enclosure with a load disconnect breaker that is normally closed while the generator is both in and out of operation. From that load disconnect, 600V rated cable bus, rated for the full ampacity output rating of the generator, will traverse from the generator into the data center facility terminating on a dedicated main generator input breaker in the main switchgear. This breaker is an electrically operated breaker that is normally open when the generator is not in operation, and the main switchboard has not requested generator power. This generator main breaker is electrically interlocked with an adjacent utility transformer main breaker, such that the generator main breaker can never close unless the utility transformer main breaker is in the open state. The generator main breaker will only close based upon a generator start signal from a Programmable Logic Controller (PLC) control logic that indicates that the utility transformer main breaker's source power is unavailable, as well as the generator has started, and is producing 480VAC power, and the utility transformer main breaker is in the open state. Once the generator main breaker is closed, the power created from the individual generator is then transmitted to the dedicated load of the system. This load is the exact same load that the dedicated utility transformer was supplying power to prior to the utility interruption. Power from this individual generator cannot be transferred to any other load or system or anywhere outside the MCDC.

2.2.7 Fuel System

The backup generators will use ultra-low sulfur diesel as fuel (< 15 parts per million sulfur by weight). Each generator package will include an integrated fuel tank with a capacity of 5,000, 10,000, or 500 gallons depending on configuration, which is sufficient for operating at steady state continuous load for at least 24 hours.

2.2.8 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 MCBGF.

2.2.9 Water Supply and Use

The MCBGF will not require any consumption of water.

2.2.10 Waste Management

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

2.2.11 Hazardous Materials Management

The MCBGF 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 doublewalls. The interstitial space between the walls of each tanks is continuously monitored electronically for the existence of liquids. This monitoring system is electronically linked to an audible and visual alarm system that alerts personnel if a leak is detected. Additionally, the standby generator units and integrated tank 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. The tanker truck parks at the gated entrances to the generator yard for re-fueling.

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, drains will be 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 available at the offices.

2.2.12 MCBGF Project Construction

Construction of the MCBGF will take place in two phases. Each phase represents a generation yard which will be constructed to serve each of the two MCDC Buildings. Since the site preparation activities for the MCDC will include the ground preparation and grading of the entire MCDC site, the only construction activities associated with the MCBGF would involve construction within each

generation yard. This will include construction of concrete slabs, fencing, above ground cable bus to install the electrical cabling to interconnect to the MCDC Building switchgear, construction of the racking system to support the second level of generators, 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 each generation yard and placement of the generators is expected to take six months and will be within the overall construction schedule identified in Section 2.3.2.3. Construction personnel are estimated to range from 10 to 15 workers per generation yard including one crane operator are this estimate is included in the estimate provided in Section 2.3.2.3.

2.2.13 MCBGF 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). However, it is Oppidan's experience that maintenance and testing of each engine rarely exceeds 12 hours annually. In addition Oppidan proposes to limit operation to one engine at a time for routine testing activities, which will be conducted in accordance with manufacturer's recommendations. Please see Section 4.3 Air Quality and Appendix A for a complete description of the testing and maintenance frequencies and loading proposed for the MCBGF.

2.3 MISSION COLLEGE DATA CENTER FACILITIES DESCRIPTION

2.3.1 Overview

As described in Section 1.2 and 1.3 of this application, the MCDC is not part of this SPPE. However, as discussed with Commission Staff in our pre-filing meeting we are providing the following complete description of the MCDC, beginning with the modifications to the previously approved configuration. This will allow the Commission to focus on evaluation of the potential effects of the modifications to support the City's final authorization. The MCDC modifications include:

- Construction of two, three-story data center buildings encompassing a total square footage of 490,000 instead of one 495,610 square foot, two-story data center building;
- Increasing the height of the data center buildings from 59 feet to 82 feet (70 feet and 87 feet with parapets);
- Replacing the refrigerant-based cooling system with an evaporative-cooling with air handlers based system that relies on roof-mounted up-blast fans to circulate air over the computer servers. Additionally, this system will use recycled water. As a result of the new system, water use will be reduced by over 90 percent from the original approved project. Relocation of the SVP electrical distribution substation from the west side of the site to the northeast corner of the site;
- Relocation of the SVP electrical distribution substation from the west side of the site to the northeast corner of the site; and
- Relocation of the main access entrance to the site.

The table below compares the main attributes of the proposed MCDC to the project originally approved by the City of Santa Clara.

Table 2.3-1: Comparison of MCDC to Approved Project		
MCDC Component	**Original Approved MCDC**	**Modified MCDC**
Building Size at Full Buildout (square feet)	495,610	490,000
Overall building height (feet)	70 feet	87 feet
Impervious Surface (%)	78	56
Tree Replacement	196	273
Annual Water Usage (acre feet/year)	228.5	24.4
Stormwater Area (square feet)	21,064	16,000

2.3.2 Complete Description of the MCDC

The 15.7-acre project site, located at 2305 Mission College Boulevard, is currently developed with a two-story 358,000 square foot (sf) office/R&D building and a paved parking lot. The project proposes to demolish the existing improvements on the site to construct two data center buildings encompassing a total of 490,000 square feet. Phase I will be a three-story 279,840 sf data center building to be constructed on the eastern portion of the site immediately upon securing the building permits from the City of Santa Clara. Phase II will be a three-story 210,160 sf building to be constructed on the western portion of the site in the future after construction of a new substation in the northeast corner of the site is completed. The data center buildings would house computer servers for private clients in a secure and environmentally controlled structure, and would be designed to provide a total of 70.2 megawatts (MW) of information technology (IT) power. Office space and employee amenities would be located on the southern side of each floor. Mechanical equipment for building cooling would be housed inside the building on the eastern side and exhaust baffles for exiting hot-air would be located on the roof.

The entire perimeter of the site would be enclosed by either screening walls or an eight-foot high metal palisade security fence. The generator yard will be screened by 30-foot high concrete walls with architectural accents to coordinate with the building design.

The project would also construct a new 99 megavolt amps (MVA) electrical substation in the northeastern portion of the site, adjacent to the San Tomas Aquino Creek corridor and Agnew Road. The three-bay substation will include three 45 MVA 60 kV-34.5kV step-down transformers in a 2 +1 configuration. Only two transformers will run at a given time with the third transformer in reserve. The substation will have an all-weather asphalt surface underlain by an aggregate base. The substation will be surrounded by SVP's standard 12-foot high (nominal) concrete block wall. The substation would connect to existing 60 kV overhead lines located on Agnew Road. Electrical power from the substation would be distributed to the data center through 12kV underground distribution lines. The substation will be constructed after completion of the Phase I building. Interim electrical service for the Phase I building is discussed in Section 2.3.2.9.

2.3.2.1 *Building Heights and Setbacks*

The data center buildings would be approximately 82 feet in height, with parapets extending to a height of 87. A "dog-house" structure will be on the roof in order to screen the large up-blast duct work and associated exhaust fans. The Phase I building will be located on the eastern portion of the site and will be set back approximately 312 feet from the northern property line on Agnew Road, approximately 117 feet from the southern property line on Mission College Boulevard, and approximately 50 feet from the eastern property line with the adjacent development. The Phase II Building will be located in the western portion of the site and will be set back approximately 99 feet from the northern property line on Agnew Road, approximately 205 feet from the southern property line on Mission College Boulevard, and approximately 111 feet from the property line adjacent to San Tomas Creek.

2.3.2.2 *Site Access and Parking*

Access to the site would be provided by the existing, western-most, right-in and right-out driveway on Mission College Boulevard. Two existing driveway entrances off Mission College Boulevard will be closed. A secondary driveway entrance for emergency access would be constructed on Agnew Road in the western portion of the site and would be approximately 30 feet in width. The project would provide approximately 144 parking spaces located throughout the site.

2.3.2.3 *Site Grading, Excavation, and Construction*

The existing improvements on the site would be demolished to allow for construction of the project. For Phase I, demolition and construction activities would last approximately 14.5 months. Roughly 21,000 cubic yards of fill would be imported to the site to raise the base elevation by approximately three feet. Phase II will require 13,000 cubic yards of fill and this work will be completed in Phase II. Phase II construction is estimated to be completed in approximately 10.5 months.

Excavation for utilities would extend to depths of up to 12 feet below the new base elevation. The site would be graded to direct stormwater flows towards biotreatment areas located along the northern and southern boundaries of the site.

While a contractor has not yet been selected for demolition and construction activities, the average construction workforce is estimated to be 52 with a peak estimated to be 100 for each phase. Since the MCDC will be constructed in phases, laydown areas are anticipated to be on-site.

2.3.2.4 *Landscaping*

The project proposes to remove approximately 234 existing trees on-site and plant 273 replacement trees. New landscaping consisting of trees, shrubs, and groundcover would be installed parallel to the main driveway aisle entrance on Mission College Boulevard, around the perimeter of the building, and along the property boundaries. Recycled water from the City of Santa Clara water utility would be utilized for building cooling via the evaporative cooling system and for landscape irrigation.

2.3.2.5 *Stormwater Controls*

The project proposes to construct seven stormwater treatment areas totaling approximately 16,000 sf. The site would be graded to direct stormwater into biotreatment areas via curb slots adjacent to the treatment areas. All treatment areas would drain into the public storm drain line in Agnew Road.

2.3.2.6 *Building Cooling System*

The cooling system will consist of multiple direct evaporative air handling units that utilize outside air and no water consumption when temperatures allow. During periods of high outside air temperature, water is applied to reduce ambient room temperatures.

2.3.2.7 *Site Water Supply and Use*

Site Demolition, Grading and Construction. Demolition, grading and construction of the MDCD including the MCBGF is estimated to utilize 1.84 acre feet of water over the 12 month construction period for Phase I and 0.61 acre-feet of water for Phase II for the Phase II construction period of 10 months.

MCDC Operation. The MCDC will require water when outside air temperatures exceed 80F. The data center will be designed to use recycled water when supply is available and provided by the City of Santa Clara, and a potable water connection will be provided as a back-up source to the recycled water system. Total water use at full buildout of the MCDC will be approximately 24.4 AFY. The potable portion for Phase I office use is estimated to be 1.4 AFY and for Phase II is estimated to be approximately 0.80 AFY.

2.3.2.8 *Electric Easements*

The project would require 10-foot underground electric easements along the northern and southern boundaries of the site, adjacent to Agnew Road and Mission College Boulevard, respectively.

2.3.2.9 *Interim Electricity Supply*

The data center may begin operating prior to completion of the proposed electrical substation. To provide electricity to the data center during this interim period, the project would request an interim service from SVP capable of supporting 12 MW of electrical load. The 12kV feeder will be supplied from the existing Agnew substation and travel through underground conduit to the site.

Where possible the feeders will reuse existing utility substructures (e.g. vaults, pull boxes, and conduit). The feeders will pass under Agnew and terminate at the MCDC property. The path under Agnew will be created by boring equipment that will be employed outside of the roadway.

Once on the MCDC property, the feeder would continue underground to the Medium Voltage switchgear and transformers located in the northern portion of the site. The primary environmental impact will be boring to facilitate the underground feeder and digging to set vaults for utility MV equipment, pulling cables, and splicing cables together. The bridge power condition is equivalent to that approved for the previously approved data center. Detail regarding any environmental impacts resulting from the extension of the underground electrical line are included in the analysis in the City's IS/MND.

2.4 MITIGATION INCORPORATED INTO PROJECT DESIGN

2.4.1 Air Quality

PD AIR-1: The project will implement the following measures identified in the 2018 MND during construction.

Basic Measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Applicable Enhanced Control Measures:

- All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
- Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) Site accesses to a distance of 100 feet from public paved roads shall be treated with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel and (2) washing truck tires and construction equipment of prior to leaving the site.

- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimizing the idling time of diesel-powered construction equipment to two minutes.

Exhaust Control Measures:

- The project shall develop a plan demonstrating that the off-road equipment (more than 25 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 28 percent NO_x reduction and 70 percent PM reduction compared to the CalEEMod modeled average used in this report, to meet the emission values as summarized in Table 4.3-7 above. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. The following are examples of feasible methods:
- All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 2 verifiable diesel emission control devices that altogether achieve a 85percent reduction in particulate matter exhaust; alternatively (or in combination)
- Use of diesel construction equipment that meets U.S. EPA Tier 4 interim of Tier 4 final emission standards.
- Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators.

2.4.2 Biological Resources

PD BIO-1: The project will incorporate the following measures to reduce impacts to nesting birds.

- If removal of the trees on-site would take place between January and September, a pre-construction survey for nesting raptors will be conducted by a qualified ornithologist to identify active nesting raptor nests that may be disturbed during project implementation. Between January and April (inclusive) pre-construction surveys will be conducted no more than 14 days prior to the initiation of construction activities or tree relocation or removal. Between May and August (inclusive), pre-construction surveys will be conducted no more than thirty (30) days prior to the initiation of these activities. The surveying ornithologist shall inspect all trees in and immediately adjacent to the construction area to be disturbed by these activities, and the ornithologist shall, in consultation with the State of California, Department of Fish and Wildlife (CDFW), designate a construction-free buffer zone (typically 250 feet) around the nest until the end of the nesting activity.

- The applicant shall submit a report indicating the result of the survey and any designated buffer zones to the satisfaction of the Director of Planning and Inspection prior to the issuance of a tree removal permit by the City Arborist.

PD BIO-2: The project will incorporate the following measures to reduce impacts to existing trees to be preserved.

- 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.

- 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.

- 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.

- 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.

- 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.

2.4.3 Cultural Resources

PD CUL-1: The following project-specific measures would be implemented during construction to avoid significant impacts to unknown subsurface cultural resources:

- A Secretary of the Interior-qualified archaeologist and a Native American cultural resources monitor shall be on site to monitor grading of native soil once all pavement is removed from the project site. The project applicant shall submit the name and qualifications of the selected archaeologist and Native American Monitor to the Director of Community Development prior to the issuance of a grading permit. Preference in selecting Native American monitors shall be given to Native Americans with:

    - Traditional ties to the area being monitored.
    - Knowledge of local historic and prehistoric Native American village sites.
    - Knowledge and understanding of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.
    - Ability to effectively communicate the requirements of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.

- Ability to work with law enforcement officials and the Native American Heritage Commission to ensure the return of all associated grave goods taken from a Native American grave during excavation.
- Ability to travel to project sites within traditional tribal territory.
- Knowledge and understanding of Title 14, California Code of Regulations, Section 15064.5.
- Ability to advocate for the preservation in place of Native American cultural features through knowledge and understanding CEQA mitigation provisions.
- Ability to read a topographical map and be able to locate site and reburial locations for future inclusions in the Native American Heritage Commission's Sacred Lands Inventory.
- Knowledge and understanding of archaeological practices, including the phases of archaeological investigation.

After removal of pavement and prior to grading, the archaeologist shall conduct a pedestrian survey over the exposed soils to determine if any surface archaeological manifestations are present.

- After demolition of the existing building and paved parking lot on the site, a qualified archaeologist shall complete mechanical presence/absence testing for archaeological deposits and cultural materials. In the event any prehistoric site indicators are discovered, additional backhoe testing will be conducted to map the aerial extent and depth below the surface of the deposits. In the event prehistoric or historic archaeological deposits are found during presence/absence testing, the significance of the find will be determined. If deemed significant, a Treatment Plan will be prepared and provided to the Director of Community Development. The key elements of a Treatment Plan shall include the following:

    - Identify scope of work and range of subsurface effects (include location map and development plan),

    - Describe the environmental setting (past and present) and the historic/prehistoric background of the parcel (potential range of what might be found),

    - Develop research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information),

    - Detail field strategy used to record, recover, or avoid the finds (photogs, drawings, written records, provenience data maps, soil profiles, excavation techniques, standard archaeological methods) and address research goals.

    - Analytical methods (radiocarbon dating, obsidian studies, bone studies, historic artifacts studies [list categories and methods], packaging methods for artifacts, etc.).

    - Report structure, including a technical and layman's report and an outline of document contents in one year of completion of development (provide a draft for review before a final report),

    - Disposition of the artifacts,

    - Appendices: site records, update site records, correspondence, consultation with Native Americans, etc.]

The archaeologist will monitor full-time all grading and ground disturbing activities in native soils associated with construction of the proposed project. If the archaeologist and Native American monitor believe that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results shall be provided to the Director of Community Development. Department of Recreation 523 forms shall be submitted along with the report for any cultural resources encountered over 50 years old.

- In the event that prehistoric or historic resources are encountered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped, the Director of Community Development shall be notified, and a Secretary of the Interior-qualified archaeologist shall examine the find and record the site, including field notes, measurements, and photography for a Department of Parks and Recreation 523 Primary Record form. The archaeologist shall make a recommendation regarding eligibility for the California Register of Historical Resources, data recovery, curation, or other appropriate mitigation. Ground disturbance within the 50-foot radius can resume once these steps are taken and the Director of Community Development has concurred with the recommendations. Within 30 days of the completion of construction or cultural resources monitoring, whichever comes first, a report of findings documenting any cultural resource finds, recommendations, data recovery efforts, and other pertinent information gleaned during cultural resources monitoring shall then be submitted to the Director of Community Development. Once finalized, this report shall be submitted to the Northwest Information Center at Sonoma State University.

- Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program training to all existing and any new employees. This training should include: a discussion of applicable laws and penalties under the laws; samples or visual aids of artifacts that could be encountered in the project vicinity, including what those artifacts may look like partially buried, or wholly buried and freshly exposed; and instructions to halt work in the vicinity of any potential cultural resources discovery, and notify the city-approved archaeologist and Native American cultural resources monitor.

PD CUL-2: The project proposes to implement the following measure to ensure the project's impacts to human remains are less than significant:

- In the event that human remains are discovered during presence/absence testing or excavation and/or grading of the site, all activity within a 50-foot radius of the find will be stopped. The Santa Clara County Coroner will be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. All actions taken under this mitigation measure shall comply with Health and Human Safety Code § 7050.5(b).

2.4.4 Geology and Soils

PD GEO-1: In order to ensure the project design conforms to the requirements of a final geotechnical engineering investigation and California and local building standards and codes, the following is proposed as mitigation incorporated into the project. Incorporation will ensure seismic hazards are reduced to less than significant levels.

- To avoid or minimize potential damage from seismic shaking, the project would be built using standard engineering and seismic safety design techniques. Building redevelopment design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which will be included in a report to the City. The report shall be reviewed and approved by the City of Santa Clara's Building Division as part of the building permit review and issuance process. The building shall meet the requirements of applicable Building and Fire Codes, including the 2016 California Building Code, as adopted or updated by the City. The project shall be designed to withstand potential geologic hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

PD GEO-2: The project proposes to implement the following measures to ensure the project's erosion impacts are less than significant:

- Because this project involves a land disturbance of more than one acre, the project is required to submit a Notice of Intent to the State Water Resources Control Board and to prepare a Storm Water Pollution Prevention Plan (SWPPP) for controlling storm water discharges associated with construction activity.

- This project will be required to prepare and submit an Erosion Control Plan with the Grading and Drainage Plan for review and approval by the Department of Public Works.

- All excavation and grading work will be scheduled in dry weather months or construction sites will be weatherized.

- Stockpiles and excavated soils will be covered with secured tarps or plastic sheeting.

- Ditches will be installed, if necessary, to divert runoff around excavations and graded areas.

2.4.5 Hazards and Hazardous Materials

PD HAZ-1: The project proposes to implement the following measures which would reduce potentially significant soil and or groundwater impacts to construction workers to a less than significant level.

- Prior to the issuance of grading permits, shallow soil samples shall be taken in areas where soil disturbance is anticipated to determine if contaminated soils with concentrations above established construction/trench worker thresholds may be present due to historical agricultural use and from historical leaks and spills. The soil sampling plan must be reviewed

and approved by the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division prior to initiation of work. Once the soil sampling analysis is complete, a report of the findings will be provided to the Director of Community Development and other applicable City staff for review.

- Documentation of the results of the soil sampling shall be submitted to and reviewed by the City of Santa Clara prior to the issuance of a grading permit. Any soil with concentrations above applicable ESLs or hazardous waste limits would be characterized, removed, and disposed of off-site at an appropriate landfill according to all state and federal requirements.

- A Site Management Plan (SMP) will be prepared to establish management practices for handling impacted groundwater and/or soil material that may be encountered during site development and soil-disturbing activities. Components of the SMP will include: a detailed discussion of the site background; a summary of the analytical results from soil sampling; preparation of a Health and Safety Plan by an industrial hygienist; protocols for conducting earthwork activities in areas where impacted soil and/or groundwater are present or suspected; worker training requirements, health and safety measures and soil handing procedures shall be described; protocols shall be prepared to characterize/profile soil suspected of being contaminated so that appropriate mitigation, disposal or reuse alternatives, if necessary, can be implemented; notification procedures if previously undiscovered significantly impacted soil or groundwater is encountered during construction; notification procedures if previously unidentified hazardous materials, hazardous waste, underground storage tanks are encountered during construction; on-site soil reuse guidelines; sampling and laboratory analyses of excess soil requiring disposal at an appropriate off-site waste disposal facility; soil stockpiling protocols; and protocols to manage groundwater that may be encountered during trenching and/or subsurface excavation activities. Prior to issuance of grading permits, a copy of the SMP must be approved by the Santa Clara County Environmental Health Department, the City's Director of Community Development, and/or the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division.

- If contaminated soils are found in concentrations above risk-based thresholds pursuant to the terms of the SMP, remedial actions and/or mitigation measures will be taken to reduce concentrations of contaminants to levels deemed appropriate by the selected regulatory oversight agency for ongoing site uses. Any contaminated soils found in concentrations above thresholds to be determined in coordination with regulatory agencies shall be either (1) managed or treated in place, if deemed appropriate by the oversight agency or (2) removed and disposed of at an appropriate disposal facility according to California Hazardous Waste Regulations and applicable local, state, and federal laws.

- Sanitary Sewer Sampling and Analysis Plan: Prior to removing or decommissioning the sanitary sewer line on-site, a Sampling and Analysis Plan shall be prepared presenting the protocols for line removal and confirmation sampling. These plans shall be submitted to the Community Development Director for review and approval prior to construction.

2.4.6 Hydrology and Water Quality

PD HYD-1: The project will incorporate the following into the design and these measures should be treated as mitigation incorporated into the project. The following will reduce construction-related water quality impacts:

- 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 required to cover all trucks or maintain at least two feet of freeboard.
- All paved access roads, parking areas, and staging areas 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 knock mud from truck tires prior to entering City streets. A tire wash system may also be employed at the request of the City.

2.4.7 Noise

PD NOI-1: The project proposes to implement the following measures to reduce temporary construction noise to less than significant levels.

- The project applicant shall prepare a construction noise control plan, which shall be submitted for review and approval by the Director of Community Development prior to issuance of demolition, grading, and building permits. This plan shall include, at a minimum, the following measures
    - Construction activities shall be limited to hours between 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted on Sundays or Holidays.
    - Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receiver and if the barrier is constructed in a manner that eliminates any cracks or gaps.

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Unnecessary idling of internal combustion engines should be strictly prohibited.

- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors.

- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

- A temporary noise control blanket barrier could be erected, if necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. Noise control blanket barriers can be rented and quickly erected.

- Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.

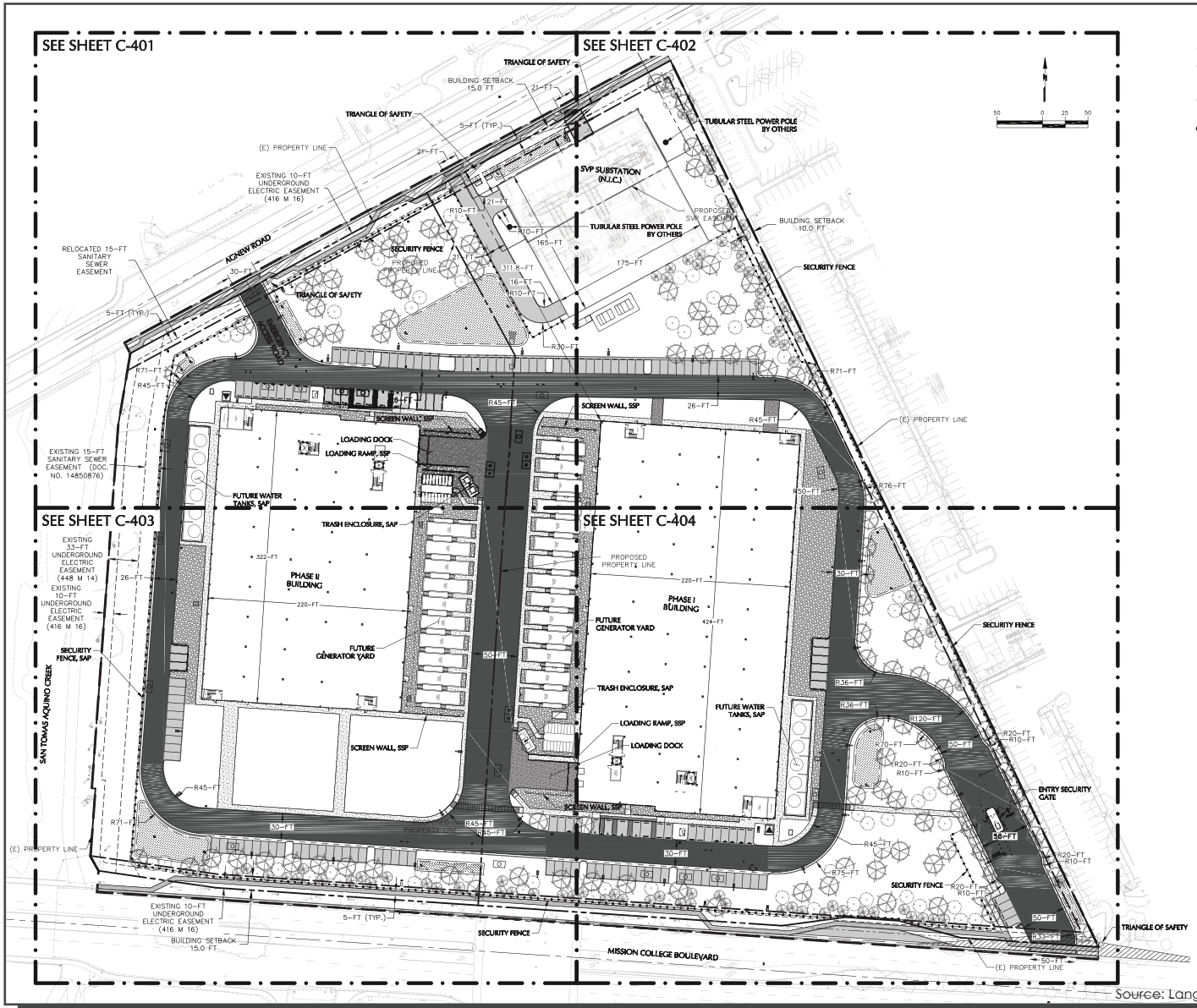
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

PD NOI-2: The project proposes to implement one of the following measures, either of which would reduce MCDC operational noise to less than significant levels.

- The project shall include a parapet or screen wall reaching a height of at least 10 feet along the western side of the Phase II building. The parapet or screen will be constructed without

any gaps or cracks and have a minimum surface weight of 3 pounds per square foot (such as 1-inch-thick wood, ½-inch laminated glass, masonry block, concrete, or metal one-inch); or

- The project shall equip the HVAC penthouse structure located on the rooftop of the Phase II building with an acoustical louver. The applicant shall submit documentation that the louver would reduce noise to acceptable levels to the satisfaction of the Director of Planning and Inspection prior to the issuance of a certificate of occupancy.



LEGEND

- (E) PROPERTY LINE
- PROPERTY LINE
- LIMIT OF WORK
- EASEMENT LINE
- SAWCUT LINE
- ASPHALT PAVING – HEAVY DUTY
- ASPHALT PAVING– LIGHT DUTY
- CONCRETE PAVING – HEAVY DUTY
- CONCRETE PAVING – PEDESTRIAN
- CONCRETE PAVING – OFF–SITE
- BIORETENTION WITH SIDE SLOPES
- TREES (SLP)
- SDMH
- SDCO

ABBREVIATIONS

(E)	EXISTING
ADA	AMERICAN WITH DISABILITIES ACT
FT	FEET
LEV	LOW EMISSION VEHICLE
N.I.C.	NOT IN CONTRACT
SAP	SEE ARCHITECTURAL PLANS
SJTP	SEE JOINT TRENCH PLANS
SLP	SEE LANDSCAPE PLANS
SSP	SEE STRUCTURAL PLANS
SVP	SILICON VALLEY POWER
(TYP.)	TYPICAL

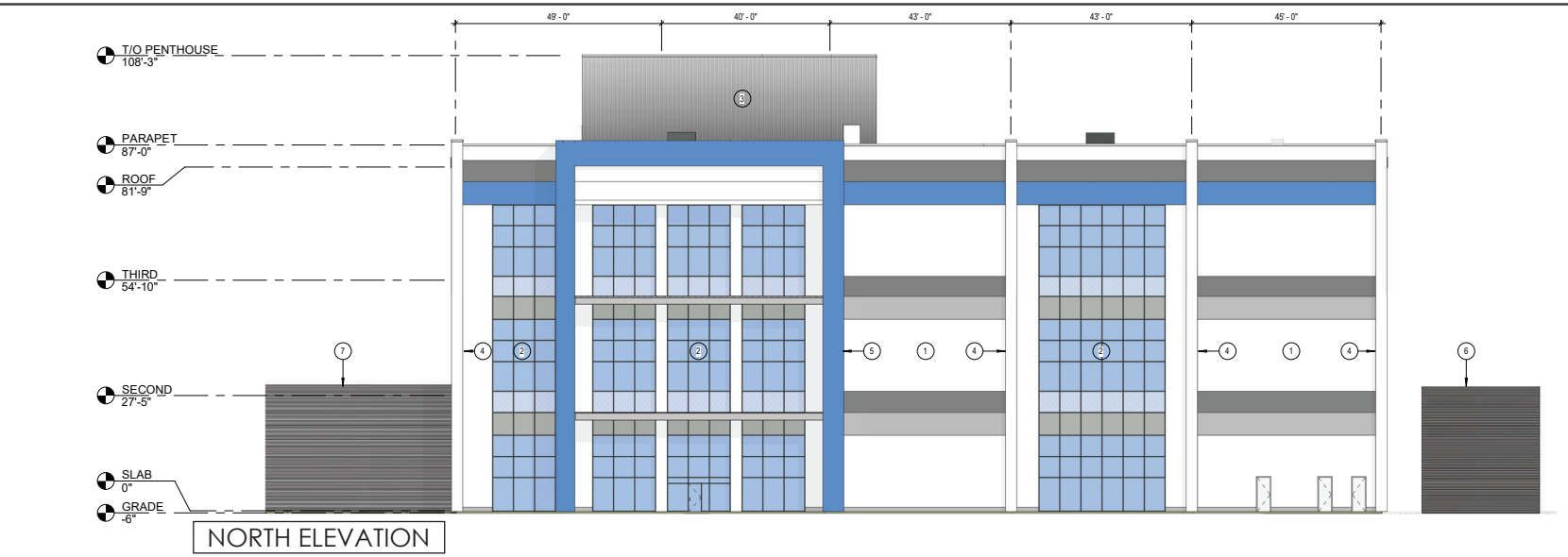
PARKING DATA

TOTAL PARKING SPACES	152
COMPACT SPACES	0
STANDARD ADA PARKING	5
VAN ADA PARKING	2
CLEAN AIR/VANPOOL/EV	14
STANDARD EV CHARGING	6
VAN ACCESSIBLE EV CHARGING	2
STANDARD ACCESSIBLE EV CHARGING	1

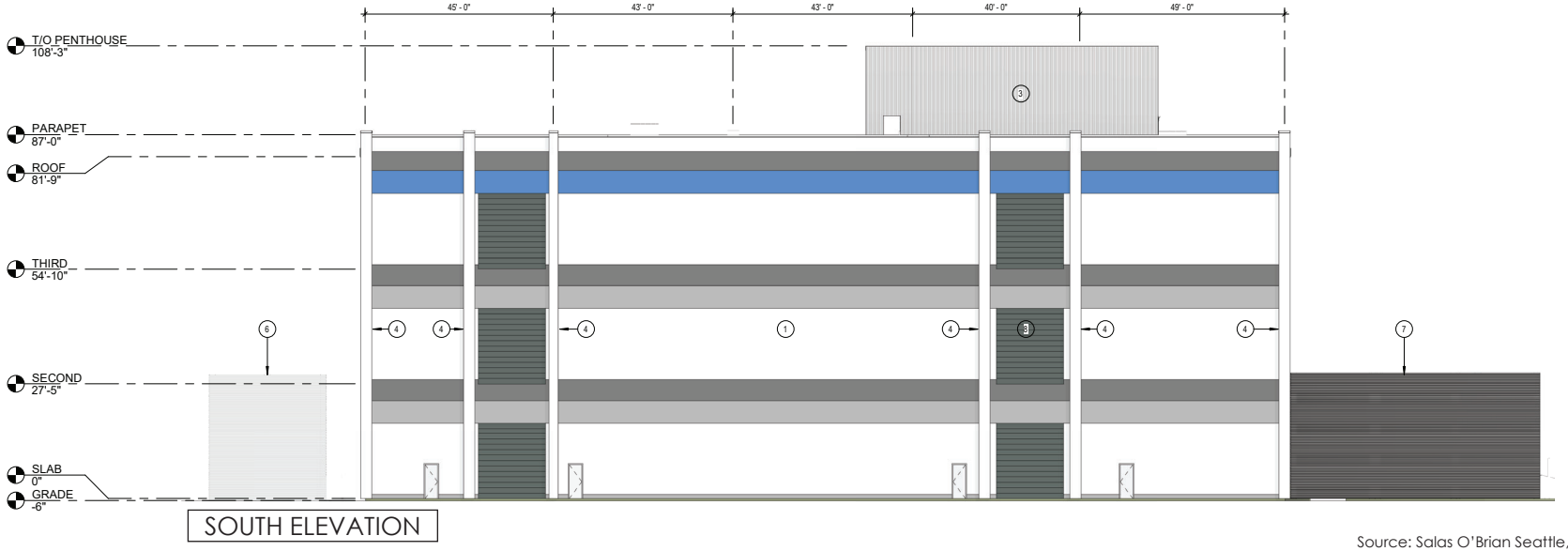
Source: Langan Engineering and Environmental Services, Inc., 11/6/2019.

SITE PLAN

FIGURE 2-1



NORTH ELEVATION

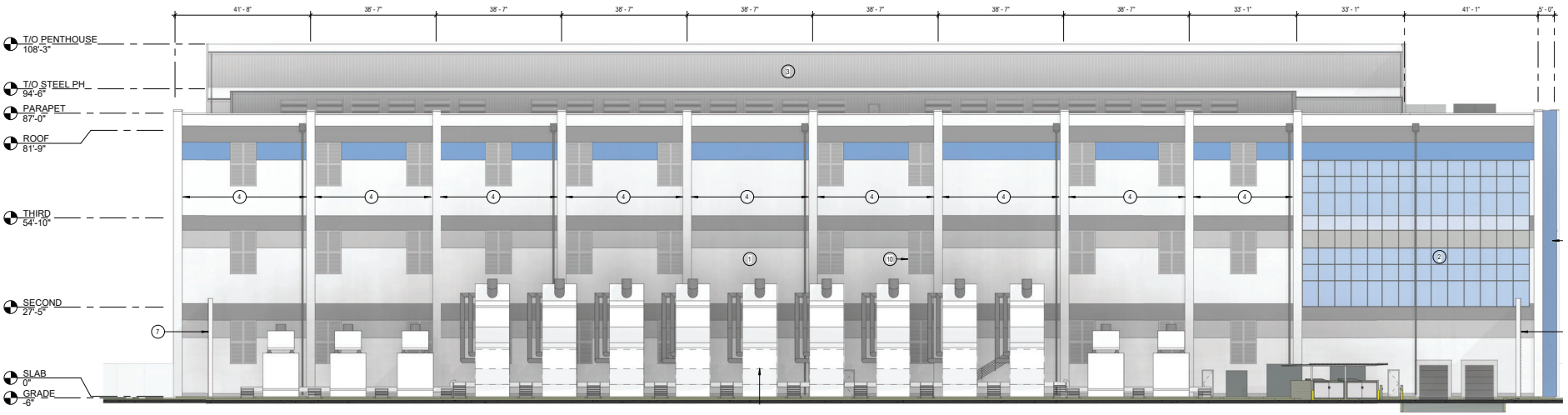


SOUTH ELEVATION

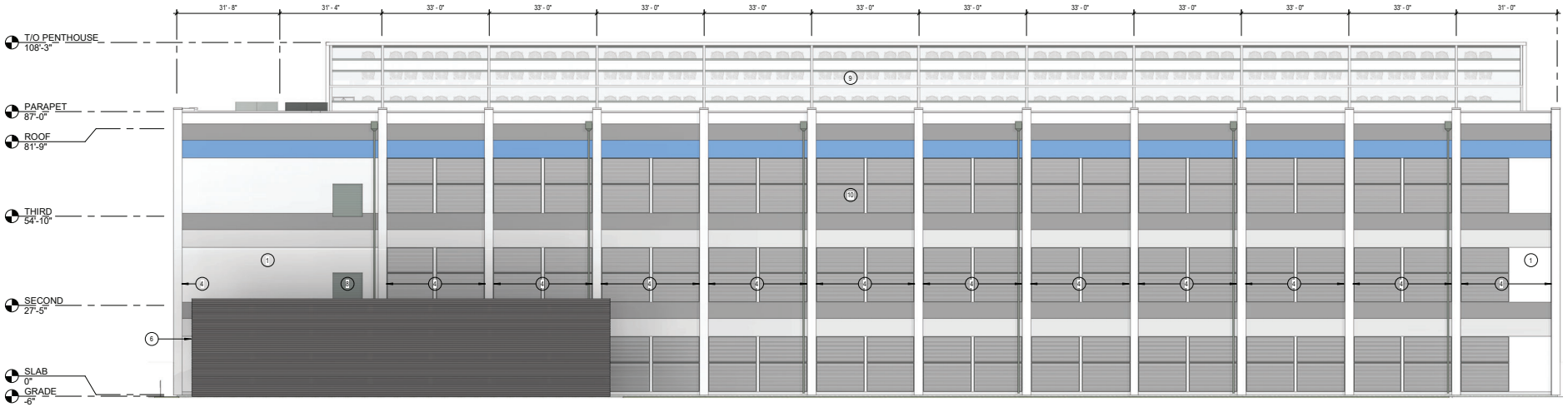
Source: Salas O'Brian Seattle, 11/6/2019.

NORTH AND SOUTH BUILDING ELEVATIONS

FIGURE 2-2



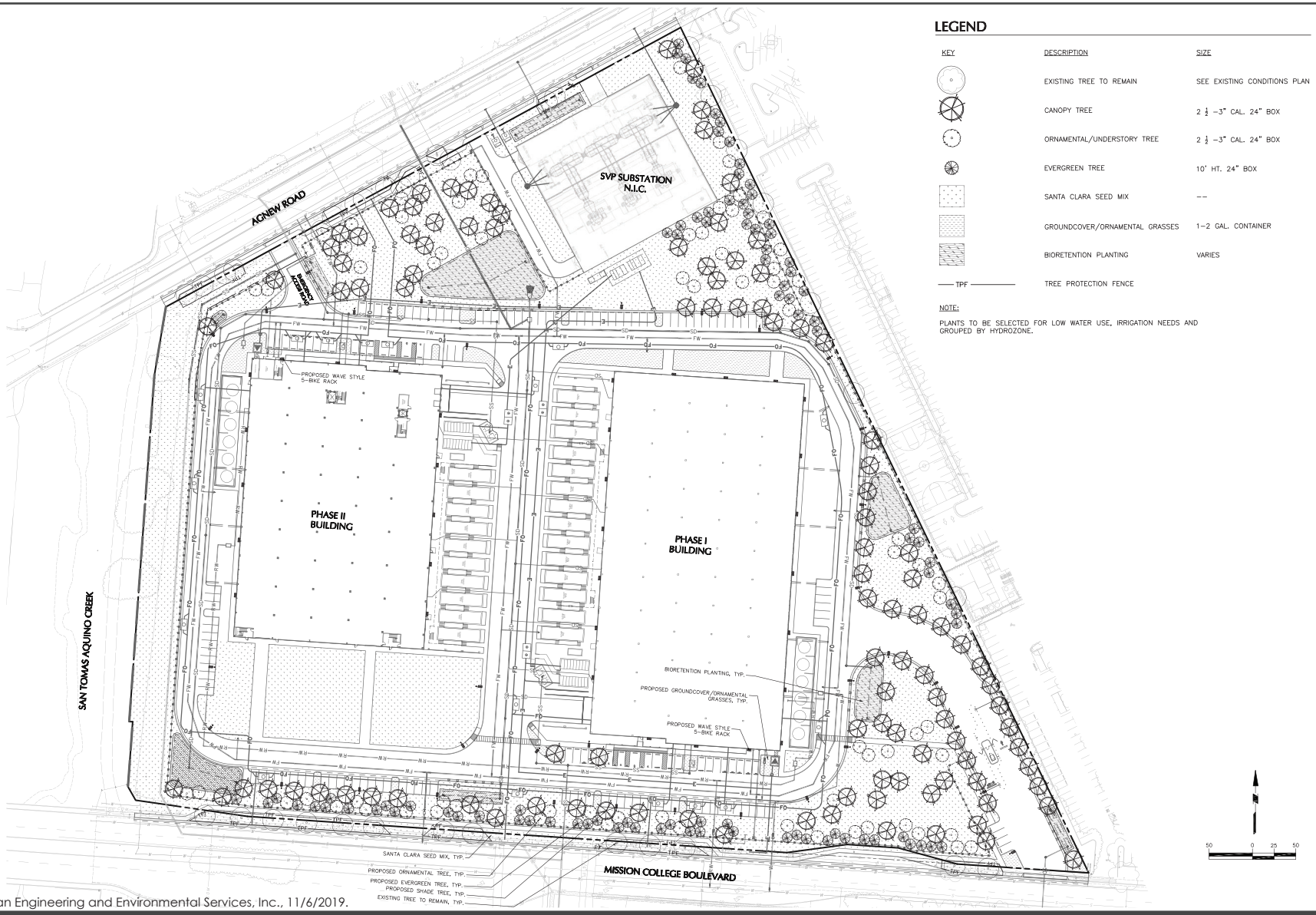
EAST ELEVATION



WEST ELEVATION

Source: Salas O'Brian Seattle, 11/6/2019.

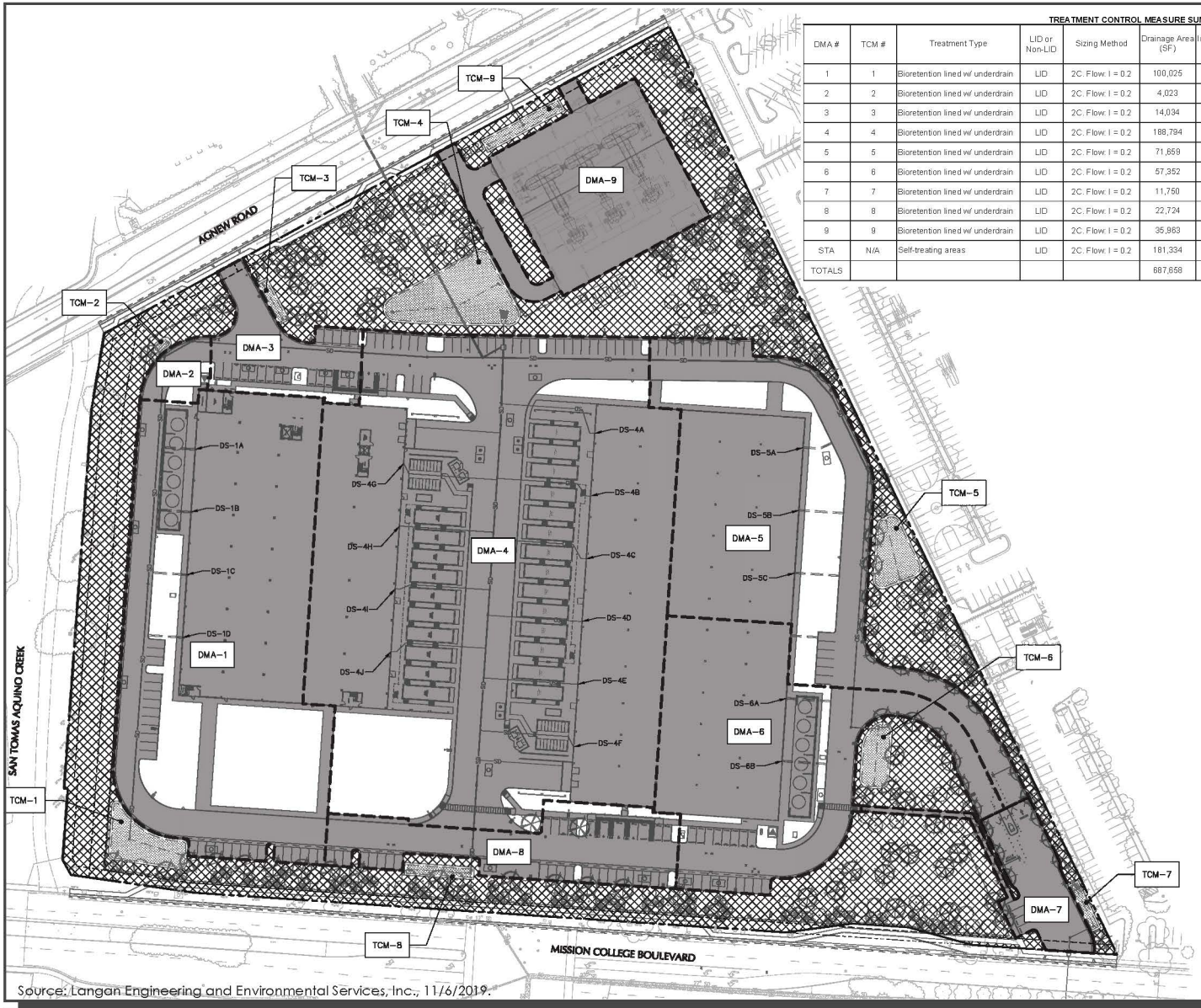
EAST AND WEST BUILDING ELEVATIONS | FIGURE 2-3



Source: Langan Engineering and Environmental Services, Inc., 11/6/2019.

LANDSCAPE PLAN

FIGURE 2-4



TREATMENT CONTROL MEASURE SUMMARY TABLE

DMA #	TCM #	Treatment Type	LID or Non-LID	Sizing Method	Drainage Area (SF)	Impervious Area (SF)	Pervious Area (SF)	Bioretention Area Provided (SF)	Depth of Ponding (in.)	Overflow Riser Height (in.)	Depth of Ponding less than Overflow Riser Height?
1	1	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	100,025	75,702	24,323	2,783	5	6	YES
2	2	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	4,023	2,706	1,317	118	3.9	6	YES
3	3	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	14,034	12,218	1,816	398	5	6	YES
4	4	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	188,794	162,241	26,553	6,742	1.6	6	YES
5	5	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	71,659	56,163	15,496	2,375	2.1	6	YES
6	6	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	57,352	52,758	4,594	1,620	5.2	6	YES
7	7	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	11,750	11,364	386	386	2.5	6	YES
8	8	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	22,724	20,234	2,490	622	5.7	6	YES
9	9	Bioretention lined w/ underdrain	LID	2C. Flow: I = 0.2	35,963	34,987	976	977	6	6	YES
STA	N/A	Self-treating areas	LID	2C. Flow: I = 0.2	181,334	0	181,334	0	N/A	N/A	N/A
TOTALS					687,658	428,373	259,285	16,021			

LEGEND

- PROPERTY LINE
- DMA BOUNDARY
- IMPERVIOUS SURFACE
- SELF TREATING AREA
- BIORETENTION WITH SIDE SLOPES

ABBREVIATIONS

DMA	DRAINAGE MANAGEMENT AREA
LID	LOW IMPACT DEVELOPMENT
SF	SQUARE FEET
I	INTENSITY
IN	INCHES
TCM	TREATMENT CONTROL MEASURE
DS	DOWNSPOUT
OS	OVERFLOW DOWNSPOUT
STA	SELF TREATING AREA

Source: Langan Engineering and Environmental Services, Inc., 11/6/2019.

STORMWATER MANAGEMENT PLAN

FIGURE 2-5

CONSTRUCTION NOTES

1. 8-INCH DOMESTIC WATER POC TO (E) CITY MAIN
2. 8-INCH DOMESTIC WATER METER AND BFP (4/C-905)
3. 2-INCH TYPE K COPPER DOMESTIC WATER BUILDING POC, SPP FOR CONTINUATION
4. 10-INCH FIRE WILKINS 475DA FIRE BFP WITH DCDA AND PIV
5. SANITARY SEWER POC TO (E) CITY MANHOLE (1/C-904)
6. 8-INCH FIRE WATER BUILDING POC, SPP FOR CONTINUATION
7. FIRE HYDRANT (3/C-905)
8. HOUSE TRANSFORMER PAD (SJTP)
9. FDC WITH 36 X 36-INCH X 4-INCH CONCRETE PAD
10. 8-INCH RECLAIMED WATER METER (1/C-905)
11. 6-INCH RECLAIMED WATER METER
12. VALVE, GATE TYPE UNLESS INDICATED OTHERWISE (5/C-905)
13. SANITARY SEWER POC TO (E) CITY MAIN (4/C-904)
14. SSMH (5/C-903)
15. SSCO (2/C-904)
16. 6-INCH SANITARY SEWER BUILDING POC (SPP FOR CONTINUATION)
17. 8-INCH SANITARY SEWER (PROCESS) BUILDING POC (SPP FOR CONTINUATION)
18. END WALL WITH RIP RAP APRON
19. SDMH (3/C-903)
20. OVERFLOW (1/C-905)
21. SDCO (9/C-905)
22. 7-FT X 13-FT FIBER OPTIC MANHOLE (SJTP)
23. FIBER OPTIC BUILDING POC (SJTP)
24. LIGHT (SLP)
25. AREA DRAIN
26. SEWER BLOW DOWN METER VAULT (5/C-907)
27. 6-INCH RECLAIMED WATER BUILDING POC (SPP FOR CONTINUATION)
28. 8-INCH RECLAIMED WATER POC TO (E) CITY MAIN
29. 5-FT X 10-FT ELECTRICAL MANHOLE (SJTP)
30. ELECTRICAL DUCTBANK (SJTP)
31. PROP. 6-6" FIBER OPTIC DUCTBANK (SJTP)
32. PROP. 12-6" FIBER OPTIC DUCTBANK (SJTP)
33. 1-1/2-INCH DOMESTIC WATER METER
34. 4-INCH PERFORATED STORM DRAIN PIPE
35. CATCH BASIN
36. 10-INCH FIRE WATER POC TO (E) CITY MAIN
37. 6-INCH BACKUP POTABLE WATER POC (SPP)
38. FUTURE WATER TANKS, SRO
39. FUTURE GENERATOR YARD, SRO (SJTP & SAP)
40. STORM DRAIN POC TO (E) CITY MAIN
41. STORM DRAIN POC TO (E) CITY MANHOLE (1/C-904)
42. 8-FT X 10-FT PRIMARY SWITCH VAULT (SJTP)
43. SVP N52 UTILITY ELECTRIC VAULT. (SJTP)
44. SUBSTATION POWER TRANSFORMER AND TRANSFORMER PAD.
45. PRIMARY METERING PAD (SJTP)
46. CURB-O-LET
47. ROOF-DRAIN (SPP FOR CONT.)
48. TRENCH DRAIN
49. SVP TRENCH (SJTP)
50. 450-GPM (MIN.) STORM DRAIN LIFT STATION
51. HIGH FLOW BYPASS
52. 6-INCH CONDUIT STUB FOR SUBSTATION (SJTP)
53. 2-FT X 3-FT SPLICE BOX (SJTP)
54. TUBULAR STEEL POWER POLE BY OTHERS, SRO
55. OVERHEAD TRANSMISSION LINE TO BE DESIGNED BY SVP, SRO
56. (E) 2-INCH RECYCLED WATER METER BOX TO REMAIN AND TO BE USED FOR ON-SITE IRRIGATION. CONTRACTOR TO REPLACE METER IF REQUIRED BY SBWR.
57. CONNECT TO (E) 2-INCH RECYCLED WATER LINE
58. 2-INCH RECYCLED WATER LINE FOR IRRIGATION, SLP FOR CONTINUATION
59. TEMPORARY 8-INCH DOMESTIC WATER CONNECTION PER SBWR STANDARDS

LEGEND

- PROPERTY LINE
- LIMIT OF PHASE 1 DEMOLITION
- PERFORATED STORM DRAIN
- STORM DRAIN PIPE
- (E) STORM DRAIN PIPE
- SDMH
- SDCO
- (E) SDMH
- OVERFLOW
- (E) CATCH BASIN
- SANITARY SEWER
- (E) SANITARY SEWER
- (E) SANITARY SEWER LARGER THAN 12"
- SSMH
- SSCO
- (E) SSMH
- DOMESTIC WATER PIPE
- (E) DOMESTIC WATER PIPE
- VALVE
- (E) VALVE
- RECLAIMED WATER PIPE
- FIRE WATER PIPE
- FIRE HYDRANT
- (E) FIRE HYDRANT
- WATER METER
- (E) BFP
- (E) FDC
- (E) GAS LINE
- FIBER OPTIC CONDUIT (SJTP)
- FIBER OPTIC MANHOLE (SJTP)
- (E) COMM MANHOLE
- ELECTRICAL MANHOLE (SJTP)
- ELECTRICAL DUCTBANK (SJTP)
- (E) ELECTRICAL LINE
- (E) OVERHEAD ELECTRICAL LINE
- LIGHTS (SLP)
- (E) STREETLIGHT

ABBREVIATIONS

(E)	EXISTING
AD	AREA DRAIN
BFP	BACK FLOW PREVENTOR
CONT.	CONTINUATION
COMM	COMMUNICATIONS
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
FDC	FIRE DEPARTMENT CONNECTION
FT	FEET
GR	GRATE
INV	INVERT
N.I.C.	NOT IN CONTRACT
PIV	POST INDICATOR VALVE
POC	POINT OF CONNECTION
SDCO	STORM DRAIN CLEANOUT
SDMH	STORM DRAIN MANHOLE
SJTP	SEE JOINT TRENCH PLANS
SLP	SEE LANDSCAPE PLANS
SPP	SEE PLUMBING PLANS
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
SRO	SHOWN FOR REFERENCE ONLY
SVP	SILICON VALLEY POWER
(TYP.)	TYPICAL

NOTES

1. ELECTRICAL AND TELECOMMUNICATIONS UTILITIES SHOWN FOR REFERENCE ONLY, SJTP.
2. ALL WATER PIPE TO BE PVC C900 UNLESS OTHERWISE NOTED
3. COMPLY WITH THE FOLLOWING WATER CLEARANCES:

   VERTICAL CROSSING = 1-FT MIN. AT ANY UTILITY

   HORIZONTAL TO:

   SEWER = 10-FT MIN.
   RECYCLED WATER = 10-FT MIN.
   STORM DRAIN = 8-FT MIN.
   FIRE OR OTHER WATER = = 5-FT MIN.
   ABANDONED WATER SERVICE = 3-FT MIN.
   GAS = 5-FT MIN.
   DRIVEWAY, NEW OR EXISTING = 5-FT MIN.
   TREE = 10-FT
   TREE WITH ROOT BARRIER = 5-FT

4. ALL UTILITIES SHALL MAINTAIN A 10-FT CLEARANCE FROM NEW OR EXISTING TREES, UNLESS A ROOT BARRIER IS UTILIZED IN WHICH CASE THE CLEARANCE MAY BE REDUCED TO 5-FT.
5. REFER TO C-301 FOR UTILITIES TO BE REMOVED OR ABANDONED. EXISTING UTILITIES SHOWING HEREON ARE TO REMAIN UNLESS INDICATED OTHERWISE
6. STORM DRAIN PUMP SHOWN FOR REFERENCE ONLY. STORM DRAIN PUMP TO BE DESIGNED AND DETAILED BY PUMP MANUFACTURER.
7. ALL ON-SITE SEWER & STORM PIPE TO BE HDPE DR 17.
8. STORM DRAIN LATERALS IN THE CITY R.O.W. TO BE RCP WITH MINIMUM STRENGTH OF CLASS III (1350-D).
9. SEWER LATERALS IN THE CITY R.O.W. TO BE VCP.

Source: Langan Engineering and Environmental Services, Inc., 11/6/2019.

UTILITY PLAN

FIGURE 2-6

SECTION 3.0 PROJECT INFORMATION

3.1 PROJECT TITLE

Mission College Backup Generating Facility

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

Oppidan Investment Company
400 Water Street, Suite 200
Excelsior, MN 55331

3.4 PROJECT LOCATION

2305 Mission College Boulevard
Santa Clara, CA 95050

3.5 ASSESSOR'S PARCEL NUMBER

104-13-096

3.6 GENERAL PLAN DESIGNATION AND ZONING DISTRICT

General Plan Designation:	Low Intensity Office/R&D
Zoning District:	ML - Light Industrial

SECTION 4.0 ENVIRONMENTAL ANALYSIS

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

4.1	Aesthetics	4.12	Mineral Resources
4.2	Agriculture and Forestry Resources	4.13	Noise
4.3	Air Quality	4.14	Population and Housing
4.4	Biological Resources	4.15	Public Services
4.5	Cultural Resources	4.16	Recreation
4.6	Energy	4.17	Transportation
4.7	Geology and Soils	4.18	Tribal Cultural Resources
4.8	Greenhouse Gas Emissions	4.19	Utilities and Service Systems
4.9	Hazards and Hazardous Materials	4.20	Wildfire
4.10	Hydrology and Water Quality	4.21	Mandatory Findings of Significance
4.11	Land Use and Planning	4.22	Environmental Justice

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 1) includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts and 2) discusses the project's impact on the environmental subject as related to the checklist questions.

4.1 AESTHETICS

4.1.1 Environmental Setting

4.1.1.1 *Existing Conditions on the Site*

The project site is currently developed with a two-story, 358,000 sf office/R&D building, and an associated employee parking lot. The building facades are primarily stucco with regularly spaced reflective glass windows. The main entrance to the building is located on the southern side of the structure facing Mission College Boulevard and is composed primarily of large, reflective windows. Trees and ornamental landscaping are located throughout the parking lot in landscaped islands and along the property boundaries.

The site is within a fully developed area in Santa Clara. The topography is flat and views of the eastern foothills from public viewpoints are partially blocked by existing industrial and commercial structures in the area.

4.1.1.2 *Surrounding Land Uses*

The project site is located west of Montague Expressway, north of Mission College Boulevard, and south of Agnew Road. With the exception of a multifamily residential development north of the site on Agnew Road, the project area consists primarily of light industrial office and R&D uses. Buildings in the area are similar in height and scale to the existing building on the project site. The Norman Y. Mineta San José International Airport is located approximately 4.6 miles southeast of the site. Aircraft, along with truck and other vehicle traffic, are readily apparent in the area. Views of the project site can be seen in Photos 1-8.

There are no scenic resources on-site, and the site is not visible from a scenic highway. The site is bordered by San Tomas Aquino Creek to the west, and is visible form the San Tomas Aquino Creek Trail, which runs along the western side of the creek.

Photo 1: View of existing building and parking lot from sidewalk on Mission College Boulevard, facing east.

Photo 2: View of existing building from driveway entrance on Mission College Boulevard, facing east.

Photo 3: View of south side of project site and adjacent property (to the right).

Photo 4: View of driveway entrance from Agnew Road, facing east.

Photo 5: View of east side of the building, from driveway entrance on Agnew Road.

Photo 6: View of the north side of the existing building from the parking lot.

Photo 7: View of substation across Agnew Road, facing east.

Photo 8: View of Valley Water maintenance road along western property line, looking north.

4.1.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
3) In non-urbanized areas, substantially degrade the existing visual character or quality of public views[6] 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?	☐	☐	☒	☐
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The primary modifications to the Approved Project that may affect Aesthetics are the modification of the site layout, the increase in height of the buildings, and relocation of the substation.

Impact AES-1: The project would not have a substantial adverse effect on a scenic vista. **(No Impact)**

As described in the 2018 MND, there are no scenic vistas within the City of Santa Clara. The project, therefore, would not have a substantial adverse effect on a scenic vista.

[6] Public views are those that are experienced from publicly accessible vantage points.

Impact AES-2:	The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. **(No Impact)**

As described in the 2018 MND, the site is not visible from a scenic highway. The project, therefore, would not substantially damage scenic resources within a state scenic highway.

Impact AES-3:	The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. The project would not conflict with applicable zoning and other regulations governing scenic quality. **(Less than Significant Impact)**

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 proposed project would demolish the existing improvements on-site and construct a 490,000 sf data center housed in two three-story buildings along with associated equipment yards and paved parking areas. The buildings would be approximately 87 feet tall at the top of the screening parapet. Other than tinted glass curtain walls on the buildings' northern facades, the buildings would be largely devoid of windows, consisting of decorative metal facades with an industrial appearance.

Landscaping consisting of trees, shrubs, and groundcover would be planted throughout the site, including along the perimeter of the buildings and along property boundaries

The entire perimeter of the site would be enclosed by either screening walls or an eight-foot high metal palisade security fence. The generator yard will be screened by 30-foot high concrete walls with architectural accents to coordinate with the building design. The substation will be surrounded by SVP's standard 12-foot high (nominal) concrete block wall. The proposed walls would provide visual screening to surrounding land uses of the mechanical equipment that would be located in the interior of the site.

The project would raise the elevation of the site, remove perimeter vegetation, and construct buildings of greater mass than the existing development on the site. There would be a change from a two-story office/R&D building to a larger structure bordered by equipment yards with screening walls. Though larger in mass and scale, development on the site would remain industrial in character. The proposed structures on the site would be similar in scale to the nearby development. The exterior of the building and the proposed screening walls would be subject to the City's design review process and would conform to current architectural and landscaping standards. The project, therefore, would not degrade the existing visual character or quality of the site and its surroundings. This conclusion is consistent with the findings of the 2018 MND.

Impact AES-4:	The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. **(Less than Significant Impact)**

The project would include outdoor security lighting on the site, and along the building and driveway entrances. The outside lighting would comply with the City's lighting requirements (City Code Section 18.48.140) 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 outdoor lighting would not result in increased ambient light levels along San Tomas Aquino Creek. The exterior surfaces of the building would not be a significant source of glare during daytime hours.

Building materials and lighting plans would be reviewed by the City's Architectural Committee and the Planning Division staff prior to issuance of building permits to ensure that the project would not create a substantial new source of light or glare for nearby residences or spillover into the adjacent San Tomas Aquino Creek corridor. The project, therefore, would not create a new source of substantial light or glare or would adversely affect day or nighttime views in the area. This conclusion is consistent with the findings of the 2018 MND.

4.2 AGRICULTURAL AND FORESTRY RESOURCES

4.2.1 Environmental Setting

According to the Santa Clara County Important Farmland 2018 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.[7] According to Santa Clara County Office of the Assessor, the site is not subject to a Williamson Act contract.

4.2.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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?	☐	☐	☐	☒
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
3) 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))?	☐	☐	☐	☒
4) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
5) 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 to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

Since the modifications to the Approved Project will involve grading and development within the same site boundaries as the Approved Project, the modifications will not modify the analysis and conclusions contained in the 2018 MND.

[7] California Department of Conservation, *Santa Clara County Important Farmland Map 2016.* Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/scl16.pdf

Impact AG-1:	The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(No Impact)**

According to the Santa Clara County Important Farmland 2018 Map, the project site is designated as *Urban and Built-Up Land.* The project, therefore, would not convert farmland to non-agricultural use. This conclusion is consistent with the findings of the 2018 MND.

Impact AG-2:	The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(No Impact)**

The site is zoned *ML –Light Industrial*. 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. This conclusion is consistent with the findings of the 2018 MND.

Impact AG-3:	The project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

The site is zoned *ML – Light Industrial.* The project, therefore, would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. This conclusion is consistent with the findings of the 2018 MND.

Impact AG-4:	The project would not result in a loss of forest land or conversion of forest land to non-forest use. **(No Impact)**

As described in the 2018 MND, no forestland is located on or near the site. The project, therefore, would not result in a loss of forest land or conversion of forest land to non-forest use. This conclusion is consistent with the findings of the 2018 MND.

Impact AG-5:	The project would not 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. **(No Impact)**

As described above and in the 2018 MND, 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. This conclusion is consistent with the findings of the 2018 MND.

4.3 AIR QUALITY

The following discussion is based on an Air Quality Impact Assessment by *Trinity Consultants* in November 2019. A copy of the report is attached to this Application as Appendix A.

4.3.1 Environmental Setting

4.3.1.1 *Climate and Meteorology*

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersion. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersion of air pollutants, and consequently affect air quality (Abbott, 2003).
The climate of the San Francisco Bay Area is determined largely by a high-pressure system that is almost always present over the eastern Pacific Ocean off the West Coast of North America. High-pressure systems are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface and resulting in the formation of subsidence inversions. In winter, the Pacific high-pressure system shifts southward, allowing storms to pass through the region. During summer and fall, emissions generated within the San Francisco Bay Area can combine with abundant sunshine under the restraining influences of topography and subsidence inversions to create conditions that are conducive to the formation of photochemical pollutants such as ozone (O_3) (Abbott, 2003).

More specifically, the Project Area is located in the Santa Clara Valley climatological subregion. The Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines characterizes the Santa Clara Valley as:

> "…bounded by the Bay to the north and by mountains to the east, south and west. Temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild. At the northern end of the valley, mean maximum temperatures are in the low-80's during the summer and the high-50's during the winter, and mean minimum temperatures range from the high-50's in the summer to the low-40's in the winter. Further inland, where the moderating effect of the Bay is not as strong, temperature extremes are greater…"

Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds.

Wind speeds are greatest in the spring and summer and weakest in the fall and winter. Nighttime and early morning hours frequently have calm winds in all seasons, while summer afternoons and evenings are quite breezy. Strong winds are rare, associated mostly with the occasional winter storm.

The air pollution potential of the Santa Clara Valley is high. High summer temperatures, stable air and mountains surrounding the valley combine to promote O_3 formation. In addition to the many

local sources of pollution, O_3 precursors from San Francisco, San Mateo and Alameda Counties are carried by prevailing winds to the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low level inversions, O_3 can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing northwesterlies in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of CO and PM. This movement of the air up and down the valley increases the impact of the pollutants significantly.

Pollution sources are plentiful and complex in this subregion. The Santa Clara Valley has a high concentration of industry at the northern end, in the Silicon Valley. Some of these industries are sources of air toxics as well as criteria air pollutants. In addition, Santa Clara Valley's large population and many work-site destinations generate the highest mobile source emissions of any subregion in the [Bay Area Air Basin]."

4.3.1.2 *Regional Air Quality*

National Ambient Air Quality Standards (NAAQS) are established by the U.S. EPA for various pollutants: O_3, PM_{10}, $PM_{2.5}$, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). These standards set maximum concentrations over different averaging periods—primarily to protect public human health and secondarily to protect public welfare (protect against decreased visibility as well as damage to animals, crops, vegetation, and buildings).

California Ambient Air Quality Standards (CAAQS) are established by the State of California and are in some cases more stringent than the NAAQS and include other pollutants in addition to the criteria pollutants. Pollutants covered by the CAAQS include O_3, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, Pb, sulfates, hydrogen sulfide (H_2S), and vinyl chloride.

Both state and national air quality standards consist of two parts: an allowable concentration of a pollutant, and an averaging time over which the concentration is measured. The allowable concentrations are based on the results of studies of the effects of the pollutants on human health, crops and vegetation, and, in some cases, damage to paint and other materials. The averaging times are based on whether the damage caused by the pollutant is more likely to occur during exposure to a high concentration for a short time (e.g., one hour), or to a relatively lower average concentration over a longer period (e.g., 8 hours, 24 hours, or one year). For some pollutants there is more than one air quality standard, reflecting both its short-term and long-term effects. Table 4.3-1 below presents the CAAQS and NAAQS for selected common pollutants, including pollutants applicable to the Project.

The degree to which a region's air quality is healthy or unhealthy is determined by comparing pollutant concentrations in ambient air samples to the state and national standards presented in Table 4.3-1. California standards for O3, CO (except 8-hour Lake Tahoe), SO_2, NO_2, PM_{10}, $PM_{2.5}$, and visibility reducing particles are values that are not to be exceeded. All other CAAQS are not to be equaled or exceeded. Compliance with the national standards (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages) is achieved if the standards are not exceeded more than once per year. The O_3 standard is attained when the fourth-highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the number of days per calendar year with a 24-hour average concentration above the standard is equal to or less than one, averaged over three years. Nonattainment areas are subject to additional restrictions

and standards, as required by the U.S. EPA. The air quality data collected at local monitoring stations are also used to monitor progress in attaining air quality standards.

Under the provisions of the Federal Clean Air Act, the Bay Area Air Basin is classified as either in attainment, nonattainment, or unclassified/attainment with respect to the NAAQS. Table 4.3-2 provides the NAAQS and CAAQS classification statuses for the Bay Area Air Basin based on the local criteria pollutant concentrations and federal and state designations.

The human health and environmental effects of the criteria pollutants for which NAAQS are set are summarized in Table 4.3-3 below. The sections following Table 4.3-3 provide a more detailed discussion of the typical sources of such criteria pollutants.

Ozone (O_3)

O_3, or smog, is a highly reactive and unstable gas not emitted directly into the environment. O_3 is formed in the atmosphere by complex chemical reactions between ROG and NO_x in the presence of sunlight. O_3 formation is greatest on warm, windless, sunny days. The main sources of NO_x and ROG—often referred to as O_3 precursors—are combustion processes (including motor vehicle engines); the evaporation of solvents, paints, and fuels; and biogenic sources. O_3 is a main contributor to visible smog in the Bay Area Air Basin and is also a strong oxidant (BAAQMD, 2017b). O_3 levels typically build up during the day and peak in the afternoon hours.

Respirable and Fine Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter refers to a wide range of tiny solid and/or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Respirable PM with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. $PM_{2.5}$ is a subgroup of fine particulates that have an aerodynamic diameter of 2.5 micrometers or less. Some particulate matter, such as pollen, is naturally occurring. Atmospheric reactions between primary gaseous emissions such as SO_2 and NO_X from power plants can also form particulate sulfates as $PM_{2.5}$. Wood burning in fireplaces and stoves are also large sources of fine particulates, especially during the winter season (BAAQMD, 2017b).

Carbon Monoxide (CO)

CO is an odorless, colorless gas. It is formed by the incomplete combustion of fuels. Because CO is emitted directly from internal combustion engines, mobile sources are the primary source of CO in the BAAQMD. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. CO can also be formed by photochemical reactions in the atmosphere from methane (CH_4) and non-CH_4 hydrocarbons and organic molecules in water and soil (BAAQMD, 2017b).

Table 4.3-1: Summary of Ambient Air Quality Standards				
Pollutant	**Averaging Time**	**CAAQS**	**NAAQS**	**Major Pollutant Sources**
Ozone (O_3)	8-hour	0.070 ppm	0.070 ppm	Formed when ROG and NO_x react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/ industrial mobile equipment.
	1-hour	0.09 ppm	---	
Carbon Monoxide (CO)	8-hour	9.0 ppm	9 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles
	1-hour	20 ppm	35 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads
	1-hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Average	---	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants and metal processing
	24-hour	0.04 ppm	0.14 ppm	
	3-hour	--	0.5 ppm	
	1-hour	0.25 ppm	0.075 ppm	
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 $\mu g/m^3$	---	Dust- and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays); also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics.
	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 $\mu g/m^3$	12 $\mu g/m^3$	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics.
	24-hour	---	35 $\mu g/m^3$	
Lead (Pb)	Calendar Quarter	---	1.5 $\mu g/m^3$	Present sources: Pb smelters, battery manufacturing, and recycling facilities. Past source: combustion of leaded gasoline.
	30-day Average	1.5 $\mu g/m^3$	---	
	3-month Rolling Average	---	0.15 $\mu g/m^3$	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm	--	Geothermal power plants, petroleum production and refining
Vinyl Chloride	24-hour	0.01 ppm	--	Production of PVC plastic
Visibility Reducing Particles	8-hour	Extinction of 0.23/km; visibility of ≥ 10 miles	--	See $PM_{2.5}$.
Sulfates	24-hour	25 $\mu g/m^3$	--	Formed from SO_2 emitted from combustion of petroleum-derived fuels
Sources: BAAQMD, 2017b; CARB, 2009, 2016, and 2019. ppm = parts per million, □g/m^3 = micrograms per cubic meter				

Table 4.3-2: Summary of BAAQMD Attainment Status		
Pollutant	**California AAQS[a]**	**NAAQS[b]**
O_3—1-hour	Nonattainment	N/A
O_3—8-hour	Nonattainment	Nonattainment
CO —1-hour	Attainment	Attainment
CO —8-hour	Attainment	Attainment
Nitrogen Dioxide (NO_2)—1-hour	Attainment	Unclassified
Nitrogen Dioxide (NO_2) —Annual	N/A	Attainment
Sulfur Dioxide (SO_2)—1-hour	Attainment	Unclassified
Sulfur Dioxide (SO_2)—3-hour	N/A	Attainment
Sulfur Dioxide (SO_2) —24-hour	Attainment	Attainment
Sulfur Dioxide (SO_2) —Annual	N/A	Attainment
PM_{10}—24-hour	Nonattainment	Unclassified
PM_{10}—Annual	Nonattainment	N/A
$PM_{2.5}$—24-hour	N/A	Nonattainment[c]
$PM_{2.5}$—Annual	Nonattainment	Unclassified/Attainment
Lead (Pb)	N/A[d]	Attainment
Hydrogen Sulfide (H_2S)	Unclassified	N/A
Vinyl Chloride	N/A[d]	N/A
Visibility Reducing Particles	Unclassified	N/A
Sulfates	Attainment	N/A

Sources: BAAQMD, 2017a and 2017c
Notes: AAQS = ambient air quality standards.
N/A = Not Applicable
a. See CCR Title 17 Sections 60200-60210
b. See 40 CFR Part 81
c. U.S. EPA tightened the national 24-hour $PM_{2.5}$ standard from 65 to 35 µg/m^3 in 2006. On January 9, 2013, U.S. EPA issued a final rule to determine that the Bay Area Air Basin was in attainment with respect to the 24-hour $PM_{2.5}$ national standard. This U.S. EPA rule suspends key state implementation plan (SIP) requirements as long as monitoring data continue to show that the Bay Area Air Basin attains the standard. Despite this U.S. EPA action, the Bay Area Air Basin will continue to be designated as nonattainment for the national 24-hour $PM_{2.5}$ standard until the BAAQMD submits a redesignation request and a maintenance plan to U.S. EPA, and U.S. EPA approves the proposed redesignation.
d. CARB has identified Pb and vinyl chloride as "toxic air contaminants" with no threshold level of exposure below which no adverse health effects have been determined.

Table 4.3-3: Summary of Health and Environmental Effects of Key Criteria Pollutants			
Pollutant	**Health Effects**	**Environmental Effects**	**Examples of Sources**
O_3	• Respiratory symptoms • Worsening of lung disease leading to premature death • Damage to lung tissue	• Crop, forest, and ecosystem damage • Damage to a variety of materials, including rubber, plastics, fabrics, paint and metals	• Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
PM_{10}	• Premature death & hospitalization, primarily for worsening of respiratory disease	• Reduced visibility and material soiling	• Cars and trucks (especially diesel), fireplaces, wood stoves, windblown dust from roadways, agriculture, and construction activities
$PM_{2.5}$	• Premature death • Hospitalization for worsening of cardiovascular disease • Hospitalization for respiratory disease • Asthma-related emergency room visits • Increased symptoms, increased inhaler usage	• Reduced visibility and material soiling	• Cars and trucks (especially diesel), fireplaces, wood stoves, windblown dust from roadways, agriculture, and construction activities
CO	• Chest pain in patients with heart disease • Headache • Light-headedness • Reduced mental alertness	• None	• Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
NO_2	• Lung irritation • Enhanced allergic responses	• Reacts to form acid precipitation and deposition	• Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
SO_2	• Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits	• Reacts to form acid precipitation and deposition	• Coal and oil burning power plants, refineries, and diesel engines
Pb	• Impaired mental functioning in children • Learning disabilities in children • Brain and kidney damage	• Soil and water pollutant	• Metal smelters, resource recovery, leaded gasoline, Pb paint
Source: CARB, 2009.			

Nitrogen Oxides (NO_X)

NO_2 is a pungent-smelling gas that is brownish red in color. Of the gases referred to as NO_x, NO_2 and nitric oxide (NO) are the two most prevalent gases. Nitrogen oxides are created during combustion processes and are also created in the atmosphere when NO photochemically reacts with other pollutants to create NO_2. Automobiles and industrial operations are the main sources of NO_2. Ambient concentrations of NO_2 are related to traffic density, and as such, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than the concentrations indicated by regional monitors (CARB, 2019a). NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high O_3 levels (BAAQMD, 2017b).

Sulfur Dioxide (SO_2)

SO_2 is a colorless acid gas with a pungent odor. It is produced by the combustion of sulfur-containing fuels, such as oil, coal and diesel. It is also formed from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_x) (CARB, 2019b and CARB, 2019c).

Lead (Pb)

Pb is a metal found naturally in the environment as well as in manufactured products. The major sources of Pb emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest levels of Pb in the air are generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Several decades ago, mobile sources were the main contributor to Pb concentrations in the ambient air due to leaded gasoline. In the early 1970s, the U.S. EPA set national regulations to gradually reduce the Pb content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The U.S. EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the U.S. EPA's regulatory efforts, emissions of Pb from the transportation sector and levels of Pb in the air have decreased substantially (BAAQMD, 2017b).

4.3.1.3 *Local Air Quality*

BAAQMD operates a regional monitoring network that measures the ambient concentrations of the six criteria air pollutants within the Bay Area Air Basin. Existing levels of air pollutants in the Project area can generally be inferred from ambient air quality measurements conducted by the BAAQMD at nearby monitoring stations. The nearest permanent station to the Project site is the Jackson Street monitoring station in San Jose, approximately 5 miles to the southeast. The Jackson Street monitoring station measures criteria pollutants, including O_3, NO_2, SO_2, CO, PM_{10}, and $PM_{2.5}$. Table 4.3-4 presents the most recent three years of data (2016-2018) available for the Jackson Street monitoring station.

The ambient air quality data in Table 4.3-4 show that NO_2, SO_2, and CO levels are below the applicable state and federal standards. At the closest BAAQMD monitoring station to the proposed Project location, the federal and/or state ambient air quality standards (AAQS) were exceeded for PM_{10} and $PM_{2.5}$. Attainment status designations can be seen in Table 4.3-2.

Table 4.3-4: Existing Air Quality Monitoring Data in Proposed Project Area a,b,c							
Pollutant	**Units**	**Averaging Time**	**Basis of Yearly/Design Concentrations**	**2016**	**2017**	**2018**	**Design**
Ozone	ppb	1-Hr	CAAQS - 1st Highs/3-yr Max	87	121	78	N/A
		8-Hr	CAAQS - 1st Highs/3-yr Max	66	98	61	N/A
			NAAQS - 4th Highs/3-yr Avg	61	75	53	N/A
Nitrogen dioxide (NO_2)	ppb	1-Hr	CAAQS - 1st Highs/3-yr Max	51	68	86	86
			NAAQS - 98th %s/3-yr Avg	41.8	49.6	59	50
		Annual	CAAQS - AAM/3-yr Max	11	12	13	13
			NAAQS - AAM/3-yr Avg	11.3	12.2	12	12
Carbon monoxide (CO)	ppm	1-Hr	CAAQS - 1st Highs/3-yr Max	2.0	2.1	2.5	2.5
			NAAQS - 2nd Highs/3-yr Max	1.9	2.1	2.5	2.5
		8-Hr	CAAQS - 1st Highs/3-yr Max	1.4	1.8	2.1	2.1
			NAAQS - 2nd Highs/3-yr Max	1.3	1.8	2.1	2.1
Sulfur dioxide (SO_2)	ppb	1-Hr	CAAQS - 1st Highs/3-yr Max	1.8	3.6	6.9	6.9
			NAAQS - 99th %s/3-yr Avg	1.6	3.1	3.2	3
	ppm	3-Hr	NAAQS - 2nd Highs/1-yr	0.0013	0.0023	0.0028	0.0028
	ppb	24-Hr	CAAQS - 1st Highs/3-yr Max	0.8	1.1	1.1	1.1
	ppb	Annual	NAAQS - AAM/3-yr Avg	1.8	3.8	6.9	4.2
Respirable Particulate Matter (PM_{10}) [d]	$\mu g/m^3$	24-Hr	CAAQS - 1st Highs/3-yr Max	41	70	122	122
		24-Hr	NAAQS - 2nd Highs/3-yr 4th High [e]	35	67	111	71
		Annual	CAAQS - AAM/3-yr Max	19	22	23	23
Fine Particulate Matter ($PM_{2.5}$) [d]	$\mu g/m^3$	24-Hr	NAAQS - 98th %s/3-yr Avg	19	34	73	42
		Annual	CAAQS - AAM/3-yr Max	8.4	9.5	13	13
			NAAQS - AAM/3-yr Avg	8.4	9.7	13	10

a. All monitoring values from 158 East Jackson Street, San Jose, CA, the nearest BAAQMD monitoring site (all applicable pollutants measured).
b. CAAQS Data sources: Bay Area Air Pollution Summary (2016, 2017, 2018). Available at the following links, respectively:
http://www.baaqmd.gov/~/media/files/communications-and-outreach/annual-bay-area-air-quality-summaries/pollsum2016-pdf.pdf?la=en
http://www.baaqmd.gov/~/media/files/communications-and-outreach/annual-bay-area-air-quality-summaries/pollsum2017-pdf.pdf?la=en
http://www.baaqmd.gov/~/media/files/communications-and-outreach/annual-bay-area-air-quality-summaries/pollsum2018-pdf.pdf?la=en
c. NAAQS Data sources: USEPA AirData Air Quality Monitors Data (2016, 2017, 2018). For $PM_{2.5}$ 24-Hr NAAQS data: CARB Select 8 Summary. Available at the following link:
https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319
d. Note that significant wildfires occurred in California in 2017 and 2018, resulting in higher concentrations of particulate matter than in years without significant wildfires.
e. Design value is the average of PM10 24-Hr second highs from 2016, 2017, and 2018 per Section 2.1 of Appendix K to 40 CFR Section 50.6.

4.3.1.4 *Sensitive Land Uses Near the Proposed Project Area*

For the purposes of this analysis, sensitive receptors are considered locations with people who are more sensitive than the general public to the effects of air pollutants. The reasons for increased sensitivity include preexisting health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be sensitive receptors because children, the infirm, and elderly people are more susceptible to respiratory distress and other air-quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because residents are often home for extended periods of time which results in greater exposure to ambient air quality; however, residential receptors are considered a separate receptor type from sensitive receptors. Table 4.3-5 lists the nearest sensitive receptors within two miles of the Project's property boundary. The locations of the sensitive receptors are shown on Figure 3-1 of Appendix A.

Table 4.3-5: Sensitive Receptors near the Project Area

Name of Sensitive Receptor	Address of Sensitive Receptor	Distance from Property Boundary to Sensitive Receptor [miles]
1. Stanford Primary Care in Santa Clara	2518 Mission College Blvd #101, Santa Clara, CA 95054	0.13
2. Knowledge Preschool	2192 Hunter Pl, Santa Clara, CA 95054	0.21
3. Hackett Child Care	4493 Cheeney Street, Santa Clara, CA 95054	0.39
4. Anna's Daycare	4639 Snead Dr, Santa Clara, CA 95054	0.64
5. Valley House Rehabilitation Center	991 Clyde Ave, Santa Clara, CA 95054	0.71
6. North Valley Baptist School	941 Clyde Ave, Santa Clara, CA 95054	0.73
7. Matangi Family Daycare	901 Clyde Ave, Santa Clara, CA 95054	0.78
8. Granada Islamic School	3003 Scott Blvd, Santa Clara, CA 95054	0.80
9. Agape Family Daycare	871 Clyde Ave, Santa Clara, CA 95054	0.81
10. Martinson Child Development	1350 Hope Dr, Santa Clara, CA 95054	0.85
11. Crossover Health at San Tomas	2371 Owen St, Santa Clara, CA 95054	0.89
12. Hughes Preschool	4949 Calle De Escuela, Santa Clara, CA 95054	0.94
13. Kathryn Hughes Elementary School	4949 Calle De Escuela, Santa Clara, CA 95054	0.95
14. Montague Preschool	720 Laurie Ave, Santa Clara, CA 95054	0.97
15. Action Urgent Care	3970 Rivermark Plaza, Santa Clara, CA 95054	1.00
16. Montague Elementary School	750 Laurie Ave, Santa Clara, CA 95054	1.02
17. FounderCare	3375 Scott Blvd Suite 336, Santa Clara, CA 95054	1.03
18. One Medical	1299 Oakmead Pkwy Ste A, Sunnyvale, CA 94085	1.14
19. Stepping Stone World Preschool	3766 Pinewood Pl, Santa Clara, CA 95054	1.16
20. Don Callejon School	4176 Lick Mill Blvd, Santa Clara, CA 95054	1.17
21. Santa Clara Angel Christian Family Daycare	5009 Avenida De Lago, Santa Clara, CA 95054	1.17
22. Little Panda Family Day Care	1230 Sandia Ave, Sunnyvale, CA 94089	1.24
23. Kaiser	1263 E. Arques Ave, Sunnyvale, CA 94085	1.28
24. Santa Clara Sunshine Daycare and Learning Center	457 Greenwood Drive, Santa Clara, CA 95054	1.29
25. Little Learners Daycare	441 Greenwood Drive, Santa Clara, CA 95054	1.29
26. Fairwood Elementary School	1110 Fairwood Ave, Sunnyvale, CA 94089	1.32

Table 4.3-5: Sensitive Receptors near the Project Area		
Name of Sensitive Receptor	**Address of Sensitive Receptor**	**Distance from Property Boundary to Sensitive Receptor [miles]**
27. U.S. HealthWorks Medical Group	988 Walsh Ave, Santa Clara, CA 95050	1.55
28. Nmci Medical Clinic	1871 Martin Ave, Santa Clara, CA 95050	1.56
29. Cisco Life Connections Health Center	Q, 3571 N 1st St, San Jose, CA 95134	1.58
30. Stanford Express Care San Jose	52 Skytop St #10, San Jose, CA 95134	1.59
31. California Senior Care	2454 Alvarado Dr, Santa Clara, CA 95051	1.59
32. ANTS Daycare	4176 Sophia Way, San Jose, CA 95134	1.62
33. Concentra Urgent Care	1197 E Arques Ave, Sunnyvale, CA 94085	1.64
34. US HealthWorks Sunnyvale	1197 E Arques Ave, Sunnyvale, CA 94085	1.64
35. Community Child Care Council	150 River Oaks Pkwy F-1, San Jose, CA 95134	1.78
Nearest Residential Areas		
North Residences		0.02
Northeast Residences		0.19
Southeast Residences		0.62
West Residences		1.04

4.3.2 Existing Policies and Regulations

Established federal, state, and regional regulations provide the framework for analyzing and controlling air pollutant emissions and thus general air quality. The U.S. EPA is responsible for implementing the programs established under the federal Clean Air Act, such as establishing and reviewing the federal ambient air quality standards and judging the adequacy of State Implementation Plans (SIPs), described further below. However, the U.S. EPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. In California, CARB is responsible for establishing and reviewing the state ambient air quality standards, developing and managing the California SIP, securing approval of this plan from the U.S. EPA, and identifying toxic air contaminants (TACs). CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts (AQMDs), which are organized at the county or regional level. An AQMD is primarily responsible for regulating stationary emissions sources at facilities within its geographic areas and for preparing the air quality plans that are required under the federal Clean Air Act and 1988 California Clean Air Act. The BAAQMD is the regional agency with regulatory authority over emission sources in the nine-county San Francisco Bay Area.

4.3.2.1 *Federal Regulatory Authority*

The U.S. EPA has responsibility for enforcing, on a national basis, the requirements of many of the country's environmental laws. Region 9 is responsible for the local administration of U.S. EPA programs for California, Arizona, Nevada, Hawaii, and certain Pacific trust territories. California is under the jurisdiction of U.S. EPA Region 9, which has its offices in San Francisco. The U.S. EPA's activities, relative to the California air pollution control program, focus principally on reviewing California's submittals for the SIP. The SIP is required by the federal Clean Air Act to demonstrate how all areas of the state will meet the NAAQS within the federally specified deadlines.

The Federal Clean Air Act (CAA) establishes a federal requirement for the U.S. EPA to develop and adopt air quality standards, the NAAQS (see Table 4.3-1), and specifies future dates for achieving air quality compliance. The CAA further mandates that states submit and implement SIPs for those areas not meeting these standards. The SIPs must include air pollution control measures that demonstrate how the NAAQS will be met. The 1990 amendment to the CAA requires that areas not meeting NAAQS demonstrate reasonable further progress toward attainment and incorporate sanctions for failure to attain or meet specific attainment milestones. Each state is required to adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state. CARB is responsible for incorporating AQMPs for local air basins into a SIP, which is then reviewed and approved by the U.S. EPA.

In addition to requiring the establishment of NAAQS and the development and maintenance of SIPs, the CAA authorizes the U.S. EPA to establish regulations on certain categories of stationary sources of air pollution.

Specifically, Section 111 of the CAA authorizes the U.S. EPA to establish standards of performance for new and existing sources, commonly referred to as New Source Performance Standards (NSPSs). NSPS Subpart IIII establishes emission standards, fuel requirements, testing requirements, and other compliance requirements for manufacturers, owners, and operators of stationary compression ignition internal combustion engines.

The generators are subject to Subpart IIII. Per 40 CFR §60.4205(b) and §60.4202, emergency compression ignition (CI) engines rated between 50 bhp and 3,000 bhp are subject to the emissions standards in 40 CFR §89.112, Table 1, as follows. Further, emergency CI engines rated above 3,000 bhp that are not fire pump engines are subject to the same emission standards, as follows:

- NOx+NMHC: 6.4 g/kw-hr (4.8 g/bhp-hr)
- CO: 3.5 g/kw-hr (2.6 g/bhp-hr)
- PM: 0.20 g/kw-hr (0.15 g/bhp-hr)

Using the recommended BAAQMD procedure for separating the NO_x+NMHC value, the applicable standard for NO_x would be 4.56 g/bhp-hr, and the applicable standard for NMHC (ROG) would be 0.24 g/bhp-hr (BAAQMD, 2004).[8]

The proposed critical backup generators and life safety generators will satisfy these requirements based upon EPA engine family certification levels supplied by the manufacturer. In addition, the proposed generators will utilize a diesel particulate filter which will reduce the PM emissions down to 0.0135 g/bhp-hr for the critical backup generators and 0.0123 g/bhp-hr for the life safety generators.

Similarly, Section 112 of the CAA authorizes the U.S. EPA to establish emission standards for listed hazard air pollutants, commonly referred to as National Emission Standards for Hazardous Air Pollutants (NESHAPs). NESHAP Subpart ZZZZ establishes national emission and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal

[8] Assume a breakdown of 5% NMHC and 95% NO_x.

combustion engines located at major and area sources of HAP emissions. The proposed generators meet the requirements of NESHAP Subpart ZZZZ through compliance with NSPS Subpart IIII per 40 CFR §63.6590(c)(1).

The U.S. EPA also has jurisdiction over emissions from non-stationary sources that are under the authority of the federal government, including aircraft, locomotives, and emissions sources outside state waters. The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements set by CARB.

4.3.2.2 *State of California Regulatory Authority*

CARB is responsible for ensuring implementation of the California Clean Air Act and for regulating emissions from consumer products and motor vehicles. The California Clean Air Act mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain CAAQS by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS. Additional standards for sulfates, visibility-reducing particles, H_2S, and vinyl chloride have been established; however, they are not considered to be a regional air quality problem at this time. H_2S, vinyl chloride, sulfates, and visibility-reducing particles are not measured at any monitoring stations in the Bay Area Air Basin. Generally, the CAAQS are equal to or more stringent than the NAAQS.

4.3.2.3 *Regional Regulatory Authority*

The Clean Air Act requires that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards specified in the Clean Air Act. The California Clean Air Act also requires the development of air quality plans and strategies to meet state air quality standards in areas designated as nonattainment (with the exception of areas designated as nonattainment for the state PM standards). Maintenance plans are required for attainment areas that had previously been designated nonattainment in order to ensure continued attainment of the standards.

For air quality planning purposes, the Bay Area Air Basin is classified as a nonattainment area for O_3 and $PM_{2.5}$. BAAQMD is required to update its Clean Air Plan to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The Bay Area's record of progress in implementing previous measures must also be reviewed. Bay Area plans are prepared with the cooperation of the Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG). On April 19, 2017, the BAAQMD adopted the most recent revision to the Clean Air Plan - the *BAAQMD 2017 Clean Air Plan: Spare the Air, Cool the Climate* (BAAQMD, 2017a) (2017 Clean Air Plan). The 2017 Clean Air Plan serves to:

- Describe a comprehensive control strategy to protect public health and the climate;
- Update the *Bay Area 2010 Clean Air Plan* in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce emissions of O_3 precursors and to reduce transport of O_3 and its precursors to neighboring air basins;
- Enhance efforts to reduce emissions of particulate matter and toxic air contaminants; and
- Lay the groundwork for a long-term effort to reduce GHG emissions in the Bay Area Air Basin.

4.3.2.4 *Local Regulatory Authority*

BAAQMD Rules and Regulations

The BAAQMD is the regional agency responsible for rulemaking, permitting, and enforcement activities affecting stationary sources of air pollutant emissions in the Bay Area Air Basin. Specific rules and regulations adopted by the BAAQMD limit the emissions that can be generated by various activities and identify specific pollution reduction measures that must be implemented in association with these activities. These rules regulate not only emissions of the six criteria air pollutants, but also toxic emissions and acutely hazardous non-radioactive materials emissions.

Emissions sources subject to these rules are regulated through the BAAQMD's permitting process and standards of operation. Through this permitting process, including an annual permit review, the BAAQMD monitors generation of stationary emissions and uses this information in developing its air quality plans. Any sources of stationary emissions constructed as part of a project within BAAQMD's jurisdiction are subject to the BAAQMD Rules and Regulations. Both federal and state O_3 plans rely upon stationary source control measures set forth in BAAQMD's Rules and Regulations.

BAAQMD Regulation 2 Rule 2 – New Source Review (NSR) 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 Best Available Control Technology (BACT) is required. Per the BACT requirements for CI Stationary Emergency engines rated at greater than 50 bhp (BAAQMD, 2010), the following emission limits are BACT for the proposed generators:

- PM: 0.15 g/bhp-hr
- NMHC+NO_x: 4.8 g/bhp-hr
- CO: 2.6 g/bhp-hr
- SO_2: fuel sulfur content not to exceed 15 ppmw

Using the recommended CARB procedure for separating the NO_x+NMHC value, the applicable standard for NO_x would be 4.56 g/bhp-hr, and the applicable standard for NMHC (ROG) would be 0.24 g/bhp-hr.

Both the critical backup generators and the life safety generators proposed for the Project meet these emission limits, so BACT is satisfied. In addition, the proposed generators will utilize a diesel particulate filter which will reduce the PM emissions down to 0.0135 g/bhp-hr for the critical backup generators and 0.0123 g/bhp-hr for the life safety generators.

City of Santa Clara General Plan

General Plan policies applicable to air quality include, but are not limited to, the following listed below.

Policies	Description
Stationary Source Control Measures	
5.10.2-P1	Support alternative transportation modes and efficient parking mechanisms to improve air quality.
5.10.2-P2	Encourage development patterns that reduce vehicle miles traveled and air pollution.
5.10.2-P3	Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.
5.10.2-P4	Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.
5.10.2-P5	Promote regional air pollution preventing plans for local industry and businesses.
5.10.2-P6	Require "Best Management Practices" for construction dust abatement.
Transportation Demand Management	
5.8.5-P1	Require new development and City employees to implement transportation demand management programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.

4.3.2.5 *Regulatory Authority for Odors and Nuisances*

Although offensive odors from stationary sources rarely cause any physical harm, they remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the distance from and sensitivity of receptors. The BAAQMD's CEQA Air Quality Guidelines recommend that odor impacts be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources (BAAQMD, 2017b).

4.3.2.6 *Toxic Air Contaminants Regulations – Air Quality*

TACs are regulated under both state and federal laws. Federal laws use the term "Hazardous Air Pollutants" (HAPs) to refer to similar types of compounds that are referred to as TACs under state law, however there are some differences between HAPs and TACs. Both terms encompass essentially the same compounds. Under the 1990 Clean Air Act Amendments, 189 substances were regulated as HAPs. Since 1990, the U.S. EPA has modified the list through rulemaking to include 187 HAPs.

AB 2588. With respect to state law, in 1983 the California legislature adopted AB 1807, which establishes a process for identifying TACs and provides the authority for developing retrofit air toxics control measures on a statewide basis. Air toxics in California also may be regulated under the Air Toxics "Hot Spots" Information and Assessment Act of 1987, or AB 2588.

Under AB 2588, TACs from individual facilities must be quantified and reported to the local air pollution control agency or air quality management district. The facilities are then prioritized by the

local agencies based on the quantity and toxicity of these emissions, and on their proximity to areas where the public may be exposed. In establishing priorities, the air districts are to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility; the proximity of the facility to potential receptors; and any other factors that the air district determines may indicate that the facility may pose a significant risk. High priority facilities are required to perform a Health Risk Assessment (HRA), and, if specific risk thresholds are exceeded, they are required to communicate the results to the public through notices and public meetings. Depending on the health risk levels, emitting facilities can be required to implement varying levels of risk reduction measures. CARB identified approximately 200 TACs, including the 187 federal HAPs, under AB 2588.

AB 617. In July 2017, AB 617 was approved by the Governor. AB617 aims to reduce criteria pollutant and toxic air contaminant emissions within the state of California. The bill presents four main elements in order to achieve this goal:

- Monitoring
    - Identification and recommendation of communities that have a high cumulative exposure burden
    - Establishment of a statewide monitoring plan
    - Set-up and operation of District and Community networks including public availability/presentation of statewide data
- Community Emission Reduction Plans
    - For identified communities and integration with the statewide strategy for AB617 implementation
    - Potentially resulting in development of District Community Emission Reduction Plans
    - Potentially resulting in development of state and District emission reduction strategies
- Best Available Retrofit Control Technology (BARCT)
    - Development of a Statewide BACT/BARCT clearinghouse
    - BARCT implementation and the adoption of an expedited timeline for select source categories
- Emission Reporting
    - Development of a Uniform Statewide Reporting platform
    - Establishment of a statewide pollution mapping tool

BAAQMD is responsible for administering federal and state regulations related to TACs in the Bay Area Air Basin. Under federal law, these regulations include NESHAPs and Maximum Achievable Control Technology (MACT) for affected sources. BAAQMD also administers the state regulations AB 1807 and AB 2588, which were discussed above. In addition, the agency requires that new or modified facilities that emit TACs perform air toxics screening analyses as part of the permit application. TAC emissions from new and modified sources are limited through the air toxics new source review program, which superseded the BAAQMD Risk Management Policy, in BAAQMD Regulation 2, Rule 5 for New Source Review of Toxic Air Contaminants. Sources must use the Best Available Control Technology for Toxics (TBACT) if health risk modeling identifies an individual source cancer risk of greater than 1 in a million or a chronic hazard index greater than 0.20.

Specific TAC regulations and considerations relevant to the Project are described below.

Diesel Exhaust Control Program. In August 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter [DPM]) as TACs. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* and the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* (CARB, 2000a and 2000b). The goal of these programs is to reduce DPM emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020 and to implement regulations that include increasingly stringent emissions standards for on-road diesel trucks and buses, off-road diesel vehicles and equipment, and stationary diesel engines.

In 2001, the U.S. EPA promulgated regulations 40 CFR Parts 69, 80, and 86 (U.S. EPA, 2001b) requiring that the sulfur content in motor on-road vehicle diesel fuel be reduced to less than 15 ppm as of June 1, 2006. The U.S. EPA also finalized a comprehensive national emissions control program, the 2007 Heavy-duty Highway Diesel Program (also known as the HD 2007 Program), which regulates highway heavy-duty vehicles and diesel fuel as a single system. Under the HD 2007 program, the U.S. EPA established new emission standards that would significantly reduce PM and NO_X from highway heavy-duty vehicles by the time the current heavy-duty vehicle fleet has been completely replaced in 2030.

The U.S. EPA also promulgated new emission standards for nonroad diesel engines and sulfur reductions in nonroad diesel fuel that would dramatically reduce emissions attributed to nonroad diesel engines. Similar but more stringent standards have been established by CARB. This affects emissions from construction equipment, locomotives, and marine diesel equipment and vehicles. The general objective is to reduce PM emissions from diesel vehicles to levels of below 0.01 grams per brake horsepower-hour (g/bhp-hr) beginning with 2007 model year engines.

4.3.3 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
2) 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?	☐	☒	☐	☐
3) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The primary modifications to the Approved Project that may affect Air Quality are the modifications to the generators proposed by the MCBGF.

4.3.3.1 *Significance Criteria*

The CEQA Air Quality Guidelines (BAAQMD, 2017b) contain numerical thresholds of significance that are designed to implement the above general criteria for air quality and GHG impacts in the Bay Area Air Basin. The BAAQMD thresholds of significance are based on extensive studies, and serve as a means of translating the general standards set forth in Appendix G into quantitative thresholds against which a proposed project's air pollutant and GHG emissions can be measured (BAAQMD, 2017b). It is common that local permitting agencies in the Bay Area to rely on the BAAQMD thresholds of significance when conducting their own CEQA analyses. Thus, the BAAQMD thresholds of significance are considered appropriate for use in evaluating the proposed Project.

Table 4.3-6 presents the BAAQMD thresholds of significance used as applicable in this analysis for air quality and GHG emissions associated with the proposed Project. The table presents thresholds for construction-related and operational-related emissions. The applicability and use of the specific project-level thresholds for evaluation of the proposed Project is explained in the discussion of each impact below.

Table 4.3-6: BAAQMD Air Quality CEQA Thresholds of Significance

Pollutant/Criteria	Construction-Related	Operational-Related[a]
ROG	54 lb/day	54 lb/day ; 10 tpy
NO_X	54 lb/day	54 lb/day ; 10 tpy
PM_{10}	82 lb/day (exhaust)	82 lb/day ; 15 tpy
$PM_{2.5}$	54 lb/day (exhaust)	54 lb/day ; 10 tpy
PM_{10} /$PM_{2.5}$ (Fugitive Dust)	Best Management Practices	None
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average) OR meet screening criteria: 1. Consistent with applicable congestion management plan 2. Not increase intersection volumes to more than 44,000 vehicle per hour 3. Not increase intersection volumes to more than 24,000 where mixing is substantially limited
GHGs –Stationary Sources	None	10,000 MT CO_2e/yr

Table 4.3-6: BAAQMD Air Quality CEQA Thresholds of Significance		
Pollutant/Criteria	**Construction-Related**	**Operational-Related[a]**
Risk and Hazards for new sources and receptors (Individual Project)	Same as Operational Standards	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient $PM_{2.5}$ increase: > 0.3 µg/m^3 annual average
Risk and Hazards for new sources and receptors (Cumulative Threshold	Same as Operational Standards	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) $PM_{2.5}$: > 0.8 µg/m^3 annual average (from all local sources)
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous materials locating near receptors or new receptors locating near stored or used acutely hazardous materials considered significant
Odors	None	5 confirmed complaints per year averaged over 3 years

Source: BAAQMD, 2017b
Notes:
a. BAAQMD construction-related thresholds and operational-related thresholds that are not applicable to the Project are not listed. The daily emission thresholds reflect average daily emissions values. The annual emission thresholds reflect maximum annual emissions values.

4.3.3.2 *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)**

As shown in Table 4.3-9, the emissions associated with the proposed Project would not exceed applicable significance thresholds and would result in less than significant operational impacts, except for daily and annual NOx emissions. As explained in the discussions of project operational emissions and ambient air dispersion modeling results below, although the NOx emissions exceed the BAAQMD CEQA thresholds of significance, the concentration of NOx resulting from the proposed Project does not exceed the NAAQS and CAAQS. As explained in the discussion of ambient air dispersion modeling results below, the ambient air quality dispersion model resulted in some pollutants exceeding the NAAQS and CAAQS, however this was due to background concentration data rather than pollutant concentrations resulting from the Project. Furthermore, for pollutants which exceeded the NAAQS and CAAQS due to high background pollutant concentrations, Project emissions were below applicable SILs.

The project will comply with all applicable rules and regulations of the BAAQMD regarding emissions of criteria pollutants and toxic pollutants. The proposed engines at the MCBGF will

comply with the applicable federal Tier 2 emissions standards for emergency standby electrical generation CI engines. The MCBGF will comply with all applicable provisions of the applicable 2017 BAAQMD Air Quality Implementation Plan. The MCBGF will obtain and maintain all required air quality related permits from the BAAQMD, and requirements imposed by the California Energy Commission. Therefore, the proposed Project would not conflict with or have any adverse impact on implementation of the 2017 Bay Area Clean Air Plan nor would the proposed Project disrupt or hinder implementation of any plan control measures. This conclusion is consistent with the findings of the 2018 MND.

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 with Mitigation Incorporated into the Project Design)**

As shown in Table 4.3-9, the proposed Project would result in a net emissions increase for PM_{10}, $PM_{2.5}$, CO, NO_x, SO_X and ROG on a daily and annual basis. The Project region is nonattainment for $PM_{2.5}$ and 8-hour ozone. All net emissions increases of PM_{10}, $PM_{2.5}$, CO, SO_x and ROG are below the BAAQMD CEQA thresholds of significance. The net emissions increase of NO_x is above the BAAQMD significance threshold, but below the NAAQS and CAAQS.

NOx emissions from construction impacts will be mitigated through measures incorporated into the project (PD AIR-1), as described in the discussion of project construction emissions below. NOx emissions from operation of the 45 proposed generators will be mitigated through procurement of NOx emission offsets as part of the BAAQMD permitting process for stationary sources. 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. 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. Under either option, the NOx emissions from the MCBGF will be offset to mitigate the emissions increase.

Per the ambient air dispersion model results, the concentration of PM_{10} is above the 24-hour and Annual CAAQS and the concentration of $PM_{2.5}$ is above the 24-hour NAAQS and Annual CAAQS when cumulated with background concentration data available from BAAQMD ambient air monitors. However, the concentrations of PM_{10} and $PM_{2.5}$ resulting from the proposed Project alone are significantly below the NAAQS and CAAQS and below the applicable SILs.

Therefore, the proposed Project's operational emissions will be less than significant with mitigation incorporated into the project. Because the proposed project does not conflict with any applicable air quality plans with mitigation incorporated, the proposed Project would also not contribute to cumulatively considerable air quality impacts. This conclusion is consistent with the findings of the 2018 MND.

Impact AIR-3:	The project would not expose sensitive receptors to substantial pollutant concentrations. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

The primary air toxic source associated with the proposed Project is DPM from the operation of the 45 proposed generators at the MCBGF. Health risk to local receptors is analyzed using dispersion modeling as presented in the sections below. The results of the health risk assessment shown in Table 4.3-12 demonstrate the highest cancer, chronic, and acute risks as a result of this Project are below BAAQMD's thresholds of significance for Risks and Hazards. Additionally, cumulative health risk impacts were assessed for all sources within 1,000 feet of the Project boundary (per BAAQMD CEQA Air Quality Guidelines) and are below the BAAQMD CEQA threshold of significance for cumulative health risk impacts.

Further, the Project would result in an ambient $PM_{2.5}$ increase of 0.070 µg/m^3 which is well below the significance threshold of 0.3 µg/m^3 and is therefore considered to be a less than significant impact. Additionally, as summarized in Table 4.3-13 below, cumulative impacts of $PM_{2.5}$ are also below the cumulative threshold of significance of 0.8 µg/m^3.

As described in further detail in the discussion of project construction emissions, the project would incorporate measures identified in the 2018 MND to reduce construction health risks to a less than significant level (PD AIR-1). Therefore, no significant health risks are expected to occur from the operations of the proposed project. This conclusion is consistent with the findings of the 2018 MND.

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 proposed Project would not involve the development of the types of land uses that would result in emissions that are typically associated with odor issues, such as wastewater (sewage) treatment plants, landfills, composting facilities, refineries, or chemical plants. Nor would the Project locate sensitive receptors within proximity of these types of odor-producing sources. Therefore, the proposed Project would not result in impacts associated with odor. This conclusion is consistent with the findings of the 2018 MND.

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

Project Construction Emissions

The proposed Project involves two phases that include construction activities. Construction emissions from the construction of the MCDC will result from demolition activities, ground preparation and grading activities, building erection, parking lot construction activities, and use of onsite construction equipment. Construction emissions from the MCBGF are nearly negligible but are included in the MCDC construction emission calculations. MCBGF offsite construction emissions will result primarily from material transport to and from the site, material placement in the generation yard, and worker travel. With implementation of mitigation measures incorporated into the project, as described in further detail below, all off-road equipment to be used in the construction project will achieve a project wide fleet-average of 28 percent reduction in NO_x and 70 percent reduction in PM compared to the California Emissions Estimator Model (CalEEMod) modeled average used in this analysis.

Construction of Phase I to support the first MCDC Building is anticipated to begin in December 2019 or January 2020 and take 14.5 months. Construction of Phase II is conservatively assumed to occur immediately following the completion of the first generation yard and to take approximately 10.5 months. This assumption calculates conservative construction emissions as construction equipment emission profiles improve over time. Construction emissions are computed using CalEEMod, Version 2016.3.2, The construction schedule and projected equipment usage were provided as inputs for the model.

The 2018 MND adopted for the previously proposed data center facility on the site includes construction period emissions for PM, NO_x, and ROG, as shown in Appendix A (Table 2 of Appendix AQ-7). Comparison of the 2018 MND construction emissions to those shown in Table 4.3-7 below shows that the construction emissions of PM_{10} and $PM_{2.5}$ from the proposed Project are less than those of the 2019 MND. The 2018 Data Center Project had PM_{10} exhaust emissions of 0.49 tons per year and $PM_{2.5}$ exhaust emissions of 0.46 tons per year, while the proposed Project has maximum total PM_{10} emissions of 0.60 tons per year and maximum total $PM_{2.5}$ emissions of 0.22 tons per year. Therefore, due to modifications between the 2018 MND and the proposed Project resulting in similar or lower construction emissions, it is reasonable to assume that a construction HRA for the proposed Project would result in similar conclusions as the 2018 MND's construction HRA, which was accepted by the City of Santa Clara. Further, it is reasonable to estimate that the HRA results would be lower for the proposed Project due to the reduction in annual $PM_{2.5}$ construction emissions resulting from those modifications. Of particular note are the 5,610 square foot reduction in total building area constructed and the 412 day extension to construction time period to increase emission dispersion.

With implementation of identified mitigation measures, the 2018 MND completed a construction HRA that was accepted by the City of Santa Clara. Since the proposed Project will have fewer annual emissions of particulate matter and will incorporate the same 2018 MND mitigation measures into the project to further reduce those PM emissions, it is reasonable to conclude that the City of Santa Clara's acceptance would also to the proposed Project. Table 4.3-7 includes a summary of emissions due to construction of the proposed Project in comparison to the BAAQMD CEQA thresholds of significance.

Table 4.3-7: Project Construction Emissions Summary and Comparison to Significance Thresholds [a,b,c]								
Activity	**Pollutant**							
	Fugitive PM_{10}	**Fugitive $PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**NO_X**	**ROG/ VOC**	**SO_2**
	Pounds per Day (lb/day)							
Construction Emissions[2]	4.11	1.25	4.59	1.70	30.7	41.9	33.7	0.10
Significance Threshold	***N/A***	***N/A***	***82***	***54***	***N/A***	***54***	***54***	***N/A***
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***	***No***	***No***
Activity	**Tons per Year (tpy)**							
Construction Emissions[2]	0.53	0.16	0.60	0.22	3.99	5.44	4.39	0.01
Significance Thresholds[3]	***N/A***	***N/A***	***N/A***	***N/A***	***N/A***	***N/A***	***N/A***	***N/A***
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***	***No***	***No***

a. Fugitive emissions will be controlled with best management practices, in accordance with the significance threshold.
b. Construction emissions represent the maximum mitigated emissions based on 260 total weekdays per year.
c. There are no annual construction-related thresholds of significance.

Mitigation Incorporated into the Project Design:

PD AIR-1: The project will implement the following measures identified in the 2018 MND during construction.

Basic Measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Applicable Enhanced Control Measures:

- All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
- Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) Site accesses to a distance of 100 feet from public paved roads shall be treated with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel and (2) washing truck tires and construction equipment of prior to leaving the site.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimizing the idling time of diesel-powered construction equipment to two minutes.

Exhaust Control Measures:

- The project shall develop a plan demonstrating that the off-road equipment (more than 25 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 28 percent NO_x reduction and 70 percent PM reduction compared to the CalEEMod modeled average used in this report, to meet the emission values as summarized in Table 4.3-7 above. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. The following are examples of feasible methods:
- All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 2 verifiable diesel emission control devices that altogether achieve a 85percent reduction in particulate matter exhaust; alternatively (or in combination)
- Use of diesel construction equipment that meets U.S. EPA Tier 4 interim of Tier 4 final emission standards.
- Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators.

Operational Emissions Calculation Methodology

This section discusses methods used for calculating emissions associated with the proposed Project operations. An overview is provided below and details for each emission source are provided in Tables 4.3-8 through 4.3-9.

Proposed Project Overview. Operational air pollutant and GHG emissions are those that result from operation of the 45 generators for non-emergency testing and maintenance purposes, mobile sources such as employee vehicles, and general operation of the MCDC buildings.

For the purposes of comparison to the BAAQMD maximum annual emission thresholds of significance, the Project emission calculations assume 50 hours per year per generator for non-emergency operation testing and maintenance operation per Title 17, CCR Section 93115.6(a)(3)(A)(1)(c): ATCM for Stationary CI Engines. For purposes of comparison to the BAAQMD average daily emission thresholds of significance, Project emission calculations assume 24 hours per day for all critical backup generators combined and 24 hours per day for all life safety generators combined.

Generator Emissions. The calculation methods utilize for estimating the proposed Project operational emissions are explained in detail in the following paragraphs. Emission factors and calculation methods used to quantify emissions from the proposed Project are based on facility information and data available from generally accepted public sources.

In the proposed Project, the MCBGF is equipped with 43 critical backup generators and two life safety generators. Oppidan proposes to limit operation to one generator at a time for routine maintenance and testing activities conducted pursuant to manufacturer specifications. Generator operation for emergency use and emission testing for compliance purposes is not limited (BAAQMD, 2019e). The emission calculations are based on the generator engine horsepower, hours of operation, and EPA family emission factors. Each generator will be equipped with a diesel particulate filter, for which a control efficiency of 85% is assumed per CARB Executive Order DE-07-001-07. Per this executive order, CARB states that a diesel particulate filter efficiency of 85% can be applied to emergency standby engines for approved engine models, of which both of the generator models for the proposed Project are included. The executive order also notes that duty cycles must be reviewed to ensure compatibility prior to retrofitting a generator with a diesel particulate filter. Since the proposed generators are included in the executive order, the 85% control efficiency is compatible. Emission factors for PM, NO_x, ROG and CO are provided by the EPA engine family certification levels (U.S. EPA, 2019b). The emission factors for sulfur dioxide (SO_2) are calculated with the assumption that the proposed generators will use ultra-low sulfur diesel fuel which contains 0.0015% sulfur as defined under 40 CFR 80, Subpart I. Per this assumption, the SO_2 emission factor from AP-42 Section 3.4, Table 3.4-1 applies.

Mobile and Building Operation Emissions. Emissions from mobile sources and general operation of the MCDC buildings are calculated using the CalEEMod. Once Phase I and Phase II are complete, the Project would generate approximately 124 round trips daily to the MCDC encompassing employee and visitor trips. Additionally, the MCDC would generate building operational emissions from the use of consumer products, architectural coating, landscaping work, energy usage, solid

waste disposal, and water usage. CalEEMod output files are included in Appendix AQ-4 of Appendix A.

Project Operational Emissions

Table 4.3-8 summarizes estimated hourly, daily and annual emissions for the operational emissions associated with the proposed Project. The hourly emissions are separated by generator type. The daily and annual emissions account for the maximum daily and annual hours of operation, respectively, per generator type and then combine these into a total value. The detailed calculations are provided in Appendix AQ-3 of Appendix A. It is expected that the daily and annual operational emissions in Table 4.3-8 and Table 4.3-9 encompass emissions from start-up and shutdown conditions, however the manufacturer does not provide speciated emission profiles for specific start-up and shutdown conditions.

Table 4.3-8: Project Operational Emissions

Pollutant	Hourly Emissions		Daily Emissions	Annual Emissions
	Backup Generators	Life Safety Generators	All Generators	All Generators
	Pounds per Hour	Pounds per Hour	Pounds per Day	Tons per Year
$PM/PM_{10}/PM_{2.5}$	0.11	0.02	3.17	0.12
NO_X	30.29	8.36	928	33.0
ROG/VOC	1.55	0.16	41	1.68
CO	5.38	1.18	157	5.84
SO_2	0.044	0.011	1.3	0.048

Table 4.3-9: Project Operational Emissions Summary and Comparison to Significance Thresholds

Activity	Pollutant					
	PM_{10}	$PM_{2.5}$	CO	NO_X	ROG/ VOC	SO_2
	Pounds per Day (lb/day)					
Generator Operational Emissions	3.17	3.17	157	928	41.2	1.32
Mobile and Building Operational Emissions	1.07	0.49	5.28	4.27	12.5	0.03
Total Project Operational Emissions	4.24	3.66	162	932	53.7	1.35
Significance Threshold	***82***	***54***	[see note a]	***54***	***54***	***N/A***
Significant Impact?	***No***	***No***	***No***	***Yes***	***No***	***No***
Activity	**Tons per Year (tpy)**					
Generator Operational Emissions	0.12	0.12	5.84	33.0	1.68	0.05
Mobile and Building Operational Emissions	0.20	0.09	0.96	0.78	2.28	0.01
Total Project Operational Emissions	0.32	0.21	6.80	33.8	3.96	0.06
Significance Thresholds	***15***	***10***	[see note a]	***10***	***10***	***N/A***
Significant Impact?	***No***	***No***	***No***	***Yes***	***No***	***No***

a. CO is evaluated in this analysis based on screening criteria identified in Table 4.3-6 for Local CO.

The following should be noted with respect to Table 4.3-9 above:

- Project average daily and maximum annual NO_x emissions exceed the BAAQMD CEQA thresholds of significance.
- Per the ambient air dispersion model discussed below, the concentration of NO_x as a result of the proposed Project is below the applicable NAAQS and CAAQS.
- The emissions of NO_x from the generators will be mitigated through procurement of NO_x emission offsets. Because the emissions exceed 10 tons, the MCBGF would not qualify for offsets from the BAAQMD Small Facility Offset Bank.

With regards to the threshold of significance for local CO, it should be noted that the limited level of offsite mobile source activity during project operations would not increase peak hour intersection level of service and therefore would have an immeasurable effect on local CO levels at nearby roadway intersections. This is due to the minimal number of employees and visitors at the site. Therefore, local CO emissions are determined to be less than significant and are not further assessed in other sections of this report.

BAAQMD sets an odor threshold of significance where if there are a maximum of five odor complaints per year averaged over three years it will result in significant adverse air quality impacts. The Project is not considered a typical odor producing source such as a wastewater (sewage) treatment plant, landfill, composting facility, refinery, or chemical plant. As such, it is assumed that the Project will not exceed the identified threshold of significance for odor.

Impacts from toxic air contaminants and comparison to the BAAQMD thresholds of significance for Risks and Hazards are discussed below.

Air Dispersion Modeling Methodology

This section presents the modeling methods used prior to evaluating potential air quality impacts and health risks associated with the proposed Project. Each model incorporates the same components and inputs described below. AERMOD dispersion modeling is used in this analysis to perform a load screening analysis and comparison to AAQS standards based on the equipment associated with the Project. The concentrations of pollutants from the proposed Project with incorporation of background concentration data do not exceed the NAAQS or CAAQS except for PM_{10} and $PM_{2.5}$ for 24-hour and annual averaging period. This is addressed further in the discussion of ambient air dispersion model results below.

Ambient air quality modeling was not completed for the construction period of the proposed Project. As many sources of emissions relating to construction of the proposed Project will be consistently moving into, out of, and within the site and will not be at the site for more than one year, it is atypical to model ambient air quality for the construction period. Additionally, it should be noted that Oppidan is implementing the best mitigation strategies available for construction emissions by ensuring all off-road equipment to be used in the construction phase of the Project will achieve a project wide fleet-average 28 percent reduction in NO_x and 70 percent reduction in PM compared to the CalEEMod modeled average used in this analysis and by implementing mitigation measures incorporated into the project design. Further, full operation will not commence until construction has been completed.

Air Dispersion Model
The air quality analysis is conducted according to U.S. EPA guidelines. The AERMOD model (version 19191) is used with Trinity Consultants' (Trinity's) *BREEZE™ AERMOD Suite* software to calculate ground-level concentrations the regulatory default parameters. All model runs for this analysis use the BREEZE-developed parallel processing executable. This executable retains all of the U.S. EPA AERMOD code, but adds code to allow AERMOD to run on multiple processor cores simultaneously, producing faster results.

Coordinate System
The locations of emission sources and receptors are represented in the Universal Transverse Mercator (UTM) coordinate system using the World Geodetic System (WGS84) projection. The UTM grid divides the world into coordinates that are measured in north meters (measured from the equator) and east meters (measured from the central meridian of a particular zone, which is set at 500 km).

Terrain Elevations
The terrain elevation for each receptor and emission source is determined using the United States Geological Survey (USGS) 1/3 arc-second National Elevation Dataset (NED). The data, obtained from the USGS, have terrain elevations at 10-meter intervals. The terrain height for each individual modeled receptor and emission source is determined by assigning the interpolated height from the digital terrain elevations surrounding each modeled receptor or emission source.

In addition, the AERMOD terrain preprocessor, AERMAP (version 18081), is used to compute the hill height scales for each receptor. AERMAP searches all NED data points for the terrain height and location that has the greatest influence on each receptor to determine the hill height scale for that receptor. AERMOD then uses the hill height scale in order to select the correct critical dividing streamline and concentration algorithm for each receptor.

Meteorological Data
Meteorological data is provided by BAAQMD for the calendar years 2013 through 2017. Surface data is from the San José International Airport (Station ID 23293; elevation of 15.5 meters); upper air data is from the Oakland International Airport (Station ID 23230). The closest meteorological stations are selected for surface and upper air data.

Building Downwash
Emission sources' proximity to nearby structures creates potential for downwash of the emission plume and elevated ground-level concentrations. Based on applicable stack parameters, no sources associated with the Project are within the structure influence zone of the buildings outside the facility, therefore no buildings beyond the facility boundary are included in the models. As such, only buildings within the facility boundary are accounted for in building downwash. Building dimensions were determined from the facility site plans provided in AQ-1 of Appendix A and generator enclosure dimensions are determined from the equipment specifications in Appendix AQ-2 of Appendix A.

The Building Profile Input Program (BPIP) with Plume Rise Model Enhancements (PRIME) (version 04274) is used to determine the building downwash characteristics for each stack in 10-degree intervals. The PRIME version of BPIP features enhanced plume dispersion coefficients due to

turbulent wake and reduced plume rise caused by a combination of the descending streamlines in the lee of the building and the increased entrainment in the wake.

Receptors

According to U.S. EPA regulations, "ambient air" is defined as the portion of the atmosphere external to source, to which the public has access. The dispersion modeling concentrations are determined for ambient air locations (i.e., receptors). Oppidan's property boundary is the ambient air boundary for the modeling demonstrations. The following receptors are used to ensure ambient air is protected:

- Boundary receptors with 20-meter (m) spacing; and
- A variable density receptor grid with 20 m intervals from the facility boundary to 500 m, 50 m intervals to 1,000 m, 100 m intervals to 2,000 m, 200 m intervals to 5,000 m, and 500 m intervals to 10,000 m.

All receptors are set at a flagpole height of 1.8 meters to conservatively represent an average human's breathing height as recommended by the California Office of Environmental Health Hazard Assessment (OEHHA) guidelines (OEHHA, 2015).

Load Screening Analysis

The proposed generators will operate at varying loads for purposes of maintenance and testing, in which the pollutant emission rates and stack parameters (specifically exhaust temperature and flow rate) will differ for each load. The generators will not all operate simultaneously on a short-term basis for routine maintenance and testing activities conducted pursuant to manufacturer specifications. A load screening analysis model was completed to determine the worst-case load and generator for each pollutant and short-term averaging consistent with the averaging periods of the Federal and/or State AAQS. The worst-case generator and load is then used to develop the AAQS models.

Emission Sources

AERMOD allows for emission units to be represented as point, volume, area, or road sources. The modeled generators are considered point sources and are modeled as such. There is a total of 217 point sources in the model, based on five point sources representing each of the 43 critical backup generators and one point source representing each of the 2 life safety generators. The five point sources at each critical backup generator represented 10%, 25%, 50%, 75% and 100% loads using the load-specific stack parameters per manufacturer specification sheets. The point sources at each life safety generator represent 100% load. Refer to Appendix AQ-5 of Appendix A for a summary of emission unit modeling parameters. Critical backup generators will either be double-stacked or single-stacked. Double-stacked generators consist of two point sources per generator enclosure while the single-stacked generators and life safety generators have one point source.

Emission Rates

The AERMOD dispersion model is run with a point source unit emission rate of 1 g/s for "Other" pollutant as reflected in the load screening analysis model inputs included in Appendix AQ-5 of Appendix A.

Load Screening Analysis Model Results

The AERMOD dispersion model results are scaled to the emission factors provided for each pollutant and generator load per the critical backup generators' manufacturer performance specifications and life safety generators' EPA engine family certification levels. The generator which contributed most to the maximum ambient concentrations is determined by comparing the scaled results to the short-term Federal and/or State AAQS. A detailed summary of the worst-case generator at the worst-case load for each criteria pollutant and AAQS averaging period based on these scaled results is included in Table 4.3-10. The location of the worst-case generators for each pollutant and averaging period is described in Table 4.3-10. Background concentration data at the ambient air monitoring station in closest proximity to the Project was determined as described in the discussion of local air quality above. AERMOD dispersion model outputs are included in Appendix AQ-6 of Appendix A.

Table 4.3-10: Load Screening Analysis Model Worst-Case Scenario Results

Pollutant	Averaging Period	Worst-Case Generator	Worst-Case Load	Pollutant Unitized Emission Rate (g/s/generator)
NO_2	1-hour	GEN42	100%	3.064E-02
CO	1-hour	GEN23	10%	3.27E-01
	8-hour	GEN22	10%	3.27E-01
SO_2	1-hour	GEN42	100%	3.17E-05
	3-hour	GEN22	100%	5.55E-03
	24-hour	GEN34	100%	5.55E-03
PM_{10}	24-hour	GEN22	10%	4.14E-03
$PM_{2.5}$	24-hour	GEN22	10%	4.14E-03

Air Dispersion Modeling Analysis

Using the worst-case scenarios from the load screening analysis model and critical backup generator and life safety generator emissions calculations, the generator emissions are compared to the short-term NAAQS and CAAQS. All generators are included in the annual modeling scenarios. Ambient air quality standards define clean air and provide protection to public health, including the health of sensitive populations such as children and the elderly. Therefore, modeling in comparison to the NAAQS and CAAQS provides insight into the impact of the proposed Project on public health and clean air in the area surrounding the proposed Project area.

Emission Sources

Air dispersion models for averaging periods of less than one year include the representative worst-case generator based on location as determined per the load screening analysis. Stack parameters correspond to the representative the worst-case load identified in the load screening analysis.
Air dispersion models for annual averaging periods include all 43 critical backup generators and two life safety generators. Stack parameters for the critical backup generators, such as temperature and flow rate, are conservatively set at 10% load, representing the lowest temperature and flow rate. Low

temperatures and low flow rates are considered to be most conservative because cooler, slow-moving plumes are less ideal for dispersion and tend to concentrate closer to the Project area and surrounding area, resulting in higher concentrations. In contrast, hot and fast-moving plumes will disperse more quickly and create lower concentrations in and around the facility.

Emission Rates

The AERMOD dispersion model is run with different unit emission rates dependent upon the averaging period of the model. For averaging periods of less than one year, the emissions factors from the manufacturer specification sheets for the worst-case representative generator load are converted to a gram-per-second equivalent value. This equivalent value is input as the emission rate into the AERMOD dispersion model.

Operation will be limited to one generator at a time for routine maintenance and testing activities conducted pursuant to manufacturer specifications. The short-term AAQS models represent the most conservative emissions' scenario in which the worst-case load and generator operates over the entire averaging period.

For annual averaging periods the Potential to Emit (PTE) calculated in the emission calculations per generator was converted to a gram-per-second equivalent value for the critical backup generators and life safety generators. These equivalent values were inputted as the emission rate for the respective type of generator into the AERMOD dispersion model.

Background Concentration

Background concentration data at the ambient air monitoring station in closest proximity to the Project is determined as described in the discussion of local air quality above.

As shown in Table 4.3-11, the background concentrations of $PM_{2.5}$ and PM_{10} at certain averaging periods exceed the AAQS in some instances. Therefore, any additional Project emissions of PM_{10} or $PM_{2.5}$ at the same averaging periods would also exceed the AAQS, regardless of the magnitude of potential emissions from the proposed Project.

Ambient Air Dispersion Model Results

The representative worst-case generators from the load screening analysis model were modeled and the resulting concentrations were compared to the NAAQS and CAAQS for each pollutant at each applicable averaging period. A detailed summary of the results and the comparison to NAAQS and CAAQS is included in Table 4.3-11. The total concentration of PM_{10} from both background concentration and Project emissions exceed the 24-hour CAAQS and the annual CAAQS. The total concentration of $PM_{2.5}$ from both background concentration and Project emissions exceed the 24-hour NAAQS and the annual CAAQS. However, for each of these exceedances, the concentrations of pollutant emissions resulting from the Project are less than 0.70 $\mu g/m^3$ and are below the applicable Class II Significant Impact Levels (SIL) thresholds which represent the concentrations of criteria pollutants in the ambient air that are considered inconsequential in comparison to the NAAQS (U.S. EPA, 2018). As stated previously, the background concentration data for each of these cases already exceeds the AAQS and thus despite the comparably minimal Project emissions the AAQS is exceeded. Additionally, as demonstrated in Table 4.3-9, the operational PM_{10} and $PM_{2.5}$ emissions from the proposed Project are well under the BAAQMD thresholds of significance. Due to these

circumstances, Oppidan does not consider the Project emissions as significantly impacting the state or federal air quality plans.

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

- The concentration of PM_{10} is above the 24-hour and annual CAAQS and the concentration of $PM_{2.5}$ is above the 24-hour NAAQS and annual CAAQS when cumulated with background concentration data available from BAAQMD ambient air monitors.
- The concentrations of PM_{10} and $PM_{2.5}$ resulting from the proposed Project alone are significantly below the NAAQS and CAAQS. Additionally, the concentration of PM_{10} resulting from the proposed Project is below the PM_{10} 24-hour and annual SIL. The concentration of $PM_{2.5}$ is below the $PM_{2.5}$ 24-hour SIL and $PM_{2.5}$ annual SIL.
- The background concentration data for PM_{10} is above the 24-hour and annual CAAQS and the background concentration data for $PM_{2.5}$ is above the 24-hour NAAQS and annual CAAQS without including concentrations from the proposed Project. Therefore, the background concentrations of PM_{10} and $PM_{2.5}$ are responsible for the proposed Project's total concentration exceeding the NAAQS and CAAQS for PM_{10} and $PM_{2.5}$.
- Per the BAAQMD CEQA thresholds of significance, PM_{10} and $PM_{2.5}$ emissions are much lower than the significance thresholds.

Health Risk Analysis

This section presents the evaluation of potential health risks from TACs associated with the proposed Project. The air toxic sources associated with the proposed Project are the emissions of diesel from emergency generators. AERMOD dispersion modeling and the Hotspots Analysis and Reporting Program (HARP) Air Dispersion Modeling and Risk Tool (ADMRT) (version 19121) is used in this analysis to estimate carcinogenic and chronic health risks at residential and worker receptors as a result of the emissions associated with the Project.[9] The analysis concludes that the health risk is below BAAQMD's HRA thresholds. The increased risk is evaluated on a per-receptor basis using the results from HRAs conducted for the proposed Project emissions scenario. The results support a less than significant air quality impact on air toxic pollutant emissions. The following sections detail the parameters relevant to the air dispersion model and HRA.

Receptors

The fenceline and refined variable density receptors used for the air dispersion modeling are also used to evaluate the project health risks associated with the proposed Project.

The Point of Maximum Impact (PMI) is selected as the highest risk receptor regardless of location. The Maximum Exposed Individual Resident (MEIR) and Maximum Exposed Individual Worker (MEIW) are selected from the receptor grid points that best align with either a residence or workplace, respectively, where the highest impacts occur.

As the risk varied greatly throughput the area of the MEIR, a spatial averaging grid is utilized to more accurately represent the residential cancer risk. The spatial averaging grid receptors are spaced approximately 4 meters apart and encompass the area of the house (OEHHA, 2015).

[9] DPM is the only toxic pollutant emitted from the Project's operations, which does not have acute health risk effects.

Emission Sources

For the HRA, the AERMOD dispersion model is run with point sources representing each of the 43 critical backup generators and two life safety generators. Stack parameters such as temperature and flow rate for the backup generators are conservatively set at 10% load, representing the lowest temperature and flow rate. Stack parameters for the life safety generators are set at 100% load due to the availability of manufacturer-specified stack parameter data.

Table 4.3-11: Ambient Air Quality Dispersion Model Results and Comparison to AAQS

Pollutant	Averaging Period	Ambient Air Quality Standards (AAQS)		Standardized Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	Comparison to Ambient Air Quality Standards	
		CAAQS[a]	NAAQS[b]				CAAQS	NAAQS
		($\mu g/m^3$)	($\mu g/m^3$)				Below Threshold?	Below Threshold?
NO_2	1-hour	339	--	3.07	162	165	Yes	--
		--	188	2.13	94	96.5	--	Yes
	Annual	57	--	16	24	40	Yes	--
		--	100	15.1	22	37.4	--	Yes
CO	1-hour	23,000	--	65	2,864	2,929	Yes	--
		--	40,000	64	2,838	2,902	--	Yes
	8-hour	10,000	--	46	2,406	2,452	Yes	--
		--	10,000	42	2,406	2,448	--	Yes
SO_2	1-hour	655	--	0.00352	7.9	7.91	Yes	--
		--	196	0.00259	6.9001	6.9027	--	Yes
	3-hour	--	1,300	0.30	7.3	7.6	--	Yes
	24-hour	105	--	0.357	2.9	3.24	Yes	--
	Annual	--	80	0.024	18.34	18.37	--	Yes
PM_{10}	24-hour	50	--	0.44	122.00	122.44	No	--
		--	150	0.40	71.0	71.4	--	Yes
	Annual	20	--	0.070	23.10	23.17	No	--
$PM_{2.5}$	24-hour	--	35	0.31	42.10	42.41	--	No
	Annual	--	12	0.059	10.30	10.36	--	Yes
		12	--	0.070	12.80	12.87	No	--

a. The CAAQS are codified in the California Code of Regulations Title 17 § 70200 Table of Standards and accessed September 2019 here: https://govt.westlaw.com/calregs/Document/I020618D0D60811DE88AEDDE29ED1DC0A?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

b. The NAAQS are codified in 40 CFR Part 50, National Primary and Secondary Ambient Air Quality Standards and accessed September 2019 here: https://www.ecfr.gov/cgi-bin/text-idx?SID=f455d98eb15c432be5a7b38a03257511&mc=true&node=pt40.2.50&rgn=div5

Emission Rates
The AERMOD dispersion model is run with a point source unit emission rate of 1 g/s for "Other" pollutant. The AERMOD results are scaled by the project operational annual PTE per generator for input into HARP.

Exposure Pathways
Results from the air dispersion modeling assessment are combined with applicable TAC emission rates in HARP to model risk and exposure. Exposure pathways are generally classified as primary pathways and secondary pathways. Inhalation is the primary exposure pathway for all modeled sources and substances. For multi-pathway substances, non-inhalation exposure pathways are also to be evaluated. As DPM does not contribute to acute health risk, only cancer risks and chronic hazard indices are considered for the analysis.

Residential cancer risks and chronic hazard indices are evaluated for the following exposure pathways: dermal absorption, soil ingestion (0.02 m/s for particulate controlled sources), and mother's milk. HARP default parameters were used for numerical pathway inputs. The default fraction of time at residence to age bins greater than or equal to 16 years is applied to account for adults spending a portion of the day away from their residence. The fraction of time at residence to age bins less than or equal to 16 years is not applied because sensitive receptors are located within the Zone of Impact (ZOI) which is the 1 per million or greater cancer risk zone from the Project (OEHHA, 2015). Figure 4-3 of Appendix A demonstrates the ZOI (the 1 per million or greater cancer risk zone) and the zone of influence (the 1,000 feet zone around the property boundary) in relation to the sensitive receptors.

Worker cancer risks and chronic hazard indices are evaluated based on worker multi-pathway exposure for the following exposure pathways: dermal absorption, soil ingestion (deposition rate = 0.02 m/s for particulate-controlled sources). An 8-hour breathing rate with moderate intensity and a 4.2 worker adjustment factor (WAF) was applied to the inhalation pathway to conservatively account for exposure to workers while testing occurred primarily during regular business hours.

Operational Project Air Toxic Modeling Results
The risk from the proposed Project for each residential or worker receptor is evaluated against the BAAQMD significance thresholds. Figure 4-4 of Appendix A shows the location of the MEIR, MEIW, and the PMI. The MEIR, MEIW, and PMI are the same for cancer risk and chronic hazard indices.

The MEIR's cancer risk is the arithmetic average of the cancer risk from the spatial averaging grid described in in the discussion of receptors above. The spatially averaged residential cancer risk and the highest residential chronic hazard index, worker cancer risk, and worker chronic hazard index are all below the BAAQMD significance thresholds for health risk. These risks are listed in Table 4.3-12. The HRA concludes that the Project would not have a significant health risk.

Table 4.3-12: Health Risk Assessment Results							
Receptor	**Receptor ID**	**Location (UTM Zone 10)**	**Cancer Risk (in 1 million)**		**Chronic Hazard Index**		**Significant Impact?**
			Project Risk	**Significance Threshold**	**Project Hazard Index**	**Significance Threshold**	
MEIR	2091	591376.0 m E, 4138821.4 m N	-	10.0	2.59E-03	1.0	No
MEIR	Spatial Averaging Grid	Various	9.98[1]	10.0	-	1.0	No
MEIW	3202	591696.0 m E, 4138561.4 m N	6.91	10.0	5.32E-03	1.0	No
PMI	10131	591341.3 m E 4138691.5 m N	51.39	N/A	1.19E-02	N/A	N/A

[1]This value is extremely conservative and is based on all engines running at the worst case of 10 percent. Additional HRA analyses are being prepared at the time of filing of this application to represent more reasonable case operation profiles and will be submitted under separate cover.

Cumulative Health Risk Assessment Results

In additional to the HRA described above, an assessment of the proposed Project's impact summed with the impacts of sources within 1,000 feet of the Project was conducted and compared to the BAAQMD CEQA cumulative thresholds of significance (BAAQMD, 2017b).[10] The cumulative cancer risk, hazard index, and $PM_{2.5}$ concentration was calculated using a Health Risk Calculator and emissions data from stationary sources within 1,000 feet of the proposed Project, as provided by BAAQMD. The Health Risk Calculator incorporates factors such as risk associated with individual toxic air pollutants emitted from a stationary source and how far a stationary source is from the Project's MEIR or MEIW to calculate overall cancer risk, hazard index, and $PM_{2.5}$ concentration from a stationary source. The cancer risk and $PM_{2.5}$ concentration from highways, major streets and rails within 1,000 feet of the Project was determined using BAAQMD raster files that incorporate annual average daily traffic (AADT) per EMFAC 2014 data for fleet mix and includes OEHHA's 2015 Guidance Methods. The raster files encompass highways, major streets and rails with greater than 30,000 AADT. Table 4.3-13 summarizes the impacts of from cumulative sources in comparison to the BAAQMD threshold of significance for cumulative risk and hazards.

[10] Per the BAAQMD CEQA Guidelines, the zone of influence for the cumulative threshold is 1,000 feet from the source or receptor.

Table 4.3-13: Impacts from Cumulative Sources					
Source	**Distance from MEIR[a] (m)**	**Distance from MEIW[a] (m)**	**Maximum Cancer Risk (per million)**	**Maximum Hazard Index**	**Maximum Annual $PM_{2.5}$ ($\mu g/m^3$)**
Project Operation of Generators	[see note b]	[see note b]	9.98	2.59E-03	0.070
Plant No. 10647, California's Great America	216	630	0.78	1.72E-03	0
Plant No. 17717, 2350 Mission Building, LLC	478	328	4.05E-02	6.26E-05	0
Plant No. 18982, Omni Vision	252	118	2.25E-01	4.66E-04	0
Plant No. 17406, General Dynamics – Mission Systems	268	215	1.16	1.80E-03	0
Cumulative Impacts from Surrounding Highways, Main Streets, and Railways	Varies	Varies	37	[see note c]	0.61
Maximum Cumulative Sources			49.19	0.01	0.68
Maximum Cumulative Sources + 1 Future Data Center within 1,000 feet			59.17	0.01	0.75
Significance Threshold			100	10.0	0.8
Significant Impact?			**No**	**No**	**No**

a. BAAQMD's Health Risk Calculator uses a multiplier to reduce the risks associated with a stationary source in relation to the distance the stationary source is from the MEIR or MEIW. Thus, stationary sources that are farther from the MEIR or MEIW contribute less cancer risk, hazard index and $PM_{2.5}$ to the cumulative sum. The risk associated with the MEI in closest proximity was conservatively used for the cumulative calculation.
b. Due to a distance multiplier not being applied to the cancer risk, hazard index or $PM_{2.5}$ concentration from the Project Operation of Generators, the distance to the MEIR and MEIW is not included in this table.
c. Hazard index is not provided for highways, mains streets and railways per the BAAQMD raster files.

The cumulative cancer risk, hazard index, and $PM_{2.5}$ concentration were conservatively calculated using the maximum value in relation to the MEIR and MEIW. Based on the results of the comparison to cumulative thresholds for the proposed Project, the Project's health risk does not exceed the cumulative health risk thresholds when summed with the health risk of sources within 1,000 feet of the Project.

With regards to future projects, assuming one new data center is constructed within 1,000 feet of the Project site boundary with the same cancer risk, hazard index and $PM_{2.5}$ concentration as the proposed Project, the cumulative thresholds of significance would still not be exceeded. However, as data for future projects is not available from BAAQMD, the cumulative HRA was performed based on existing operations that are quantified by BAAQMD.

4.4 BIOLOGICAL RESOURCES

The following discussion is based in part on an Arborist Report prepared for the 2018 MND by *McClenahan Consulting, LLC* in February 2017. A copy of the report is included in Appendix C.

4.4.1 Environmental Setting

4.4.1.1 *Regulatory Framework*

Federal and State

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA: 16 USC Section 703 et seq.) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the U.S. Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, which is a violation of the MBTA.

Birds of Prey

Birds of prey, such as owls and hawks, are protected in California under provisions of the state Fish and Game Code, Section 3503.5 (1992), which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season can result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the California Department of Fish and Wildlife (CDFW).[11]

City of Santa Clara

Santa Clara General Plan

The General Plan includes several land use and conservation policies designed to protect biological resources in the City, specifically trees. These policies include the following:

Policy 5.3.1-P10: Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.

Policy 5.10.1-P4: Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way.

[11] Formally the California Department of Fish and Game.

Santa Clara Valley Water Resources Protection Collaborative Guidelines

The City of Santa Clara adopted the *Water Resources Protection Collaborative Guidelines Manual* in 2007. General Plan policy 5.10.1-P2 requires that new development follow the "Guidelines and Standards for Lands Near Streams" to protect streams and riparian habitats, and Policy 5.10.1-P5 encourages enhancement of land adjacent to creeks in order to foster the reinstatement of natural riparian corridors where possible. Guides 2 – Use of Local Native Species, 3 – Use of Ornamental or Non-Native Species, 6 – Placement of Fill and Planting of Trees by Levees, 9 – Grading Adjacent to Creeks and Valley Water Right of Way, and 10 – Plant Species for Vegetated Buffers and Swales are applicable to the proposed project.

Valley Water (formerly the Santa Clara Valley Water District) has adopted an ordinance that protects watercourses, creeks, streams, lakes, ponds, and reservoirs. The ordinance requires a project review and permitting process to minimize impacts to watercourses resulting from development or community activities. Valley Water currently issues encroachment permits via the Water Resources Protection Ordinance, which requires permits for work on District property and easements. Since project construction activities would not be located on Valley Water property, the project would not require an encroachment permit.

4.4.1.2 *Existing Conditions*

The project site consists of a 358,000 sf office/R&D building and associated employee parking lot. Ornamental landscaping and mature trees are located throughout the parking lot and along the project 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 the 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

Trees located on the project site are primarily non-native species in varying sizes and levels of health. City policy is to protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size and all other trees over 36 inches in circumference (approximately 11 inches in diameter) as measured from 48 inches above the ground surface. Within the boundaries of the proposed modifications, there are a total of 256 trees, 104 of which are considered protected by City of Santa Clara policy. Table 4.4-1 below includes the species and number of species of the trees on the site.

Table 4.4-1: Tree Summary		
Common Name	**Species**	**Number of Trees Present**
American sweet gum	*Liquidambar styraciflua*	6
Aristocrat pear	*Pyrus calleryana 'Aristocrat'*	4
Black acacia	*Acacia melanoxylon*	7
Blue gum	*Eucalyptus globulus*	29
Brisbane box	*Tristania conferta*	1
Canary Island pine	*Pinus canariensis*	1
Carolina cherry	*Prunus caroliniana*	14
Chinese pistache	*Pistacia chinensis*	15
Coast redwood	*Sequoia sempervirens*	4
Crape myrtle	*Lagerstroemia indica*	15
Deodar cedar	*Cedrus deodara*	8
Eucalyptus	*Eucalyptus spp.*	11
European white birch	*Betula pendula*	12
Fan palm	*Washingtonia robusta*	1
Italian cypress	*Cupressus sempervirens*	2
Japanese maple	*Acer palmatum*	2
Leyland cypress	*Cupressocyparis x leylandii*	1
London plane tree	*Platanus x acerifolia*	69
Modesto ash	*Fraxinus velutina 'Modesto'*	6
Myoporum	*Myoporum laetum*	2
Red gum	*Eucalyptus camaldulensis*	8
Red ironbark	*Eucalyptus sideroxylon*	14
Red maple	*Acer rubrum*	6
Silver dollar	*Eucalyptus polyanthemos*	2
Zelkova	*Zelkova serrata*	16
Total:		256
Source: *McClenahan Consulting, LLC.* Arborist Report. February 20, 2017.		

The City's Design Guidelines also require that mature trees removed or proposed for removal be replaced on-site, at a minimum, with a 24- or 36-inch box. Other standards may apply in cases where particular planting requirements must be met. This includes providing specimen size material for protected trees and installing appropriately sized trees, such as less than or equal to 15 gallons where there are physical limitations.

4.4.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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)?	☐	☒	☐	☐
2) 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?	☐	☐	☒	☐
3) 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?	☐	☐	☐	☒
4) 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?	☐	☐	☐	☒
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

Since the modifications to the Approved Project will involve grading and development within the same site boundaries as the Approved Project, the modifications will not modify the analysis and conclusions contained in the 2018 MND.

Impact BIO-1:	The project would not 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. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

As previously discussed, special status plant and wildlife species are not expected on the developed site. Urban adapted raptors (birds of prey), however, could use the trees on the site for nesting. Potential construction impacts to nesting raptors are discussed below.

Potential Construction Impacts to Nesting Birds

If tree-nesting birds, including raptors, were to nest on the site, construction activities associated with the project could result in the abandonment of active nests or direct mortality to these birds. Nesting birds are protected by the California Fish and Game Code 3503, which reads, "It is unlawful to take, posses, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or could otherwise lead to nest abandonment. Nest abandonment and/or loss of reproductive effort caused by disturbance are considered "take" by the CDFW, and therefore would constitute a significant impact.

Migratory birds, including nesting raptors, are protected under the Migratory Bird Treaty Act and the California Fish and Game Code Sections 3503, 3503.5, and 2800. Migratory birds, especially raptors, utilize mature trees for nesting and foraging habitat. If any migratory birds were to nest on site, construction of the proposed project may result in a loss of fertile eggs or nestlings, or lead to nest abandonment in raptor habitat.

The CDFW defines "taking" as causing abandonment and/or loss of reproductive efforts through disturbance.

Although unlikely at this location, tree removal during the nesting season could impact protected raptors and/or other protected migratory birds. Any loss of fertile bird eggs, or individual nesting birds, or any activities resulting in nest abandonment during construction would constitute a significant impact. The following mitigation measures identified in the 2018 MND would be incorporated into the project to reduce impacts to a less than significant level.

Mitigation Incorporated into the Project Design:

PD BIO-1: The project will incorporate the following measures to reduce impacts to nesting birds.

- If removal of the trees on-site would take place between January and September, a pre-construction survey for nesting raptors will be conducted by a qualified ornithologist to identify active nesting raptor nests that may be disturbed during project implementation. Between January and April (inclusive) pre-construction surveys will be conducted no more than 14 days prior to the initiation of construction activities or tree relocation or removal. Between May and August (inclusive), pre-construction surveys will be conducted no more

than thirty (30) days prior to the initiation of these activities. The surveying ornithologist shall inspect all trees in and immediately adjacent to the construction area to be disturbed by these activities, and the ornithologist shall, in consultation with the State of California, Department of Fish and Wildlife (CDFW), designate a construction-free buffer zone (typically 250 feet) around the nest until the end of the nesting activity.

- The applicant shall submit a report indicating the result of the survey and any designated buffer zones to the satisfaction of the Director of Planning and Inspection prior to the issuance of a tree removal permit by the City Arborist.

With implementation of the above measures, potential impacts from the project on nesting birds and protected raptors would be reduced to a less than significant level. This conclusion is consistent with the findings of the 2018 MND.

Impact BIO-2:	The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. **(Less than Significant Impact)**

Riparian habitat is considered a sensitive, natural community by various State and Federal resource agencies and the City of Santa Clara. San Tomas Aquino Creek is located directly west of the project site. The creek has been modified over the years for flood control purposes and supports very limited native riparian vegetation along the creek corridor. General Plan policy 5.10-1-P2, requires new development to follow the Valley Water "Guidelines and Standards for Lands Near Streams". The development guidelines and standards include setback limits, slop stability requirements, restrictions on landscape plants, lighting, and other measures to protect streams and riparian habitats. The nearest proposed structure of the project site, the Phase II MCDC building, would be set back approximately 111 feet from the property line adjacent to creek corridor.

The project would not remove any native riparian vegetation nor would it degrade existing riparian habitat. Redevelopment of the site would include the installation of new landscaping. Design Guides 2 and 3 provide guidelines for planting native species and for the use of ornamental or non-native landscaping. The use of local native species described in Design Guide 2 is intended for projects establishing or enhancing native habitat and since the project is a redevelopment of an existing site, the landscape plan was selected in part for human aesthetics. The landscape plan has been developed to avoid the use of commonly found invasive species identified in Design Guide 3. Since the project would not plant trees on the Valley Water maintenance road/levee, the project is consistent with Design Guide 6.

The project site is located east of the Valley Water maintenance road at an elevation below the levee. The project site currently conveys stormwater runoff into existing stormwater infrastructure and not over the creek banks. The project would not concentrate or convey flows over the creek bank and is consistent with Design Guide 9. Grading and site preparation necessary to complete the project would be completed consistent with the NPDES stormwater permit provisions and would incorporate erosion control and best management practices to reduce the potential for sedimentation. Bioretention basins included in the project consist of the plant species identified in Design Guide 10.

The project does not include any improvements or impacts to San Tomas Aquino Creek or the removal of any riparian vegetation. The project is consistent with the applicable Valley Water guidelines and standards, and the project would have a less than significant impact on adjacent sensitive habitat. This conclusion is consistent with the findings of the 2018 MND.

Impact BIO-3:	The project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. **(No Impact)**

The project is located in a developed industrial area and would not directly affect any federally protected wetlands. This conclusion is consistent with the findings of the 2018 MND.

Impact BIO-4:	The project 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, or impede the use of native wildlife nursery sites. **(No Impact)**

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. This conclusion is consistent with the findings of the 2018 MND.

Impact BIO-5:	The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

The project would remove 234 trees on-site. The project does, however, propose to plant new landscaping around the perimeter of the site, along the street frontage, and near the building. The City's General Plan (Policy 5.3.1-P10) requires new development to include new street trees and at least a 2:1 on- or off-site replacement for removal of existing trees. While the proposed project would need to plant a minimum of 468 trees, the landscape plan shows 273 new trees would be planted on the project site. Species used will be required to exclude invasive species listed in the *Guidelines and Standards for Lands Near Streams.* At the City's directive, the project would plant, at minimum, 195 trees off-site to offset the loss of the trees to be removed as a result of the project. If additional trees are removed, whether due to deterioration, construction injury, or a mitigation measure, the project would need to offset the loss of trees in accordance with General Plan Policy 5.3.1-P10. Because the project would be required to comply with the City's tree replacement policy, the loss of these trees on-site would result in a less than significant impact on trees in the project area.

Trees to be retained on-site may be injured during project construction activities including demolition and site grading. The following mitigation measures identified in the 2018 MND would be incorporated into the project to reduce impacts to a less than significant level. This conclusion is consistent with the findings of the 2018 MND.

Mitigation Incorporated into the Project Design:

PD BIO-2: The project will incorporate the following measures to reduce impacts to existing trees to be preserved.

- 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.

- 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.

- 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.

- 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.

- 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.

Impact BIO-6:	The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. **(No Impact)**

The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. This conclusion is consistent with the findings of the 2018 MND.

4.5 CULTURAL RESOURCES

The discussion in this section is based in part upon a Cultural Resources Literature Search prepared for the project by *Holman & Associates, Inc.* in March 2017. A copy of the report will be docketed with the Commission under a Request for Confidentiality.

4.5.1 Environmental Setting

Cultural resources are evidence of past human occupation and activity and include both historical and archaeological resources. These resources may be located above ground or underground and have significance in the history, prehistory, architecture, culture of the nation, State of California, or local or tribal communities.

Paleontological resources are fossils, the remains or traces of prehistoric life preserved in the geologic record. They range from the well-known and well publicized (such as mammoth and dinosaur bones) to scientifically important fossils.

4.5.1.1 *Regulatory Framework*

Policy 5.6.3-P5: In the event that archaeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist.

Policy 5.6.3-P6: In the event that human remains are discovered, work with the appropriate Native American representative and follow the procedures set forth in the State law.

4.5.1.2 *Existing Conditions*

A records search (File No. 16-1283) was completed at the Northwest Information Center of the California Historical Resources Information System (CHRIS) in February 2017. Copies of the reports from CHRIS have been requested and will docket under a Request for Confidentiality when received. There are no recorded cultural resources on or within a quarter mile of the project site. The site is, however, located within an archaeologically sensitive area, due to its proximity to San Tomas Aquino Creek.[12] In this area of Santa Clara, Native Americans often used lands adjacent to major creeks and rivers, as well as locations along the edge of the historic bay wetlands near freshwater sources to live, camp, and process resources. Lands adjacent to the Guadalupe River were heavily used by Native Americans. The project site is located adjacent to San Tomas Aquino Creek on the east and approximately 1.4 miles west of the Guadalupe River. Based on the project's proximity to San Tomas Aquino Creek, there is a moderate potential for Native American archaeological deposits or cultural materials within the project area.

Historic-era maps for the project area were examined to identify the potential for prehistoric and historic archaeological resources in the project vicinity. In 1876, the land on which the site is located was owned by A. Agnew as part of his 120-acre parcel. Two houses, a reservoir, and row crops were located in the eastern portion of that parcel by the Alviso and Santa Clara Road (now Lafayette Street) well beyond the project site. By 1899, one residence was located adjacent to San Tomas Aquino Creek set back from Agnew Road within or close to the western edge of the project site. At that time, the creek had not been channelized and still displayed a meandering course. By 1942, most

[12] Holman & Associates, Inc. *Cultural Resources Literature Search for the Aligned Data Systems Project at 2305 Mission College Boulevard, City and County of Santa Clara.* March 1, 2017.

of the project site was planted in orchards with the western portion unimproved. The creek had been channelized with a straighter course. After 1951 and by 1953, the entire site was planted with orchards. After 1961 and by 1968, San Tomas Aquino Creek had undergone additional flood control improvements to its watercourse. By 1980, the orchards were removed and a long narrow building was constructed on the site. By 1993, the current building configuration and parking lot were in place. Since potential historical deposits were likely affected by flood control efforts along the creek to the west, there is a low to moderate possibility of intact historic-era archaeological deposits within the project site.

The existing building on the site was constructed beginning in 1979.[13] The building is less than 50 years old and does not appear to meet the standards to be considered eligible for the California or National Registers and the structure has not been identified by the City of Santa Clara as architecturally or historically significant. There are no historic structures on or adjacent to the project site.

4.5.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☒
2) Cause a substantial adverse change in the significance of an archaeological resource as pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
3) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

Since the MCDC and MCBGF are being developed on the same site as the Approved Project, the modifications do not affect the 2018 MND's evaluation and findings for cultural resources.

Impact CUL-1: The project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5. **(No Impact)**

As mentioned previously, the existing building is less than 50 years old and has not been listed in the City's Historic Resources Inventory. There are no eligible or listed CHRIS or local historic resources

[13] WSP. *Phase I Environmental Site Assessment. 2305 Mission College Boulevard – Santa Clara, California.* October 13, 2014.

on or adjacent to the project site. Implementation of the proposed project would have no impact on any historic resources. This conclusion is consistent with the findings of the 2018 MND.

Impact CUL-2:	The project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

The site has a low potential for containing prehistoric archaeological resources near the surface due to previous development activities. Although unlikely, trenching and excavation of the site could damage unrecorded subsurface resources. The City included mitigation measures in the 2018 MND to reduce impacts to a less than significant level. The 2018 MND mitigation measures have been supplemented with the Commission's standard Cultural and Tribal Cultural mitigation.

Mitigation Incorporated into the Project Design:

PD CUL-1: The following project-specific measures would be implemented during construction to avoid significant impacts to unknown subsurface cultural resources:

- A Secretary of the Interior-qualified archaeologist and a Native American cultural resources monitor shall be on site to monitor grading of native soil once all pavement is removed from the project site. The project applicant shall submit the name and qualifications of the selected archaeologist and Native American Monitor to the Director of Community Development prior to the issuance of a grading permit. Preference in selecting Native American monitors shall be given to Native Americans with:

    - Traditional ties to the area being monitored.
    - Knowledge of local historic and prehistoric Native American village sites.
    - Knowledge and understanding of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.
    - Ability to effectively communicate the requirements of Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.9 et seq.
    - Ability to work with law enforcement officials and the Native American Heritage Commission to ensure the return of all associated grave goods taken from a Native American grave during excavation.
    - Ability to travel to project sites within traditional tribal territory.
    - Knowledge and understanding of Title 14, California Code of Regulations, Section 15064.5.
    - Ability to advocate for the preservation in place of Native American cultural features through knowledge and understanding CEQA mitigation provisions.
    - Ability to read a topographical map and be able to locate site and reburial locations for future inclusions in the Native American Heritage Commission's Sacred Lands Inventory.
    - Knowledge and understanding of archaeological practices, including the phases of archaeological investigation.

    After removal of pavement and prior to grading, the archaeologist shall conduct a pedestrian survey over the exposed soils to determine if any surface archaeological manifestations are present.

- After demolition of the existing building and paved parking lot on the site, a qualified archaeologist shall complete mechanical presence/absence testing for archaeological deposits and cultural materials. In the event any prehistoric site indicators are discovered, additional backhoe testing will be conducted to map the aerial extent and depth below the surface of the deposits. In the event prehistoric or historic archaeological deposits are found during presence/absence testing, the significance of the find will be determined. If deemed significant, a Treatment Plan will be prepared and provided to the Director of Community Development. The key elements of a Treatment Plan shall include the following:

    - Identify scope of work and range of subsurface effects (include location map and development plan),

    - Describe the environmental setting (past and present) and the historic/prehistoric background of the parcel (potential range of what might be found),

    - Develop research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information),

    - Detail field strategy used to record, recover, or avoid the finds (photogs, drawings, written records, provenience data maps, soil profiles, excavation techniques, standard archaeological methods) and address research goals.

    - Analytical methods (radiocarbon dating, obsidian studies, bone studies, historic artifacts studies [list categories and methods], packaging methods for artifacts, etc.).

    - Report structure, including a technical and layman's report and an outline of document contents in one year of completion of development (provide a draft for review before a final report),

    - Disposition of the artifacts,

    - Appendices: site records, update site records, correspondence, consultation with Native Americans, etc.]

    The archaeologist will monitor full-time all grading and ground disturbing activities in native soils associated with construction of the proposed project. If the archaeologist and Native American monitor believe that a reduction in monitoring activities is prudent, then a letter report detailing the rationale for making such a reduction and summarizing the monitoring results shall be provided to the Director of Community Development. Department of Recreation 523 forms shall be submitted along with the report for any cultural resources encountered over 50 years old.

- In the event that prehistoric or historic resources are encountered during on-site construction activities, all activity within a 50-foot radius of the find shall be stopped, the Director of Community Development shall be notified, and a Secretary of the Interior-qualified archaeologist shall examine the find and record the site, including field notes, measurements, and photography for a Department of Parks and Recreation 523 Primary Record form. The archaeologist shall make a recommendation regarding eligibility for the California Register of Historical Resources, data recovery, curation, or other appropriate mitigation. Ground

disturbance within the 50-foot radius can resume once these steps are taken and the Director of Community Development has concurred with the recommendations. Within 30 days of the completion of construction or cultural resources monitoring, whichever comes first, a report of findings documenting any cultural resource finds, recommendations, data recovery efforts, and other pertinent information gleaned during cultural resources monitoring shall then be submitted to the Director of Community Development. Once finalized, this report shall be submitted to the Northwest Information Center at Sonoma State University.

- Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program training to all existing and any new employees. This training should include: a discussion of applicable laws and penalties under the laws; samples or visual aids of artifacts that could be encountered in the project vicinity, including what those artifacts may look like partially buried, or wholly buried and freshly exposed; and instructions to halt work in the vicinity of any potential cultural resources discovery, and notify the city-approved archaeologist and Native American cultural resources monitor.

With implementation of the measures identified above, the project would not cause a substantial adverse change in the significance of an archaeological resource. This conclusion is consistent with the findings of the 2018 MND.

Impact CUL-3:	The project would not disturb any human remains, including those interred outside of dedicated cemeteries. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

Although unlikely, trenching and excavation of the site could disturb human remains, should they be encountered on the site. The following mitigation measure identified in the 2018 MND, and modified to include specific CEC preferred language, would be incorporated into the project to reduce impacts to a less than significant level.

Mitigation Incorporated into the Project Design:

PD CUL-2: The project proposes to implement the following measure to ensure the project's impacts to human remains are less than significant:

- In the event that human remains are discovered during presence/absence testing or excavation and/or grading of the site, all activity within a 50-foot radius of the find will be stopped. The Santa Clara County Coroner will be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. All actions taken under this mitigation measure shall comply with Health and Human Safety Code § 7050.5(b).

With implementation of the measure identified above, the project would not result in a significant impact related to the disturbance of human remains. This conclusion is consistent with the findings of the 2018 MND.

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 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. In 2008, Executive Order 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 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.

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, and the 2016 Title 24 updates went into effect on January 1, 2017.[14] Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.[15]

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. The most recent update to CALGreen went in to effect on January 1, 2017, and covers five categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

[14] California Building Standards Commission. "Welcome to the California Building Standards Commission." Accessed February 6, 2018. http://www.bsc.ca.gov/.
[15] California Energy Commission (CEC). "2016 Building Energy Efficiency Standards." Accessed February 6, 2018. http://www.energy.ca.gov/title24/2016standards/index.html.

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 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.[16]

City of Santa Clara

Santa Clara General Plan

The General Plan includes several energy use and conservation policies designed to protect energy resources in the City. These policies include the following:

Policy 5.10.3-P1: Promote the use of renewable energy resources, conservation and recycling programs.

Policy 5.10.3-P4: Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

Policy 5.10.3-P5: Reduce energy consumption through sustainable construction practices, materials and recycling.

Policy 5.10.3-P6: Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.

5.10.4-P8: Provide incentives for LEED certified, or equivalent development.

4.6.1.2 *Existing Conditions*

Total energy usage in California was approximately 7,830 trillion British thermal units (Btu) in the year 2016, the most recent year for which this data was available. 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 (1,384 trillion Btu) for residential uses, 19 percent (1,477 trillion Btu) for commercial uses, 24 percent (1,853 trillion Btu) for industrial uses, and 40 percent (3,116 trillion Btu) for transportation.[17] This energy is primarily supplied in the form of natural gas, petroleum, nuclear electric power, and hydroelectric power.

[16] California Air Resources Board. "The Advanced Clean Cars Program." Accessed April 6, 2018. https://www.arb.ca.gov/msprog/acc/acc.htm.
[17] United States Energy Information Administration. *State Profile and Energy Estimates, 2016.* Accessed September 6, 2018. https://www.eia.gov/state/?sid=CA#tabs-2.

Electricity

Electricity in Santa Clara County in 2017 was consumed primarily by the commercial sector (76 percent), followed by the residential sector consuming 24 percent. In 2017, a total of approximately 17,190 gigawatt hours (GWh) of electricity was consumed in Santa Clara County.[18]

Silicon Valley Power (SVP) is the City of Santa Clara's energy utility and would provide electricity service to the project site. For commercial customers, SVP offers several options for participation in green energy programs, including a carbon-free energy option.[19]

Natural Gas

PG&E provides natural gas services within the City of Santa Clara. In 2017, approximately 1.4 percent of California's natural gas supply came from in-state production, while the remaining supply was imported from other western states and Canada.[20] In 2016, residential and commercial customers in California used 29 percent of the state's natural gas, power plants used 32 percent, and the industrial sector used 37 percent. Transportation accounted for one percent of natural gas use in California. In 2017, Santa Clara County used approximately 3.5 percent of the state's total consumption of natural gas.[21]

Fuel for Motor Vehicles

In 2017, 15 billion gallons of gasoline were sold in California.[22] 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.[23] 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. [24,25]

[18] California Energy Commission. Energy Consumption Data Management System. "Electricity Consumption by County." Accessed March 15, 2019. http://ecdms.energy.ca.gov/elecbycounty.aspx.
[19] Silicon Valley Power. "Did you Know." Accessed April 25, 2018. http://www.siliconvalleypower.com/.
[20] California Gas and Electric Utilities. 2018 *California Gas Report.* Accessed March 15, 2019. https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf.
[21] California Energy Commission. "Natural Gas Consumption by County." Accessed February 21, 2019. http://ecdms.energy.ca.gov/gasbycounty.aspx.
[22] California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed February 16, 2018. http://www.cdtfa.ca.gov/taxes-and-fees/MVF_10_Year_Report.pdf.
[23] United States Environmental Protection Agency. "The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975." March 2019.
[24] United States Department of Energy. *Energy Independence & Security Act of 2007.* Accessed February 8, 2018. http://www.afdc.energy.gov/laws/eisa.
[25] Public Law 110–140—December 19, 2007. *Energy Independence & Security Act of 2007.* Accessed February 8, 2018. http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf.

4.6.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?	☐	☐	☒	☐
2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The 2018 MND was adopted prior to recent updates to the CEQA guidelines which added "Energy" as a distinct impact section with the checklist questions shown above. As a result, the 2018 MND did not include a robust analysis of energy impacts. The analysis in this SPPE application represents a standalone analysis of the project's energy impacts and does not include a comparison of the project's impacts to the conclusions of the 2018 MND.

Impact EN-1:	The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation. **(Less than Significant Impact)**

Construction

Construction of the project would require energy for the demolition of existing buildings, manufacture and transportation of building materials, site preparation and grading, and the actual construction of the buildings and infrastructure. As discussed in Section 4.3 Air Quality, the project would implement measures to minimize the idling of construction equipment. Additionally, the project would participate in the City's Construction and Demolition Debris Recycling Program by recycling or diverting at least 50 percent of materials generated for discards by the project in order to reduce the amount of demolition and construction waste going to the landfill. Diversion saves energy by reusing and recycling materials for other uses (instead of landfilling materials and using additional non-renewable resources).

Operation

Operation of the MCDC 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 MCDC would be built in accordance with Title 24 and CalGreen and include green building measures to reduce energy

consumption. The MCDC 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. The MCDC would be designed to achieve a minimum of LEED Silver certification. Due to the energy efficiency measures incorporated into the facility, the MCDC would not result in a wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources.

Energy would be consumed by the MCBGF during regular testing and maintenance of the 45 emergency backup generators. Each generator would be limited to a maximum of 50 hours per year of operation. Based on fuel consumption assumptions in the air quality analysis prepared for the project (refer to Appendix A), the MCBGF would consume roughly 10,970 gallons of fuel per year. According to the California Energy Commission's 2019 Weekly Fuel's Watch Report, the annual capacity of CARB Diesel Fuel in California was 1,736,000 barrels annually[26]. The proposed consumption of CARB Diesel Fuel by the MCBGF is less than 0.005 percent of the total California capacity. Because the generators would only be operated when necessary for testing and maintenance, and would not be used regularly for electricity generation, the MCBGF would not result in a wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. Additionally, the MCBGF 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.

Impact EN-2:	The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact)**

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

- Complying with Title 24 and CalGreen,
- Participating in the City's Construction and Demolition Debris Recycling Program
- Implementing TDM measures to promote walking, bicycling and transit use.
- Incorporating measures such as lighting control, air economization, water conservation measures, and energy conservation measures.

The project, therefore, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

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

4.7 GEOLOGY AND SOILS

The following analysis is based in part on a Geotechnical Investigation prepared for the 2018 MND by *Cornerstone Earth Group* in January 2016. A copy of the report is included in Appendix C.

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.

Paleontological Resources Regulations

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 are valued for the information they yield about the history of the earth and its past ecological settings. The 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.

4.7.1.2 *Existing Conditions*

The project site is located in the Santa Clara Valley, a relatively flat alluvial basin, bounded by the Santa Cruz Mountains to the southwest and west, the Diablo Mountain Range to the east, and the San Francisco Bay to the north.

Soil Conditions

The project site is underlain by undocumented fill consisting of clayey sand to a depth of two feet below ground surface (bgs). Below the undocumented fill, soil consists of hard lean clays with some loose to dense layers of silty, clayey, and poorly graded sands. An approximately five-foot thick sandy silt layer is approximately nine feet bgs.

Because the topography of the project area is flat, with elevations ranging from 19 to 25 feet above sea level, erosion hazard is limited and there is no landslide hazard.

Groundwater

Depth to groundwater in the area is approximately eight to 11 feet below ground surface (bgs). Fluctuations in groundwater levels are common due to seasonal fluctuation, 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 9.9 miles east of the site) and the San Andreas Fault 11.3 miles west of the site), and the Hayward Fault (approximately 6.3 miles north of the site). The project site is not located within a fault rupture zone.[27]

[27] Santa Clara County. *Santa Clara County Geologic Hazard Zones.* October 26, 2012.

Ground shaking at the project site is predicted to be strong to very strong as determined by the Association of Bay Area Governments (ABAG). The project site is not located within the limits of an Alquist-Priolo Earthquake Fault Zone and there are no known active faults within the City limits of Santa Clara.

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.[28]

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.

San Tomas Aquino Creek is adjacent to the project site to the west. The geotechnical investigation completed for the site concluded that the western portion of the site adjacent to the creek could be susceptible to lateral spreading.

Paleontological Resources

The City of Santa Clara is situated on alluvial fan deposits of the Holocene age. These sediments have low potential to yield fossil resources or to contain significant nonrenewable paleontological resources. However, these recent sediments overlie sediments of older Pleistocene sediments with high potential to contain paleontological resources. These older sediments, often found at depths of ten feet or more below the ground surface, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates. Ground disturbing activities of ten feet or more have the potential to impact undiscovered paleontological resources in older Pleistocene sediments. [29]

[28] CA Department of Conservation. *CGS Seismic Hazard Zone and Liquefaction Map. Santa Clara County*. 2012
[29] City of Santa Clara. City of Santa Clara Draft 2010-2035 General Plan. January 2011. Page 328.

4.7.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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 (refer to Division of Mines and Geology Special Publication 42)?	☐	☐	☒	☐
– Strong seismic ground shaking?	☐	☒	☐	☐
– Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
– Landslides?	☐	☐	☒	☐
2) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
3) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
4) Be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
5) 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?	☐	☐	☐	☒
6) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The elements of the modifications to the Approved Project that may affect geologic resources include taller buildings and less fill import.

Impact GEO-1:	The 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 with Mitigation Incorporated into the Project Design)**

As discussed in Section 4.7.1.2, there are no known active or potentially active faults crossing the project site. The site is not located within an Earthquake Fault Zone as defined by the State of California Alquist-Priolo Earthquake Fault Zoning Act. The project site is not located within a fault rupture zone.

The project site is located in a seismically active region. Geologic conditions on the site would require the new building be designed and constructed in accordance with standard engineering techniques and current California Building Code requirements, to avoid or minimize potential damage from seismic shaking and liquefaction on the site.

The project site is located in a mapped liquefaction hazard zone. The site is not located within a landslide hazard zone. The 2018 MND identified the following standard City of Santa Clara permit condition that would be implemented to ensure impacts would remain at a less than significant level.

Mitigation Incorporated into the Project Design:

PD GEO-1: In order to ensure the project design conforms to the requirements of a final geotechnical engineering investigation and California and local building standards and codes, the following is proposed as mitigation incorporated into the project. Incorporation will ensure seismic hazards are reduced to less than significant levels.

- To avoid or minimize potential damage from seismic shaking, the project would be built using standard engineering and seismic safety design techniques. Building redevelopment design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which will be included in a report to the City. The report shall be reviewed and approved by the City of Santa Clara's Building Division as part of the building permit review and issuance process. The building shall meet the requirements of applicable Building and Fire Codes, including the 2016 California Building Code, as adopted or updated by the City. The project shall be designed to withstand potential geologic hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

With implementation of the standard permit condition identified in 2018 MND the project would not result in a significant impact. This conclusion is consistent with the findings of the 2018 MND.

Impact GEO-2:	The project would not result in substantial erosion or the loss of topsoil. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

The 2018 MND determined that demolition and construction on the project site would temporarily increase the potential for erosion and sedimentation that could be carried by runoff into San Tomas Aquino Creek and the San Francisco Bay. The 2018 MND identified the following standard City of Santa Clara permit condition that would be implemented to ensure impacts would remain at a less than significant level.

Mitigation Incorporated into the Project Design:

PD GEO-2: The project proposes to implement the following measures to ensure the project's erosion impacts are less than significant:

- Because this project involves a land disturbance of more than one acre, the project is required to submit a Notice of Intent to the State Water Resources Control Board and to prepare a Storm Water Pollution Prevention Plan (SWPPP) for controlling storm water discharges associated with construction activity.
- This project will be required to prepare and submit an Erosion Control Plan with the Grading and Drainage Plan for review and approval by the Department of Public Works.
- All excavation and grading work will be scheduled in dry weather months or construction sites will be weatherized.
- Stockpiles and excavated soils will be covered with secured tarps or plastic sheeting.
- Ditches will be installed, if necessary, to divert runoff around excavations and graded areas.

With implementation of these measures and compliance with the City's grading ordinance, construction of the proposed project would have a less than significant impact. This conclusion is consistent with the findings of the 2018 MND.

With respect to the MCBGF facility components, construction will involve limited ground disturbance as the site grading for the MCDC will be completed prior to installation of the MCBGF components. The only ground disturbance directly attributable to the MCBGF will be the minor trenching for electrical interconnection to the MCDC.

Impact GEO-3:	The project 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)**

The project site is located in a mapped liquefaction hazard zone, and soils on the site have a high potential for expansion. Additionally, the western portion of the site could be susceptible to lateral spreading due to its proximity to San Tomas Aquino Creek. The site is not located within a landslide hazard zone.

Compliance with the Standard Permit Condition discussed under Impact GEO-1 would avoid or reduce impacts related to the stability of soil on-site. The project would not change or exacerbate the geologic conditions of the project area and would not result in a significant geology hazards impact. This conclusion is consistent with the findings of the 2018 MND.

Impact GEO-4:	Although the project is located on expansive soil, as defined in the current California Building Code, the project would not create substantial direct or indirect risks to life or property. **(Less than Significant Impact)**

The project site is located on expansive soil as defined in Section 1803.5.3 of the CBC. The project would be required to adhere to the SHMA and CBC, which would reduce impacts related to expansive soils to a less than significant level. The policies of the City of Santa Clara 2010-2035 General Plan have been adopted for the purpose of avoiding or mitigating environmental effects resulting from planned development within the City. Santa Clara General Plan Policy 5.10.5-P6 requires that new development be designed to meet current safety standards and implement appropriate building codes to reduce risk associated with geologic conditions. This conclusion is consistent with the findings of the 2018 MND.

Impact GEO-5:	The project would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water. **(No Impact)**

The project site is located within an urban area of Santa Clara where sewers are available to dispose wastewater from the project site. Therefore, the project site would not need to support septic tanks or alternative wastewater disposal systems. This conclusion is consistent with the findings of the 2018 MND.

Impact GEO-6:	The project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. **(Less than Significant Impact)**

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. Geologic units of Holocene age, such as those found of the floor of the Santa Clara Valley, are generally not considered sensitive for paleontological resources, because biological remains younger than 10,000 years are not usually considered fossils. These sediments have low potential to yield fossil resources or to contain significant nonrenewable paleontological resources. These recent sediments, however, may overlie older Pleistocene sediments with high potential to contain paleontological resources. These older sediments, often found at depths greater than 10 feet below the ground surface, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates. As described previously, the import of fill would raise the elevation of the site by three feet. Excavation for utilities associated with the MCDC would extend to depths of up to 12 feet below the new base elevation. Excavation on-site, therefore, will not exceed 10 feet in depth below the existing ground surface level, and the project would result in a less than significant impact. This conclusion is consistent with the findings of the 2018 MND.

4.8 GREENHOUSE GAS EMISSIONS

The following discussion is based in part information contained in the Air Quality Impact Assessment prepared for the project by Trinity Consultants in November 2019. A copy of the report is attached to this Application as Appendix A.

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 GWP and is measured in units of CO_2 equivalents (CO_2e). The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 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 SF_6 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 CO_2E ($MMTCO_2e$). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 $MMTCO_2e$.

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.

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.

Other Implementing Laws and Regulations

There are a number laws that have been adopted as a part of the State of California's efforts to reduce GHG emissions and their contribution to climate change. State laws and regulations related to growth, development, planning and municipal operations in Santa Clara include, but are not limited to:

- California Mandatory Commercial Recycling Law (AB 341)
- California Water Conservation in Landscaping Act of 2006 (AB 1881)
- California Water Conservation Act of 2009 (SBX7-7)
- Various Diesel-Fuel Vehicle Idling regulations in Chapter 13 of the California Code of Regulations
- Building Energy Efficiency Standards (Title 24, Part 6)
- California Green Building Code (Title 24, Part 11)
- Appliance Energy Efficiency Standards (Title 20)

Implementation of the policies in the City's General Plan as a part of the City's development permitting and other programs provides for meeting building standards for energy efficiency, recycling, and water conservation, consistent with the laws and regulations designed to reduce GHG emissions.

Local

City of Santa Clara General Plan

The Santa Clara 2010-2035 General Plan includes policies that address the reduction of GHG gas emissions during the planning horizon of the General Plan. Goals and policies that address sustainability (see Appendix 8.13: Sustainability Goals and Policies Matrix in the General Plan) are aimed at reducing the City's contribution to GHG emissions. As described below, the development of a comprehensive GHG emissions reduction strategy for the City is also included in the General Plan.

Climate Action Plan

The City of Santa Clara has a comprehensive GHG emissions reduction strategy (Climate Action Plan) to achieve its fair share of statewide emissions reductions for the 2020 timeframe consistent with AB 32, the Global Warming Solutions Act. The Climate Action Plan was adopted on December 3, 2013. The City of Santa Clara Climate Action Plan specifies the strategies and measures to be taken for a number of focus areas (coal-free and large renewables, energy efficiency, water conservation, transportation and land use, waste reduction, etc.) citywide to achieve the overall emission reduction target, and includes an adaptive management process that can incorporate new technology and respond when goals are not being met.

A key reduction measure that is being undertaken by the City of Santa Clara under the Climate Action Plan is in the *Coal-Free and Large Renewables* focus area. The City of Santa Clara operates Silicon Valley Power (SVP), a publicly owned utility that provides electricity for the community of Santa Clara, including the project site. Data centers constitute a large portion of the electricity used in the City of Santa Clara; about 28 percent on average. Since nearly half (48 percent) of Santa Clara's GHG emissions result from electricity use, removing GHG-intensive sources of electricity generation (such as coal) is a major focus area in the Climate Action Plan for achieving the City's GHG reduction goals.

CEQA clearance for all discretionary development proposals are required to address the consistency of individual projects with reduction measures in the Climate Action Plan and goals and policies in the General Plan designed to reduce GHG emissions. Compliance with appropriate measures in the Climate Action Plan would ensure an individual project's consistency with an adopted GHG reduction plan.

In December 2018, SVP published an updated Strategic Plan that outlines goals and actions for achieving 2030 GHG emission reductions consistent with the legislation described above. All electricity from SVP has been coal-free since January 2018. SVP's 2018 Integrated Resource Plan lays out needed steps to meet the 50 percent Renewable Portfolio Standard set by SB 32. SVP plans to exceed the 50 percent target.[30]

4.8.1.4 *Existing GHG Emissions from the Project Site*

The project site is currently developed with a two-story 358,000 sf office/R&D building. The main source of GHG emissions associated with the existing uses on-site is vehicle trips. Additional emissions also result from electricity and natural gas use associated with the building's daily operations.

4.8.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	1,2
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	1,2

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

[30] Silicon Valley Power. 2018 Integrated Resource Plan. November 12, 2018. Available at: http://www.siliconvalleypower.com/home/showdocument?id=62481.

The modifications to the generators and the reduced energy use due to efficient cooling technology of the modifications to the Approved Project are the primary elements of the MCDC and MCBGF that affect greenhouse gas emissions.

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 Santa Clara, 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.

Per the CEQA Guidelines, a lead agency may analyze and mitigate significant GHG emissions in a plan for the reduction of GHG emissions that has been adopted in a public process following environmental review. The City of Santa Clara adopted its CAP (a GHG reduction strategy) in 2013 in conformance with its most recent General Plan Update. The City's projected emissions and the CAP are consistent with measures necessary to meet statewide 2020 goals established by AB 32 and addressed in the Climate Change Scoping Plan. For projects that would be operational by the end of 2020, the threshold of significance for whether a development project in the City of Santa Clara would generate GHG emissions that would have a significant impact on the environment therefore would be whether or not the project conforms to the applicable reduction measures in the City's CAP. Because the project would not become operational prior to the end of 2020, consistency with the CAP cannot be used to determine significance under CEQA. The project, however, would still be required to be consistent with the requirements of the CAP, and implementation of required CAP measures would reduce GHG emissions from the project.

Per BAAQMD guidance for stationary-source projects such as the MCBGF, the threshold to determine the significance of an impact from GHG emissions is 10,000 metric tons of CO_2e per year. This threshold is consistent with stationary source thresholds adopted by other air quality management districts throughout the state and is intended to capture 95 percent of all GHG emissions from new permit applications from stationary sources in the San Francisco Bay Area Basin. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require a BAAQMD permit to operate. The standby generators included as part of the project would be permitted sources, and as such, the BAAQMD's 10,000 metric tons of CO2e per year threshold is appropriate for analyzing the significance of emissions produced by the generators. If annual emissions of operational-related GHGs exceed these levels, the MCBGF would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change. Emissions from mobile sources and area sources, such as electricity use and water delivery, associated with MCDC operation would not be included for comparison to this threshold, based on guidance in the BAAQMD's CEQA Guidelines.

GHG impacts from the MCDC would be considered to have a less than significant impact if the MCDC is consistent with applicable regulatory programs and policies adopted by CARB or other California agencies.

Impact GHG-1:	The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. (**Less Than Significant Impact)**

Overview of GHG Emissions

GHG emissions from the proposed project would consist of emissions from vehicle trips to and from the building and emissions related to the generation of electricity used in the data center buildings. Data centers are an energy-intensive land use, requiring more electricity than other types of development. The primary function of the data center is to house computer servers, which require electricity and cooling 24 hours a day to operate.

Silicon Valley Power Electricity Generation

Electricity for the data center facility is provided by SVP, which is the public electric utility of the City of Santa Clara. Santa Clara currently has ownership interest, or has purchase agreements for 1,079.15 megawatt (MW) of electricity.[31] In 2017, approximately 38 percent of that generation is eligible as renewable (as defined by the California Energy Commission) and an additional 34 percent is otherwise a non-GHG emitting resource (i.e. large-hydroelectric).[32] This capacity far exceeds City of Santa Clara's current peak electricity demand of approximately 526.2 MW. No new generation peak capacity is necessary to meet the capacity requirements of new construction, or redeveloped facilities within the City to meet the near or projected future demand.

The City of Santa Clara follows the State's preferred loading order in procuring new energy resources. First, the current load (customer) is encouraged to participate in energy efficiency programs to reduce their usage, thus freeing up existing resources (and any related emissions) for the new load (electricity demand). In addition, the City of Santa Clara encourages the use of renewable resources and clean distributed generation, and has seen a significant increase in its applications for large and small rooftop photovoltaics (PV). Demand displaced by customer-based renewable projects is also available to meet new load requests.

The City of Santa Clara seeks to meet its Renewable Portfolio Standard (RPS) through the addition of new renewable resources. In order to meet anticipated increases in energy needs (as separate from peak generation capacity requirements) the City of Santa Clara has contracted for additional wind energy including the Big Horn II Wind Project that would provide the City of Santa Clara up to an additional 17.5 MW of GHG-emission-free electricity.

SVP has a lower emission rate than the statewide California power mix because it utilizes a much higher portion of renewable sources. A comparison of SVP's and the statewide power mix is shown in Table 4.8-1.

[31] Silicon Valley Power, City of Santa Clara. The Silicon Valley Power Resources Map. Accessed: June 21, 2019. Available at: http://www.siliconvalleypower.com/home/showdocument?id=5763.
[32] Silicon Valley Power. "Power Content Label". Accessed: June 21, 2019. Available at: http://siliconvalleypower.com/svp-and-community/about-svp/power-content-label

Table 4.8-1: Comparison of SVP And Statewide Power Mix		
Energy Resources	**2017 SVP Power Mix**	**2017 CA Power Mix (For Comparison)**
Eligible Renewables (Biomass & Waste, Geothermal, Eligible Hydro, Solar, Wind)	38%	29%
Coal	9%	4%
Large Hydro	34%	15%
Natural Gas	16%	34%
Nuclear	0%	9%
Other	0%	<1%
Unspecified Source of Power (Not Traceable To Specific Sources)	3%	9%
Total	100.0%	100.0%

It is important to note that SVP's carbon intensity factor for electricity generation would continue to change as SVP's power mix continues to reduce the percentage of electricity produced by coal-fired power plants and increase the use of renewable resources. As noted above, electricity from SVP has been coal-free since January 2018, and SVP has committed to increase large renewables power generation as a part of the City's Climate Action Plan.

Proposed Efficiency Measures

Overview: Power Usage Effectiveness During Operation

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 = Total Facility Source Energy/ 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.

For the worst case day the peak PUE for the MCDC at full buildout of both buildings would be 1.11. The average PUE for the MCDC at full buildout of both buildings would be 1.08. Both the worst case and average PUE for the project would be considered exceptionally efficient. 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.[33]

Energy and Water Use Efficiency Measures in Building Design

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:

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

- Evaporative cooling instead of mechanical cooling.
- Reflective roof surface.
- Meet or exceed Title 24 requirements.
- Clean air vehicle parking.
- Low flow plumbing fixtures.
- Landscaping would meet City of Santa Clara requirements for low water use.

Construction-Related Emissions

GHG emissions associated with construction were computed to be 1,231 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City of Santa Clara nor BAAQMD have a threshold for construction emissions. These emissions would be temporary in nature and would be less than the indirect emissions associated with operation of the proposed uses. Construction emissions would occur during building construction, trenching and minor paving and landscape installation.

As a Best Management Practice (BMP), the project would participate in the City's Construction and Demolition Debris Recycling Program by recycling or diverting at least 50 percent of materials generated for discards by the project in order to reduce the amount of demolition and construction waste going to the landfill.

MCBGF Stationary Equipment Emissions from Routine Testing

The consumption of diesel fuel to test generators at the MCBGF would result in direct CO_2 emissions. On an annual basis, the project's total operational emissions related to emergency backup generator maintenance and testing use would be approximately 3,875 metric tons of CO_2e per year. See Appendix A for the GHG emission calculation data. This is well below the BAAQMD threshold for stationary sources of 10,000 metric tons per year of CO_2e for stationary sources.

MCDC Operational Emissions

SVP's carbon intensity factor for was determined to be 341 pounds of CO2e per MWh in 2019, and projected to be 271 pounds of CO2e per MWh in 2021.[34] SVP's carbon intensity factor for electricity generation will continue to change as SVP's power mix continues to reduce the percentage of electricity produced by coal-fired power plants and increase the use of renewable resources. As noted above, the City and SVP have committed to be coal-free and increased large renewables power generation as a part of the City's CAP.

Project Electricity Usage. Data centers are an energy-intensive land use, requiring more electricity than other types of development. The primary function of the data center is to house computer servers, which require electricity and cooling 24 hours a day to operate. The projected maximum demand for the MCDC is 78.1 MW. On an annual basis, the MCDC would consume up to the maximum electrical usage of 684,156 MWh per year. The MCDC's annual GHG emissions related to

[34] Kathleen Hughes, City of Santa Clara. Personal Communication. February 6, 2019.

electricity use would be about 43.5 percent less per year by using SVP's power mix than if the California statewide average power mix was used.[35]

Project Mobile Emission Sources. Based on the facility's anticipated 30 full time and 27 part time employees per day, plus five non-worker visitors per day, the MCDC is estimated to generate roughly 124 daily vehicle trips. This represents a conservative estimate as it does not account for the elimination of existing vehicle trips associated with the project site.

Project Water Consumption and Waste Generation. Water consumption results in indirect emissions from electricity usage for water conveyance and wastewater treatment.

GHG emissions generated by the MCDC are summarized in Table 4.8-2.

Table 4.8-2: MCDC GHG Emissions

Source	Annual Emissions (Metric Tons of CO_2e)
Electricity Use[1]	84,099
Mobile Sources and Building Operation[2]	2,663
Total	**86,762**

Notes:
[1] Based on 2021 SVP carbon intensity factor of 271 pounds of CO_2e per MWh.
[2] Source: Trinity Consultants. Air Quality Impact Assessment – Mission College Backup Generating Facility. November 2019. Included as Appendix A of this SPPE Application. Please note that this estimate does not account for the elimination of mobile and building operation emissions of the existing office/R&D use on the site (which generates far greater vehicle trips than the proposed project), and thus represents a conservative estimate.

As shown in Table 4.8-2, the primary source of GHG emissions from the MCDC is electricity use. As described above, electricity to the MCDC would be provided by SVP, a utility that is on track to meet the 2030 GHG emissions reductions target established by AB 32. To reduce GHG emissions and the use of energy related to building operations, the MCDC includes a variety of energy efficiency measures, as described above. The MCDC would comply with all applicable City and state green building measures, including Title 24, Part 6, California Energy Code baseline standard requirements for energy efficiency, based on the 2016 Energy Efficiency Standards requirements, and the 2016 California Green Building Standards Code, commonly referred to as CALGreen (California Code of Regulations, Part 11). Because the MCDC would receive electricity from a utility on track to meet the AB 32 2030 GHG emission reduction target, would result in lower emissions than the statewide average for an equivalent facility (roughly 43.5 percent) due to SVP's power mix, would include energy efficiency measures to reduce emissions to the extent feasible, and would be consistent with applicable plans and policies adopted to reduce GHG emissions, the MCDC would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. This conclusion is consistent with the findings of the 2018 MND.

[35] James Reyff, Illingworth & Rodkin, Inc. Personal Communication. November 10, 2019.

Impact GHG-2:	The project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. **(Less Than Significant Impact)**

Santa Clara Climate Action Plan

As described previously, the *City of Santa Clara Climate Action Plan* was adopted in December 2013. The CAP, which is part of the City's General Plan, identifies a series of GHG emissions reduction measures to be implemented by development projects that would allow the City to achieve its GHG reduction goals. The measures center around seven focus areas: coal-free and large renewables, energy efficiency, water conservation, waste reduction, off-road equipment, transportation and land use, and urban heat island effect.

The CAP includes measures applicable to City government, existing development and new development projects in Santa Clara. The project's conformance with applicable reduction measures for new development in the CAP are discussed below.

Energy Efficiency Measures

Measure 2.3 Data Centers calls for completion of a feasibility study of energy efficient practices for new data center projects with an average rack power rating[36] of 15 kilowatts or more to achieve a power usage effectiveness (PUE) of 1.2 or lower. The maximum PUE of the MCDC would be 1.11, which is below Measure 2.3's goal of a PUE of 1.2 or lower.

Water Conservation Measures

Measure 3.1 Water Conservation calls for a reduction in per capita water use to meet Urban Water Management targets by 2020. Development standards for water conservation would be applied to increase efficiency in indoor and outdoor water use areas. Water conservation measures include the use of:

- recycled or non-potable graywater for landscape irrigation;
- water efficient landscaping with low water usage plant material to minimize irrigation requirements; and
- ultra-low flow toilets and plumbing fixtures in the building.

Waste Reduction Measures

Measure 4.2 Increased Waste Diversion calls for an increase in solid waste diversion rate through recycling efforts, curbside food waste pickup, and construction and demolition waste programs. The project would divert construction and demolition waste during project construction to help the City reach its 80 percent waste diversion rate.

[36] Average rack power rating is a measure of the power available for use on a rack used to store computer servers. The higher the value of kilowatts, the greater power density per rack and generally more energy use per square foot of building area in a data center.

Off-Road Equipment

Measure 5.2 Alternative Construction Fuels requires construction projects to comply with BAAQMD best management practices, including alternative-fueled vehicles and equipment. The project would adopt BAAQMD best management practices, as described in *Section 4.3 Air Quality.*

Transportation and Land Use

Measure 6.1 Transportation Demand Management Program requires new development located in the City's transportation districts to implement a transportation demand program (TDM) to reduce drive-alone trips. The project site is located within Transportation District 1 – North of Caltrain. Based on Table 9: Minimum Vehicle Miles Traveled Reduction Requirements by Transportation District and Land Use Designation of the Climate Action Plan, the project would be required to have a 25 percent vehicle miles traveled (VMT) reduction, with 10 percent coming from TDM measures.

The following are examples of measures that could be included as part of the TDM Plan to reduce vehicle trips by 10 percent consistent with the City's CAP:

- Electric car charging stations,
- Secure bicycle parking facilities,
- Preferred carpool and vanpool parking, and
- Facilitation of ride sharing services.

Applicable General Plan Policies

In addition to the reduction measures in the Climate Action Plan, the City of Santa Clara General Plan has goals and policies to address sustainability (see Appendix 8.13: Sustainability Goals and Policies Matrix in the General Plan) aimed at reducing the City's contribution to GHG emissions. For the proposed project, implementation of policies that increase energy efficiency or reduce energy use would effectively reduce indirect GHG emissions associated with energy generation. The consistency of the proposed project with the Land Use, Air Quality, Energy, and Water Policies of the General Plan is described in Table 4.8-3.

Bay Area 2017 Clean Air Plan

The Bay Area 2017 Clean Air Plan includes performance objectives, consistent with the State's climate protection goals under AB 32, SB 375, and SB 32, designed to reduce emissions of GHG emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030. The 2017 Clean Air Plan identifies a range of control measures that make up the Clean Air Plan's control strategy for emissions, including GHGs.

Due to the relatively high electrical demand of the data center uses on the site, energy efficiency measures have been included in the design and operation of the electrical and mechanical systems on the site. This is in keeping with the general purpose of Energy Sector Control Measures in the Clean Air Plan.

Plan One Bay Area/ California Senate Bill 375 –
Redesigning Communities to Reduce Greenhouse Gases

Under the requirements of SB 375, the Metropolitan Planning Organizations (MPO) in partnership with ABAG have developed a Sustainable Community Strategy with the adopted *Plan One Bay Area* to achieve the Bay Area's regional GHG reduction target. Targets for the MTC in the San Francisco Bay Area, originally adopted in September 2010 by CARB, include a seven (7) percent reduction in GHG per capita from passenger vehicles by 2020 compared to emissions in 2005. The adopted target for 2035 is a 15 percent reduction per capita from passenger vehicles when compared to emissions in 2005. The emission reduction targets are for those associated with land use and transportation strategies only.

The project has a low concentration of employment and would not contribute to a substantial increase in passenger vehicle travel within the region.

Table 4.8-3: General Plan Sustainability Policies

Emission Reduction Policies	Project Consistency
Air Quality Policies	
5.10.2-P3 Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.	The project proposes to use emergency generators with advanced air pollution controls. The generator testing schedule includes measures to reduce local air quality impacts.
5.10.2-P4 Encourage measures to reduce GHG emissions to reach 30 percent below 1990 levels by 2020.	Water conservation and energy efficiency measures included in the project would reduce GHG emissions associated with the generation of electricity
Energy Policies	
5.10.3-P1 Promote the use of renewable energy resources, conservation and recycling programs.	The project would divert at least 50 percent of construction waste.
5.10.3-P4 Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.	The project would 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 installed to limit water consumption.
5.10.3-P5 Reduce energy consumption through sustainable construction practices, materials and recycling.	

Table 4.8-3: General Plan Sustainability Policies	
Emission Reduction Policies	**Project Consistency**
5.10.3-P6 Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.	
5.10.3-P8 Provide incentives for LEED certified, or equivalent development.	
Water Policies	
5.10.4-P7 Require installation of native and low-water consumption plant species with landscaping new development and public spaces to reduce water usage.	The project would use water efficient landscaping with low water usage plant material to minimize irrigation requirements.

Applicable State Climate Change Strategies and Policies

In 2008, the Governor of California issued Executive Order S-13-08 that specifically asked the Natural Resources Agency to identify how State agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. The 2009 *California Climate Adaptation Strategy* was developed in response to the executive order. Adaptation to projected sea level rise is addressed in *Section 4.9 Hydrology and Water Quality.*

The CARB-approved *Climate Change Scoping Plan* outlines a comprehensive set of actions intended to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health. Actions associated with energy efficiency standards and renewables portfolio standards are measures that would most greatly influence GHG emissions of the project over time.

The project would be generally consistent with the Climate Change Scoping Plan, as updated, and appropriate GHG Control Measures in the Bay Area 2017 Clean Air Plan (as discussed above). As discussed above, the project would not conflict with plans, policies or regulations adopted for the purpose of reducing the emissions of GHG. Therefore, the project would not conflict with any currently adopted local plans, policies, or regulations pertaining to GHG emissions and would not generate GHG emissions that would have a significant impact on the environment. This conclusion is consistent with the findings of the 2018 MND.

4.9 HAZARDS

The following discussion is based, in part, on a Phase I Environmental Site Assessment (ESA) prepared for the 2018 MND by *WSP Group,* in October 2014. A copy of the report is included in Appendix C.

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. Federal regulations and policies related to development include the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund, and the Resource Conservation and Recovery Act. 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, including the Santa Clara County Department of Environmental Health (SCCDEH) 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.

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), State

Water Resources Control Board (SWRCB), and Santa Clara County. The project site is not on the Cortese List.[37]

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 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 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.

Local

Other regional agencies responsible for programs regulating emissions to the air, surface water, and groundwater include the Bay Area Air Quality Management District (BAAQMD), which has oversight over air emissions, and the Regional Water Quality Control Board (RWQCB) which regulates discharges and releases to surface waters and groundwater.

Municipal Regional Permit Provision C.12.f

Polychlorinated biphenyls (PCBs) were produced in the United States between 1955 and 1978 and used in hundreds of industrial and commercial applications, including building and structure materials such as plasticizers, paints, sealants, caulk, and wood floor finishes. In 1979, the EPA banned the production and use of PCBs due to their potential harmful health effects and persistence in the environment. PCBs can still be released to the environment today during demolition of buildings that contain legacy caulks, sealants, or other PCB-containing materials.

[37] CalEPA. "Cortese List Data Resources." Accessed June 10, 2019. https://calepa.ca.gov/sitecleanup/corteselist.

With the adoption of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP) by the San Francisco Bay Regional Water Quality Control Board on November 19, 2015, Provision C.12.f requires that permittees develop an assessment protocol methodology for managing materials with PCBs in applicable structures planned for demolition to ensure PCBs do not enter municipal storm drain systems.[38] Municipalities throughout the Bay Area are currently modifying demolition permit processes and implementing PCB screening protocols to comply with Provision C.12.f. As of July 1, 2019, buildings constructed between 1955 and 1978 that are proposed for demolition must be screened for the presence of PCBs prior to the issuance of a demolition permit.

4.9.1.2 *Existing Conditions*

Historical Uses

The project site was originally agricultural land until the construction of a portion of the existing building on-site in 1979. The remaining portions of the building were constructed in 1980-81, 1983-34, and 1985. Nortel Networks, a telecommunications and data networking equipment manufacturer occupied the buildings until 2002. Nortel Networks conducted manufacturing, assembly, and distribution of circuit boards; assembly and distribution of telephone switching equipment; and research and development. The company previously used and stored acetone, isopropyl alcohol, lead solder and liquid nitrogen on the property.[39]

Adjacent properties were agricultural fields from at least 1956. Commercial properties were first constructed east of the site in 1968.

Historically Recognized Environmental Conditions

General Dynamics, the current occupant of the existing buildings, moved to the site in 2005 after Nortel Networks vacated the buildings. Prior to General Dynamics' occupancy, two releases occurred on the property including historical releases from manufacturing chemical storage areas maintained by Nortel Networks. One of the releases contaminated groundwater onsite, resulting in monitoring by the SFRWQCB. In 2005, the SFRWQCB granted the site a "No Further Action" status, and the release has since been considered a closed case.

In January 2005, an accidental release of approximately 200 gallons of diesel on a paved area occurred on-site. The diesel spill then flowed into the on-site storm water drainage system. A subsequent groundwater and soil investigation determined that no further action was necessary, as the releases minimally affected soils on-site and did not contaminate groundwater.

Current Uses

As described previously, the project site is developed with an office/R&D building occupied by General Dynamics, a telecommunications and networking data manufacturer. The project site is identified on the Resource Conservation and Recovery Act – Small Quantity Generators (RCRA-

[38] California Regional Water Quality Control Board. *San Francisco Bay Region Municipal Regional Stormwater NPDES Permit.* November 2015.
[39] WASP Group. Phase I Environmental Site Assessment – Final. 2305 Mission College Boulevard – Santa Clara, California. October 13, 2014.

SQG), Facility Index System (FINDS), California Spills, Leaks Investigation and Cleanup (CA SLIC), California Enforcement Action (CA ENF), California Air Emissions Database (CA EMI), California Hazardous Waste Information System (CA Haznet) and FINDS databases.

The General Dynamics facility was used for research and development of high security aerospace and defense products and services. Operations conducted at the subject property include research and development laboratories, product and equipment storage, and administrative offices.

Based on a review of historical records, no underground storage tanks (USTs) have been present on-site. The site has aboveground storage tanks, including a 120,000 gallon fire water tank on the north side of the property, a 60-gallon diesel fuel tank within the fire pump house on the north side of the site, a 300-gallon diesel belly tank associated with the standby generator, and a 175-gallon diesel belly tank associated with the second emergency generator. All of the diesel aboveground storage tanks are situated within secondary containment.

4.9.1.3 *Off-Site Sources of Contamination*

Based on the California SWRCB's Geotracker database, there are no listed properties within 1,000 feet of the project site that have had or have reports of on-site contamination.

An EDR search performed in the 2014 Phase I Environmental Site Assessment identified neighboring properties with the potential to affect the project site from previous environmental contamination or hazardous material storage. Of the 60 sites identified, only 17 are located upgradient of the subject property. 12 of the 17 upgradient sites are located between 0.5 and one mile away from the project site and therefore, do not likely pose an environmental concern to the project site. The five remaining sites that have the potential to affect the project site include:

- Mission Investors, LLC (2350 Mission College Blvd.) – listed as having one aboveground storage tank and one UST on-site. There have been no identified spills, releases, or air emissions permit violations associated with the property. The property does not pose an environmental concern to the project site.

- Fire Department #8 (2400 Agnew Road) – listed on the California LUST, Historical LUST sites as having a release of diesel in 1996 and has since granted case closure in 2000. The site also has four active USTs with no associated spills or releases. The property does not pose an environmental concern to the project site.

- Intel Corp. headquarters (2200 Mission College Blvd., 3601 Juliette Lane) – listed as having a historical release onsite due to electronics manufacturing. The listed LUST and SLIC cases for these sites have been granted case closure status. Soil and groundwater beneath the property is contaminated with VOCs and land use is restricted. The facility has entered into a Voluntary Cleanup Program. A Covenant of Environmental Restrictions for the property concluded that the contamination risk to public exposure has been lessened due to remediation activities. Based on information provided in the EDR report and Covenant, the property is unlikely to pose an environmental risk to the project site.

- Siliconix Inc., and AT&T Mobility (2201 Laurelwood Road) – listed as having a release and subsequent enforcement action for VOC contaminated groundwater due to historical manufacturing operations. A groundwater remediation program is ongoing at the site. The highest concentrations on VOC are on the south side of the property. The closest monitoring well to the project site indicated low levels of VOCs. The property does not pose an environmental concern to the project site.

- Exxon #7 (2181 Laurelwood Road) – listed as having a historical release to groundwater. The site was granted case closure status in 2004. The property does not pose an environmental concern to the project site.

4.9.1.4 *Other Hazards*

Airports

The San José Norman Y. Mineta International Airport is located approximately 1.7 miles south of the project site. The project site is within the Airport Influence Area, but not within an Airport Safety zone, as defined by the CLUP. The Airport Influence Area is defined as a feature-based boundary around the Airport within which all actions, regulations, and permits must be evaluated by local agencies, such as the City of Santa Clara, to determine how the CLUP policies related to noise, height, safety, and land use may impact the proposed development. Of particular interest to the ALUC are areas "not already devoted to incompatible uses" and, more specifically, undeveloped lands within the Airport Influence Area. The planning effort is focused on identifying these lands because of the policies and standards of the plan are intended to address the compatibility of future development in these areas. Although the City must consider the CLUP's policies, the project does not need to be referred to the ALUC for a compatibility determination, because the project approvals do not involve the amendment of a General Plan or Specific Plan or adoption of a zoning ordinance.

Federal Aviation Regulations, Part 77, "Objects Affecting Navigable Airspace" (referred to as FAR Part 77), requires 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 ground. The San José Airport released a contour map which includes height restrictions for new developments that could be a hazard to aircraft safety and would require FAA notification under FAR Part 77. The project site is not located within a designated airport safety zone.[40] The project site is, however, within the Mid Traffic Pattern Zone and is restricted to a maximum structure height of 212 feet above mean sea level.[41]

The project site is not located in the vicinity of a private airstrip.

[40] Santa Clara County. *Comprehensive Land Use Plan – Santa Clara County. Norman Y. Mineta San José International Airport.* May 25, 2011.
[41] Ibid.

Wildland Fire Hazards

The project site is located in an urban area and is not within a Very-High Fire Hazard Severity Zone for wildland fires. [42]

4.9.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
2) 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?	☐	☒	☐	☐
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
4) 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, will it create a significant hazard to the public or the environment?	☐	☐	☒	☐
5) 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?	☐	☐	☒	☐
6) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
7) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

[42] Sources: 1) State of California Department of Forestry and Fire Protection. *Santa Clara County Fire Hazard Severity Zones in SRA.* Adopted November 7, 2007. and 2) State of California Department of Forestry and Fire Protection. *Santa Clara County Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE.* Adopted October 8, 2008.

The primary features of the MCDC and MBGF modifications to the Approved Project that may affect hazards are the reconfiguration of the backup generating system and its associated diesel fuel storage.

Impact HAZ-1:	The project would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials. **(Less than Significant Impact)**

Operation of the MCBGF would include the use and storage of diesel fuel in aboveground tanks. The tanks would be double-walled and have leak detection systems. Some oils and lubricants could be stored on-site for maintenance of mechanical equipment in the equipment yards. Conformance with relevant laws and regulations would minimize the likelihood of hazardous material releases from the proposed fuel storage tanks.

Hazardous materials storage at the proposed MCDC would be regulated under local, state and federal regulations. A Hazardous Materials Business Plan would be completed for the safe storage and use of chemicals. This conclusion is consistent with the findings of the 2018 MND.

Impact HAZ-2:	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 Incorporated into the Project Design)**

Soil and Groundwater Contamination Impacts during Construction

As stated above, the project site may contain contaminated soil and groundwater from previous on- and off-site uses and spills. Additionally, relocation of the sanitary sewer lines may cause leaking into the soil and groundwater on-site, and/or may expose areas of previously unknown contamination. The Phase I ESA completed by *WSP* in October 2014, found that potentially contaminated soil and groundwater would be unlikely to significantly impact the proposed data center; however, while excavation is anticipated to be limited in depth, construction workers could be exposed to contaminated soil and or groundwater during excavation, grading, and construction activities including relocation or sanitary sewer lines. The following mitigation measures identified in the 2018 MND would be incorporated into the project to reduce impacts to a less than significant level.

Mitigation Incorporated into the Project Design:

PD HAZ-1: The project proposes to implement the following measures which would reduce potentially significant soil and or groundwater impacts to construction workers to a less than significant level.

- Prior to the issuance of grading permits, shallow soil samples shall be taken in areas where soil disturbance is anticipated to determine if contaminated soils with concentrations above established construction/trench worker thresholds may be present due to historical agricultural use and from historical leaks and spills. The soil sampling plan must be reviewed

and approved by the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division prior to initiation of work. Once the soil sampling analysis is complete, a report of the findings will be provided to the Director of Community Development and other applicable City staff for review.

- Documentation of the results of the soil sampling shall be submitted to and reviewed by the City of Santa Clara prior to the issuance of a grading permit. Any soil with concentrations above applicable ESLs or hazardous waste limits would be characterized, removed, and disposed of off-site at an appropriate landfill according to all state and federal requirements.

- A Site Management Plan (SMP) will be prepared to establish management practices for handling impacted groundwater and/or soil material that may be encountered during site development and soil-disturbing activities. Components of the SMP will include: a detailed discussion of the site background; a summary of the analytical results from soil sampling; preparation of a Health and Safety Plan by an industrial hygienist; protocols for conducting earthwork activities in areas where impacted soil and/or groundwater are present or suspected; worker training requirements, health and safety measures and soil handing procedures shall be described; protocols shall be prepared to characterize/profile soil suspected of being contaminated so that appropriate mitigation, disposal or reuse alternatives, if necessary, can be implemented; notification procedures if previously undiscovered significantly impacted soil or groundwater is encountered during construction; notification procedures if previously unidentified hazardous materials, hazardous waste, underground storage tanks are encountered during construction; on-site soil reuse guidelines; sampling and laboratory analyses of excess soil requiring disposal at an appropriate off-site waste disposal facility; soil stockpiling protocols; and protocols to manage groundwater that may be encountered during trenching and/or subsurface excavation activities. Prior to issuance of grading permits, a copy of the SMP must be approved by the Santa Clara County Environmental Health Department, the City's Director of Community Development, and/or the Santa Clara Fire Department Fire Prevention and Hazardous Materials Division.

- If contaminated soils are found in concentrations above risk-based thresholds pursuant to the terms of the SMP, remedial actions and/or mitigation measures will be taken to reduce concentrations of contaminants to levels deemed appropriate by the selected regulatory oversight agency for ongoing site uses. Any contaminated soils found in concentrations above thresholds to be determined in coordination with regulatory agencies shall be either (1) managed or treated in place, if deemed appropriate by the oversight agency or (2) removed and disposed of at an appropriate disposal facility according to California Hazardous Waste Regulations and applicable local, state, and federal laws.

- Sanitary Sewer Sampling and Analysis Plan: Prior to removing or decommissioning the sanitary sewer line on-site, a Sampling and Analysis Plan shall be prepared presenting the protocols for line removal and confirmation sampling. These plans shall be submitted to the Community Development Director for review and approval prior to construction.

With implementation of the measures identified above, the proposed project would result in a less than significant soil and groundwater contamination impact. This conclusion is consistent with the findings of the 2018 MND.

Asbestos and Lead Based Paint

Due to the age of the existing building on site, (pre-1980 construction), asbestos-containing materials (ACMs) and lead-based paint may be present.

Demolition of the existing building on the project site could expose construction workers or residents in the vicinity of the project site to harmful levels of ACMs or lead. 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 and/or lead-based paint:

- 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 ACMs and/or lead-based paint.
- 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 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.
- All potentially friable ACMs shall be removed in accordance with the National Emission Standards for Hazardous Air Pollutants 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 California Code of Regulations Section 1529, to protect workers from exposure to asbestos.
- 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.
- Materials containing more than one percent asbestos are also subject to BAAQMD regulations. Removal of materials containing more than one percent asbestos shall be completed in accordance with BAAQMD requirements.

Conformance with aforementioned regulatory requirements would result in a less than significant impact from ACMs and lead. This conclusion is consistent with the findings of the 2018 MND.

Impact HAZ-3:	The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. **(Less than Significant Impact)**

The nearest school to the project site is Montague Elementary School (750 Laurie Avenue), approximately 1.6 miles to the east. The project would not routinely generate hazardous air emissions nor would it handle acutely hazardous materials or hazardous waste and therefore, would not impact schools within the project area.

The project would comply with all relevant laws and regulations in regards to hazardous materials, as discussed under Impact HAZ-1 and Impact HAZ-2. While the project site may contain contaminated soil, unknown fill, groundwater and soil vapor from previous on- and off-site uses and spills, implementation of measures incorporated into the project would reduce impacts to less than significant. While the existing building to be demolished could contain ACM, lead-based paint and PCBs, compliance with the regulations discussed under Impact HAZ-2 would result in a less than significant impact. This conclusion is consistent with the findings of the 2018 MND.

Impact HAZ-4:	The project would not 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, create a significant hazard to the public or the environment. **(Less than Significant Impact)**

Impacts from Historic Site Operations

As described previously, the site is identified on the Spills, Leaks, Investigation Cleanup database as having historical release of solvents to groundwater and release of total petroleum hydrocarbons. As of 2005, the property was given a "No Further Action Status" by the San Francisco Regional Water Quality Control Board. Regardless, as stated previously, the project site may contain contaminated soil and groundwater from previous on-site uses and spills. Implementation of mitigation measures incorporated into the project would ensure that the project would not be affected by any hazardous materials from historic uses on the site. This conclusion is consistent with the findings of the 2018 MND.

Impacts of Off-Site Facilities on the Project

Nearby sites identified on the California Geotracker database, as described in *Section 4.8.1.2* above, have all received a "Case Closure" status or are identified as not posing an environmental concern to the project site. Regardless, as stated previously, the project site may contain contaminated soil and groundwater from previous off-site uses and spills. Implementation of mitigations measures incorporated into the project would ensure that the project would not be affected by any hazardous materials from off-site facilities. This conclusion is consistent with the findings of the 2018 MND.

Impact HAZ-5:	The project is located within an airport land use plan and within two miles of a public airport or public use airport. The project would not result in a safety hazard or excessive noise for people residing or working in the project area. **(Less than Significant Impact)**

The proposed project site is approximately 1.7 miles north of the San José Norman Y. Mineta International Airport. As a nonresidential land use, the proposed data center would be compatible with the land use policies of the CLUP. Aircraft noise levels at the project site are discussed in *Section 4.12, Noise and Vibration* of this Initial Study. As described previously, the project site is not located within a designated Airport Safety Zone, however, it is located within the Airport Influence Area and is subject to a maximum structure height of 212 feet above mean sea level (amsl). The maximum height of the proposed structure would be approximately 87 feet above ground level, or roughly 117 feet amsl, which is below the maximum building height allowed under FAR Part 77 for the project site (212 feet msl). The proposed project, therefore, would be compatible with applicable

CLUP policies and the Airport Influence Area for building height. This conclusion is consistent with the findings of the 2018 MND.

Impact HAZ-6:	The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. **(Less than Significant Impact)**

The project would be constructed in accordance with current building and fire codes to ensure structural stability and safety in the event of a seismic or seismic-related hazard. In addition, the Fire Department would review the site development plans to ensure fire protection design features are incorporated and adequate emergency access is provided. For these reasons, the proposed project would not impair implementation of or physically interfere with the City's Emergency Operations Plan. This conclusion is consistent with the findings of the 2018 MND.

Impact HAZ-7:	The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. **(No Impact)**

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. This conclusion is consistent with the findings of the 2018 MND.

4.10 HYDROLOGY AND WATER QUALITY

The following discussion is based in part on a 500-year and 1000-year Floodplain Analysis prepared for the 2018 MND by *Schaaf & Wheeler* in September 2016. A copy of the report is included in Appendix C.

4.10.1 Environmental Setting

4.10.1.1 *Regulatory Framework*

Water Quality

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 U.S. 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). These regulations are implemented at the regional level by water quality control boards, which for the Santa Clara area is the San Francisco Bay Regional Water Quality Control Board (RWQCB).

Federal

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) established the National Flood Insurance Program (NFIP) in order 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 (FIRM) that identify Special Flood Hazard Areas (SFHA). 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.

State

Statewide Construction General Permit

The SWRCB has implemented a 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

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 Stormwater Permit

The San Francisco Bay RWQCB has issued a Municipal Regional Stormwater NPDES Permit[43] (MRP) 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.

Provision C.3 – New Development and Redevelopment

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 all new 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 beneficial uses of local rivers, streams, and creeks. Projects may be deemed exempt from these requirements if they do not meet the size threshold, drain into tidally influenced areas or directly into the Bay, drain into hardened channels, or are infill projects in subwatersheds or catchment areas that are greater than or equal to 65 percent impervious.

Provision C.12 – PCBs Controls

Provision C.12 of the MRP requires the co-permittee agencies to implement a control program for polychlorinated biphenyls (PCBs) that reduces PCBs loads by a specified amount during the term of the permit, thereby making substantial progress toward achieving the urban runoff PCBs wasteload allocation in the Basin Plan by March 2030.[44] The program must include focused implementation of

[43] MRP Number CAS612008
[44] San Francisco Bay RWQCB, Municipal Regional Stormwater Permit, Provision C.12. November 19, 2015.

PCBs control measures (source control, treatment control, and pollution prevention strategies) through a collaborative effort. One of the strategies that has been recently adopted by municipalities region-wide is the updating of their building demolition permitting processes to incorporate the management of PCBs in building materials. The goal is to ensure that PCBs are not discharged to storm drains during demolition of buildings that contain PCBs in building materials (such as certain older caulks, paints, and mastics).

The Bay Area Stormwater Management Agencies Association (BASMAA) is assisting Bay Area municipalities to comply with these new stormwater permit building demolition requirements.

Valley Water

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.

Impaired Surface Water Bodies

Under Section 303(d) of the 1972 Clean Water Act, states are required to identify impaired surface water bodies and develop total maximum daily loads (TMDLs) for contaminants of concern.[45] The TMDL is the quantity of pollutant that can be safely assimilated by a water body without violating water quality standards. Listing of a water body as impaired does not necessarily suggest that the water body cannot support the beneficial uses; rather, the intent is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for future water quality degradation. The nearest water body to the site, the San Tomas Aquino Creek, is not listed as an impaired waterbody in the U.S. EPA's Section 303(d) Listed Waters for California.[46]

National Flood Insurance Program

The National Flood Insurance Program (NFIP) makes federally-backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The Federal Emergency Management Agency (FEMA) manages the NFIP and creates Flood Insurance Rate Maps (FIRMs) that designate 100-year flood hazard zones and delineate other flood hazard areas. A 100-year flood hazard zone is the area that has a one in one hundred (i.e., one percent) chance of being flooded in any one year based on historical data.

Chapter 15.45 of the Santa Clara City Code has adopted flood damage prevention measures as a part of the City's Prevention of Flood Damage regulations.

[45] California State Water Resources Control Board. Total Maximum Daily Load Program. Available at: < http://www.swrcb.ca.gov/water_issues/programs/tmdl/303d_lists2006_approved.shtml>. Viewed July 12, 2018.
[46] U.S. EPA. *California 303(d) Listed Waters for Reporting Year 2010.* December 2010. Available at: < http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml> Accessed on July 12, 2018.

4.10.1.2 *Existing Conditions*

Flooding

According to the FEMA flood map encompassing the project site, the site is located within flood Zone X and Zone AH.[47] Zone X are areas between the limits of the base flood level (or 100-year) and the 0.2-percent annual-chance (or 500-year) flood. Zone AH is defined as Special Flood Hazard areas with a one-percent annual chance of shallow flooding, with average flood depths of 1 to 3 feet (usually areas of ponding). The existing elevation is approximately 27 feet above mean sea level (msl).

The floodplain at the project site was remapped by Schaaf & Wheeler for Valley Water in 2014. This updated mapping represents the best available floodplain information for the site. The updated map shows that the project site is not subject to a 100-year flood.[48,49]

Inundation Hazards

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. Sieches are possible at reservoir, lake or pond sites. The project area is not subject to inundation from a seiche, tsunami, or mudflow.[50]

Storm Drainage

The City of Santa Clara owns and maintains the municipal storm drainage system in the project vicinity. Stormwater on site currently drains in pipes towards the storm drainage system in Agnew Road. Stormwater from the site is conveyed to a 24-inch storm drain pipe in Agnew Road. The runoff eventually empties into San Tomas Aquino Creek and flows into the San Francisco Bay.

Groundwater

Depth to groundwater beneath the project site is typically encountered at 8 to eleven feet below ground surface (bgs), and flows in a north direction.[51]

[47] Schaaf & Wheeler. *San Tomas Aquino 500-year and 1000-year Floodplain Analysis.* September 30, 2016.
[48] Ibid.
[49] Caitlin Gilmore, Schaaf & Wheeler.
[50] Association of Bay Area Governments. *San Francisco Bay Area Hazards*. August 25, 2015.
[51] Cornerstone Earth Group. *Geotechnical Investigation. 2305 Mission College Boulevard Data Center.* January 18, 2016.

4.10.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
3) 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?	☐	☐	☒	☐
4) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, the word "project" is used to collectively refer to both facilities. There are no potential impacts associated with the MCBGF as all of the potential impacts are associated with the MCDC.

The element of the MCDC and MBGF that is a modification of the Approved Project that may affect hydrology and water quality is the redesigned stormwater management system of the revised site layout.

Impact HYD-1:	The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

The MCDC would create or replace more than 10,000 square feet of impervious surface area and, therefore, is classified as a Regulated Project under the MRP's Provision C.3, meaning it is subject to the LID source control, site design and stormwater treatment control requirements of Provision C.3. The MCDC would include stormwater quality best management practices (BMPs) such as directing site runoff into bioswales. In addition, the use of beneficial landscaping (i.e., minimizing irrigation, pesticides and fertilizer application) would be implemented. These measures are consistent with the site design, treatment control and source control requirements of Provision C.3.

Construction Impacts

Implementation of the project would disturb approximately 15.7 acres. Therefore requirements under the City's MRP would apply to the project. Construction activities could generate dust, sediment, litter, oil, and other pollutants that could temporarily contaminate water runoff from the site. The City of Santa Clara has developed Standard Permit Conditions based on the RWQCB BMPs to reduce construction-related water quality impacts.

Mitigation Incorporated into the Project Design:

PD HYD-1: The project will incorporate the following into the design and these measures should be treated as mitigation incorporated into the project. The following will reduce construction-related water quality impacts:

- 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 required to cover all trucks or maintain at least two feet of freeboard.
- All paved access roads, parking areas, and staging areas 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 knock mud from truck tires prior to entering City streets. A tire wash system may also be employed at the request of the City.

The MCDC would include the above measures to avoid or reduce construction-related water quality impacts to less than significant level. This conclusion is consistent with the findings of the 2018 MND.

Impervious and Pervious Surfaces

New catch basins and storm drain lines would be installed on the site as part of the project, and would connect to the existing City of Santa Clara 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 and beneficial landscaping (i.e., minimizing irrigation, runoff, pesticides and fertilizers) would be implemented (refer to Figure 2-5). On-site drainage facilities would be designed to meet City of Santa Clara standards and would drain to the existing storm drain system.

The current site includes 87 percent impervious cover and 13 percent pervious cover. The project would include approximately 62 percent impervious cover and 38 percent pervious cover, as shown in Table 4.9-1.

Table 4.9-1: Pervious/Impervious Surfaces

	Impervious (sf)	Pervious (sf)	Total Area (sf)	Percent Impervious
Existing	600,659	86,999	687,658	87
Proposed	428,373	259,285	687,658	62

Because the project would increase the amount of pervious surface area on the site, the project could potentially reduce the overall amount of runoff that leaves the site and enters the existing storm drain system. The project would, therefore, not contribute runoff water that would exceed the capacity of the existing City of Santa Clara stormwater drainage systems. This conclusion is consistent with the findings of the 2018 MND.

Impact HYD-2:	The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. **(Less than Significant Impact)**

The project does not propose to pump groundwater or install groundwater extraction wells. In addition, the project would increase pervious surfaces on the site and would not interfere with groundwater recharge. For these reasons, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. This conclusion is consistent with the findings of the 2018 MND.

Impact HYD-3:	The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or 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. **(Less than Significant Impact)**

The project would not alter the course of a stream, river, or other waterway. As discussed under Impact HYD-1, the project would result in a decrease in surface runoff from the site compared to existing conditions. As a result, no off-site flooding would occur. In addition, as discussed under Impact HYD-1, the project would implement best management practices to reduce stormwater runoff water quality impacts to a less than significant level. This conclusion is consistent with the findings of the 2018 MND.

Impact HYD-4:	The project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. **(Less than Significant Impact)**

Flooding

As described previously, although the project site is located within FEMA Flood Zone X and Flood Zone AH, updated mapping completed for the Valley Water shows that the site is not subject to a 100-year flood. Implementation of the proposed project would, therefore, not place housing in a 100-year flood zone, expose people or structures to any significant flood risk, or impede or redirect flood flows. This conclusion is consistent with the findings of the 2018 MND.

Dam Inundation Hazards

The site is located within a dam failure inundation hazard area of Anderson Dam and Leniham Dam.[52] In the 1980s, the State Office of Emergency Services required that dam inundation maps be prepared for all dams in the state. The purpose of the maps is to provide information to local emergency service agencies that allows them to plan for a response in the event of a dam failure. Flood waters associated with a catastrophic dam failure at Anderson Dam and Leniham Dam would result in flooding at the site (as well as large portions of the Santa Clara Valley).

Due to the inspection and monitoring program, the distance from the site, 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, therefore, would not be subject to a significant risk of inundation from dam failure. This conclusion is consistent with the findings of the 2018 MND.

[52] Valley Water. *Anderson Dam EAP 2009 Flood Inundation Maps*. 2009. Accessed: June 23, 2016. Available at: http://www.valleywater.org/uploadedFiles/Services/CleanReliableWater/WhereDoesYourWaterComeFrom/Reservoirs/Anderson_Dam/Anderson%20Inundation%20Maps%202009.pdf?n=6912.

Flooding Impacts Related to Sea Level Rise

The project site is located inland from the San Francisco Bay at an elevation of approximately 27 feet and is not within an area mapped as vulnerable to sea level rise in the General Plan.[53] This conclusion is consistent with the findings of the 2018 MND.

Impact HYD-5:	The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. **(Less than Significant Impact)**

As discussed under Impacts HYD-1 and HYD-2, the project would comply with applicable water quality control regulations and would not substantially decrease groundwater supplies or interfere with groundwater recharge. This conclusion is consistent with the findings of the 2018 MND.

[53] City of Santa Clara. Integrated Final Environmental Impact Report. *City of Santa Clara Draft 201-2035 General Plan.* Figure 4.4-2. January 2011.

4.11 LAND USE AND PLANNING

4.11.1 Environmental Setting

4.11.1.1 *Regulatory Framework*

City of Santa Clara

General Plan Land Use Designation

The Land Use Diagram of the *2010-2035 General Plan* contains three phases: Phase 1: 2010-2015, Phase II: 2015-2023, and Phase III: 2023-2035. The project site is designated as *Low Intensity Office/R&D* and will retain its designation for Phases I, II and III.

The *Low Intensity Office/R&D* designation is intended for campus-like office development that includes office and R&D, as well as medical facilities and free standing data centers, with manufacturing uses limited to a maximum of 20 percent of the building area. It includes landscaped areas for employee activities and parking that may be surface, structured, or below-grade. Accessory or secondary small scale supporting retail uses that serve local employees and visitors are also permitted. The maximum FAR allowed under this designation is 1.00.

Zoning Designation

The project site is zoned *ML - Light Industrial*. The *ML – Light Industrial* zoning designation (Chapter 18.48 of the City Code) is intended for (but not limited to) commercial storage and wholesale distribution warehouses, plants and facilities for the manufacturing, processing, and repair of equipment and merchandise, and retail sales of industrial products, and uses of a similar nature. Retail commercial and service uses, kennels, and lumber yards (and other similar uses) may also be allowed as a conditional use with City approval of a Use Permit. The maximum permitted building height within this zone is 70 feet and the maximum building coverage is 75 percent.

San José International Airport

The project site is located approximately 1.6 miles north of the San José International Airport, and is located within the Airport Influence Area defined by the Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan (CLUP) for the San José International Airport. Development within the Airport Influence Area (AIA) can be subject to hazards from aircraft and also pose hazards to aircraft travelling to and from the airport. The AIA is a composite of areas surrounding the airport that are affected by noise, height and safety considerations. These hazards are addressed in Federal and State regulations as well as in land use regulations and policies in the CLUP. The most recent CLUP for the Airport was adopted in 2011.

The project site is located within Part 77 Surface zone 212, which limits the building height to a maximum of 212 feet above mean seal level.[54]

[54] Santa Clara County Airport Land Use Commission. *Comprehensive Land Use Plan.* Figure 7. Amended November 16, 2016.

4.11.1.2 *Surrounding Land Uses*

The site is bounded by Agnew Road to the north, Mission College Boulevard to the south, an office/R&D building to the east, and a maintenance path adjacent to San Tomas Aquino Creek to the west. Surrounding land uses consist mainly of light industrial and office/R&D uses in the industrial-style building adjacent to the site. An office building is under construction across Mission College Boulevard, directly south of the project site. An electric substation and a multifamily residential development are located north of the site across Agnew Road.

4.11.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Physically divide an established community?	☐	☐	☐	☒
2) 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?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The modifications to the Approved Project do not affect land use impacts as described in the 2018 MND.

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

The project site is located in an industrial area surrounded by industrial development and office 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. This conclusion is consistent with the findings of the 2018 MND.

Impact LU-2:	The project would not 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. **(Less than Significant Impact)**

Consistency with Applicable Local Plans, Policies, and Regulations

Santa Clara General Plan

The project site is designated Low-Intensity Office/R&D under the City's General Plan. As described previously, free standing data centers are permitted in this designation. The proposed FAR of the MCDC would be 0.72, which is within the maximum allowed FAR of 1.0 specified in the General Plan. Therefore, the proposed project is consistent with the General Plan land use designation on the site.

The project area consists of a mix of uses including industrial, office/R&D, commercial, and residential. A recreational trail is also located on the west bank of San Tomas Creek. The proposed data center would be compatible with the surrounding industrial land uses and would not interfere with the existing operations of adjacent or nearby businesses. Activities and equipment at the site would be separated from residential uses by Agnew Road and setbacks of at least 99 feet to noise generating equipment. In addition, there would be acoustical enclosures and walls that would reduce noise levels at both residential properties lines and along the trail.

Noise and lighting levels associated with the proposed project would not substantially increase over existing levels and are not anticipated to adversely affect adjacent residential properties or adjacent areas of the San Tomas Aquino corridor (see *Section 4.4 Biological Resources*). The proposed project, therefore, would not introduce a land use to the site that would create a land use compatibility conflict in the project area. This conclusion is consistent with the findings of the 2018 MND.

City of Santa Clara City Code

As stated above, the project site is zoned *ML – Light Industrial* (Chapter 18.48 of the City Code), which accommodates industries operating substantially within an enclosed building. The permissible uses include (but not limited to) commercial storage and wholesale distribution warehouses, plants and facilities for the manufacturing, processing, or repair of equipment and merchandise, and retail sales of industrial products, and uses "of a similar nature". Any uses permitted within the *MP – Planned Industrial* zoning designation are also allowed. The City has routinely approved of data centers as a use consistent with the *ML* zoning designation.

The maximum permitted building height within this zone is 70 feet. The City allows up to a 25 percent increase in permitted building heights with a minor modification to the zoning requirements. With approval of a minor modification, the proposed MCDC building height of 82 feet would be consistent with the zoning on the site. Per Section 18.64.010(a), the proposed parapets are not subject to the height restrictions.

Noise generated by the project would not exceed restrictions in the City's zoning ordinance (see Section 4.12 *Noise*).

The proposed project, therefore, would not conflict with the City's General Plan or Zoning Ordinance. This conclusion is consistent with the findings of the 2018 MND.

Consistency with the San José International Airport Comprehensive Land Use Plan

The project site is located within the AIA of the San José International Airport and within the 65 CNEL noise contour for aircraft overflights. It is not located within any safety zones that extend to the northwest from the end of the airport runways. Potential conflicts related to the building height or aircraft noise are discussed in Section 4.8 *Hazards and Hazardous Materials* and Section 4.12 *Noise*, respectively. This conclusion is consistent with the findings of the 2018 MND.

4.12 MINERAL RESOURCES

4.12.1 Environmental Setting

4.12.1.1 *Regulatory Framework*

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, after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

4.12.1.2 *Existing Conditions*

The City of Santa Clara is located in an area zoned MRZ-1 for aggregate materials by the State of California. MRZ-1 zones are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence. The area is not known to support significant mineral resources of any type. No mineral resources are currently being extracted in the City. The State Office of Mine Reclamation's list of mines (AB 3098 list) regulated under the Surface Mining and Reclamation Act does not include any mines within the City.

4.12.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒
2) 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?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The modifications to the Approved Project do not affect mineral resources as evaluated in the 2018 MND.

Impact MIN-1:	The project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state. **(No Impact)**

The project site does not contain any known or designated mineral resources. The project, therefore, would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state. This conclusion is consistent with the findings of the 2018 MND.

Impact MIN-2:	The project would not 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. **(No Impact)**

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. This conclusion is consistent with the findings of the 2018 MND.

4.13 NOISE

The following analysis is based, in part, on a Noise and Vibration Assessment prepared by *Illingworth & Rodkin, Inc*. in November 2019. A copy of this report is included as Appendix B of this Application.

4.13.1 Environmental Setting

Noise

Factors that influence sound as it is perceived by the human ear, include the actual level of sound, period of exposure, frequencies involved, and fluctuation in the noise level during exposure. Noise is measured on a decibel scale, which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are generally expressed using one of several noise averaging methods, including L_{eq}, DNL, or CNEL.[55] These descriptors are used to measure a location's overall noise exposure, given that there are times when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and times when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). L_{max} is the maximum A-weighted noise level during a measurement period.

Sensitivity to noise increases during the evening and at night because excessive noise interferes with the ability to sleep. To emphasize quiet-time noise events, the Day/Night Average Sound Level (DNL or L_{dn}) and CNEL were developed to measure the average cumulative noise exposure over a 24-hour period. Both DNL and CNEL include a 10 dB addition to noise levels from 10:00 PM to 7:00 AM to account for human sensitivity to night noise, while CNEL also includes a five dB addition to noise generated between 7:00 PM and 10:00 PM.

Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. PPV has been routinely used to measure and assess ground-borne construction vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 inches/second (in/sec) PPV.

[55] L_{eq} is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 PM and 7:00 AM. Community Noise Equivalent Level (CNEL) includes an additional five dB applied to noise occurring between 7:00 PM and 10:00 PM. Where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour L_{eq}.

4.13.1.1 *Regulatory Framework*

State and Local

California Green Building Standards Code

For commercial uses, CalGreen (Section 5.507.4.1 and 5.507.4.2) requires that wall and roof-ceiling assemblies exposed to the adjacent roadways have a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the commercial property falls within the 65 dBA L_{dn} or greater noise contour for a freeway or expressway, railroad, or industrial or stationary noise source. The state requires interior noise levels to be maintained at 50 dBA $L_{eq(1\text{-}hr)}$ or less during hours of operation at a proposed commercial use.

General Plan

The City of Santa Clara General Plan identifies noise and land use compatibility standards for various land uses (General Plan Table 5.10-2). The noise standard is 70 dBA Community Noise Equivalent Level (CNEL) for uses with an industrial land use designation and 55 dBA CNEL for uses with a residential land use designation. The following policies are applicable to the project:

Policy 5.10.6-P1: Review all land use and development proposals for consistency with the General Plan compatability standards and acceptable noise exposure levels defined on Table 5.10-1.

Policy 5.10.6-P3: New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid core doors and baffling) and structural measures (earthen berms and sound walls)

Policy 5.10.6-P4: Encourage the control of noise at the source through site design, building design, landscaping, hours of operation and other techniques.

Policy 5.10.6-P5: Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines, and to place compressors and mechanical equipment in sound-proof enclosures.

Policy 5.10.6-P6: Discourage noise sensitive uses, such as residences, hospitals, schools, libraries and rest homes, from areas with high noise levels, and discourage high noise generating uses from areas adjacent to sensitive uses.

Policy 5.10.6-P7: Implement measures to reduce interior noise levels and restrict outdoor activities in areas subject to aircraft noise in order to make Office/research and Development uses compatible with the Norman Y. Mineta International Airport land use restrictions.

City Code

Chapter 9.10 "Regulation of Noise and Vibration," of the City of Santa Clara City Code identifies allowable hours for construction to limit impacts to sensitive uses within 300 feet of a project site.

The nearest sensitive receptors to the nearest residences are across Agnew Street to the north, approximately 100 feet northwest of the northern site boundary. The project, therefore, is subject to the City Code regulations on construction hours.

The City Code also includes standards for maximum noise levels according to zoning designations at nearby properties from noise generated on a subject property, independent of distance. Noise limits at the nearest adjacent property lines to the project site are shown in Table 4.13-1 below.

Table 4.13-1: Noise Limits at Adjacent Property Lines

Adjacent Property Line	Daytime Noise Limit (dBA)	Nighttime Noise Limit (DBA)
North – Residential	55	50
West – Public/Quasi-Public	55	50
East – Light Industrial	70	70
South – Planned Development	65	60

Section 9.10.060(c) states: "If the measured ambient noise level at any given location differs from those levels set forth in SCCC 9.10.040, Schedule A, the allowable noise exposure standard shall be adjusted in five dBA increments in each category as appropriate to encompass or reflect said ambient noise level."

Section 9.10.020 and 9.10.070 state that emergency work, including the operation of emergency generators necessary to provide services during an emergency, are exempt from the criteria. Private utility work to restore services and protect property from damage is also exempt.

Norman Y. Mineta San José International Comprehensive Land Use Plan

The Santa Clara County Airport Land Use Commission (ALUC) has adopted a Land Use Compatibility table for projects near Norman Y. Mineta San José International Airport (Airport). Under the ALUC's land use compatibility noise policies, industrial uses are compatible in noise environments (from aircraft overflights) that are 70 CNEL or less. The site is located in area between the 60 and 65 CNEL airport noise contours on the Comprehensive Land Use Plan noise map.

4.13.1.2 *Existing Conditions*

The project site is located in a mixed commercial, industrial, and residential area. Along Agnew Road to the north is a multi-family residential neighborhood. To the west across San Tomas Aquino Creek is the Santa Clara Fire Department Station 8, and further west across Agnew Road are business parks along both the north and south sides of Mission College Boulevard. To the northwest is the California's Great America amusement park. To the east is a corporate campus for Omnivision Technologies and a manufacturing and office site for Varex Imaging. South of the site and across Mission College Boulevard are corporate offices. The nearest residences are across Agnew Street to the north, approximately 100 feet northwest of the northern site boundary.

A noise monitoring survey was performed in the project vicinity between Friday, October 25th, 2019 and Friday, November 1st, 2019 to quantify and characterize ambient noise levels at the site and in the surrounding area. The survey included one long-term measurement and three short-term measurements, as shown in Figure 4.13-1. The predominant sources of noise in the project vicinity

included traffic on Mission College Boulevard and Agnew Road, and intermittent noise from aircraft associated with Norman Y. Mineta International Airport. Measurement results are summarized in Tables 4.13-2 and 4.13-3.

Table 4.13-2: Summary of Long-Term Noise Measurements (dBA)

Location	Date	Hourly-Average Noise Level, L_{eq}		CNEL
		Daytime	Nighttime	
LT-1: ~30 ft. Southeast of Agnew Road Centerline	Friday, 10/25/2019[1]	65 – 68	64 – 65	-
	Saturday, 10/26/2019	63 – 68	55 – 65	70
	Sunday, 10/27/2019	65 – 69	53 – 63	69
	Monday, 10/28/2019	64 – 69	52 – 66	70
	Tuesday, 10/29/2019	63 – 69	53 – 66	69
	Wednesday, 10/30/2019	64 – 68	51 – 67	70
	Thursday, 10/31/2019	66 – 69	52 – 66	70
	Friday, 11/1/2019[1]	69	55 – 66	-

[1] Measurements taken on Friday, October 25, 2019 and Friday, November 1, 2019 were not 24 hours in duration and therefore cannot be used to determine a 24-hour average level.

Table 4.13-3: Summary of Short-Term Noise Measurements (dBA)

Noise Measurement Location	L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	$L_{eq(10)}$
ST-1: East Side of Site (10/25/2019 1:20-1:30 p.m.)	72	70	61	51	50	58
ST-2: West Side of Site (10/25/2019 1:40-1:50 p.m.)	74	71	65	54	50	61
ST-3: ~75 ft. North of Mission College Boulevard Centerline (10/25/2019 2:00-2:10 p.m.)	76	74	69	59	53	64

NOISE MEASUREMENT LOCATIONS | FIGURE 4.13-1

4.13.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
2) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
3) For a project located within the vicinity of a private airstrip or 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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The primary modifications to the Approved Project that may affect Noise are the modifications to the generators and other mechanical equipment proposed by the MCBGF.

Impact NOI-1:	The project would not result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

Construction

Section 9.10.230 of the City's Municipal Code limits construction activities within 300 feet of residentially-zoned property to be within the hours of 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted on Sundays or Holidays. Construction noise levels at commercial or industrial land uses, or residential uses within allowed hours, are not regulated in the City Code or General Plan.

Construction activities for individual projects are typically carried out in stages. During each stage of construction, there would be a different mix of equipment operating, and noise levels would vary by stage and vary within stages, based on the amount of equipment in operation and the location at which the equipment is operating. Typical construction noise levels at a distance of 50 feet are shown

in Tables 4.13-4 and 4.13-5. Table 4.13-4 shows the average noise level ranges by construction phase, and Table 4.13-5 shows the maximum noise level ranges for different construction equipment. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain can provide an additional 5 to 10 dBA noise reduction at distant receptors.

Table 4.13-4: Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.
Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

Table 4.13-5: Construction Equipment 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)1,2	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous

Table 4.13-5: Construction Equipment 50-foot Noise Emission Limits		
Equipment Category	**L_{max} Level (dBA)1,2**	**Impact/Continuous**
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:
1. Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.
2. Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.
3. Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Source: Mitigation of Nighttime Construction Noise, Vibrations and Other Nuisances, National Cooperative Highway Research Program, 1999.

Construction activities would include demolition, site preparation, grading and excavation, trenching, building (exterior), interior/ architectural coating and paving. Pile driving activity is not anticipated for this project. Project specific construction noise levels are summarized in Table 4.13-6, based on project construction information. Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. As indicated in Table 4.13-6, at 50 feet from the noise source, maximum instantaneous noise levels generated by project construction equipment are calculated to range from 78 to 90 dBA L_{max} and hourly average noise levels are calculated to range from 80 to 93 dBA L_{eq}.

Table 4.13-6: Calculated Construction Noise Levels for Each Phase of Construction		
Construction Phase	**At Distance of 50 ft.**	
	L_{eq}, dBA	**L_{max}, dBA**
Demolition	93	90
Site Preparation	88	85
Grading/Excavation	88	85
Trenching/Foundation	85	84
Building-Exterior	81	81
Building-Interior	80	78
Paving	86	90

Noise sensitive uses surrounding the site include residential buildings, located 120 feet north of the project site. The residential buildings would be exposed to a maximum noise level of 82 dBA L_{max} during demolition and paving and maximum noise levels of 70 – 78 dBA L_{max} during other phases of construction when construction is located adjacent to Agnew Road. Typical hourly average noise levels of 85 dBA L_{eq} during demolition and 72 – 80 dBA L_{eq} during other phases of construction are anticipated at the residences when construction is located adjacent to Agnew Road. Noise levels would be lower as construction moves away from Agnew Road or into shielded areas.

Implementation of the following construction best management practices would regulate the hours of construction, reduce construction noise levels emanating from the site, and minimize disruption and annoyance at existing noise-sensitive receptors in the project vicinity, resulting in a less than significant impact. This conclusion is consistent with the findings of the 2018 MND.

Mitigation Incorporated into the Project Design:

PD NOI-1: The project proposes to implement the following measures to reduce temporary construction noise to less than significant levels.

- The project applicant shall prepare a construction noise control plan, which shall be submitted for review and approval by the Director of Community Development prior to issuance of demolition, grading, and building permits. This plan shall include, at a minimum, the following measures

    - Construction activities shall be limited to hours between 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction is permitted on Sundays or Holidays.

    - Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise

source and receiver and if the barrier is constructed in a manner that eliminates any cracks or gaps.

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Unnecessary idling of internal combustion engines should be strictly prohibited.

- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used reduce noise levels at the adjacent sensitive receptors. Any enclosure openings or venting shall face away from sensitive receptors.

- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

- A temporary noise control blanket barrier could be erected, if necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. Noise control blanket barriers can be rented and quickly erected.

- Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.

- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

Operation

The primary operational sources of noise from the project would be rooftop mechanical equipment at the MCDC and emergency generators at the MCBGF. As described in Section 4.17 Transportation/ Traffic, the project would result in a net reduction in vehicle trips associated with the site and would therefore not result in an increase in traffic noise.

Section 9.10.040 of the City's Municipal Code establishes noise level performance standards for fixed sources of noise. At single- or multi-family residences or public spaces, hourly average noise levels exceeding 55 dBA L_{eq} between the hours of 7:00 a.m. and 10:00 p.m. or 50 dBA L_{eq} between 10:00 p.m. and 7:00 a.m. would constitute a significant temporary noise increase. At commercial uses, hourly average noise levels exceeding 65 dBA $L_{eq,}$ between the hours of 7:00 a.m. and 10:00 p.m. or 60 dBA L_{eq} between 10:00 p.m. and 7:00 a.m. would constitute a significant temporary noise increase. At light industrial land uses, hourly average noise levels exceeding 70 dBA L_{eq} at any time would constitute a significant temporary noise increase. At heavy industrial uses, hourly average noise levels exceeding 75 dBA L_{eq} at any time would constitute a significant temporary noise increase. The Municipal Code states that noise limits set forth in the code are not applicable to the performance of emergency work, including the operation of emergency generators and pumps or other equipment necessary to provide services during an emergency. However, the City has applied the noise limits to testing of the standby generators for previous data center buildings in Santa Clara.

The MCBGF would include forty-three (43) 2.5 MW emergency backup generators and two (2) 600 kW house-power emergency backup generators located between the two MCDC buildings. Each generator would be enclosed and only tested during daytime hours. Heating, ventilation, and air conditioning (HVAC) equipment would be located on the rooftops of both MCDC buildings. Proposed rooftop mechanical equipment includes a total of 56 upblast exhaust fans, with 32 on the eastern building and 24 on the western building, and a series of sidewall exhaust fans which would be enclosed within penthouse structures. An electrical distribution substation would be located at the north side of the site near Agnew Road, containing three transformers. The substation would be partially shielded by a 12-foot concrete wall along the northern, eastern, and southern sides. Data sheets including noise levels for the generators and HVAC equipment were provided by the project applicant. Under full load, each 2.5 MW enclosed generator would meet a design goal of 75 dBA at a distance of 23 feet. Each 600 kW enclosed generator would meet a design goal of 72 dBA at a distance of 23 feet under full load. Other mechanical and electrical equipment located inside the building would not be anticipated to emit audible noise outside. Both buildings would have rooftop parapet walls reaching six feet and three inches and would be constructed of metal panels with a surface weight greater than 3 pounds per square foot. Shielding from the parapet wall would be anticipated to provide additional noise reduction.

Proposed fixed sources of noise at the site were modeled using SoundPLAN, a three-dimensional noise modeling software that considers site geometry, the characteristics of the noise sources, and shielding from structures and barriers. Two scenarios for noise exposure were considered for this project: noise from continuously operating mechanical equipment (HVAC, substation), and noise from mechanical equipment concurrent with testing of generators. The latter scenario was designed considering the proposed generator testing schedule, indicating only one generator would be tested at a time. Results of the scenarios are summarized in Table 4.13-7.

Table 4.13-7: Calculated Noise Levels Resulting from Mechanical Equipment Operations		
Receiver Location	**Calculated Noise Levels, dBA L_{eq}**	
	HVAC Only	**HVAC and Generator Testing**
Agnew Road Residences (North)	45 – 50	47 – 51
Santa Clara Fire Department Station 8 (West)	48 - 52	48 - 52
Omnivision Buildings (East)	48 – 50	48 – 51
Varex Buildings (East)	51 – 52	51 – 52
Intel Buildings (South)	46 – 47	50 – 51

As shown in Table 4.13-7, MCBGF generator testing concurrent with MCDC HVAC and substation operations would result in noise levels reaching 51 dBA L_{eq} at the Agnew Road residences, and 52 dBA L_{eq} at the fire station. As generator testing will only take place during daytime hours, this would not result in standards being exceeded. Daytime and nighttime commercial limits of 65 dBA L_{eq} and 60 dBA L_{eq}, and industrial limits of 70 dBA L_{eq} would not be exceeded at any time. Additionally, anticipated hourly noise levels at the Agnew Road residences were calculated from the measurements taken between Friday, October 5th, 2019 and Friday, November 1st, 2019 at location LT-1. Daytime ambient noise levels are expected to be between 58 and 64 dBA L_{eq} at the nearest residences.

As shown in Table 4.13-7, noise resulting from operation of HVAC equipment and the electrical substation associated with MCDC is not anticipated to result in levels that would exceed the daytime or nighttime residential limits of 55 dBA L_{eq} and 50 dBA L_{eq} at the nearest residences along Agnew Road to the north. The Santa Clara Fire Department Station 8 is zoned as a public or quasi-public use and therefore has the same noise limits as described for residential uses. Noise levels resulting from the operation of the MCDC's HVAC equipment and the electrical substation would exceed 50 dBA L_{eq} during nighttime hours at points throughout the northern half of the fire station property, which consists primarily of an empty yard and access road. Noise levels along façades of the fire station are not anticipated to exceed 50 dBA L_{eq}.

Mitigation Incorporated into the Project Design:

PD NOI-2: The project proposes to implement one of the following measures, either of which would reduce MCDC operational noise to less than significant levels.

- The project shall include a parapet or screen wall reaching a height of at least 10 feet along the western side of the Phase II building. The parapet or screen will be constructed without any gaps or cracks and have a minimum surface weight of 3 pounds per square foot (such as 1-inch-thick wood, ½-inch laminated glass, masonry block, concrete, or metal one-inch); or

- The project shall equip the HVAC penthouse structure located on the rooftop of the Phase II building with an acoustical louver. The applicant shall submit documentation that the louver would reduce noise to acceptable levels to the satisfaction of the Director of Planning and Inspection prior to the issuance of a certificate of occupancy.

Implementation of measures incorporated into the project design would reduce MCDC operational impacts to a less than significant level. This conclusion is consistent with the findings of the 2018 MND.

Impact NOI-2:	The project would not result in generation of excessive groundborne vibration or groundborne noise levels. **(Less than Significant Impact)**

Construction Vibration

The City of Santa Clara does not specify a construction vibration limit. For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a limit of 0.25 in/sec PPV for historic and some old buildings. The 0.3 in/sec PPV vibration limit would be applicable to residences across Agnew Road. The 0.5 in/sec PPV vibration limit would be applicable to other properties in the vicinity of the project site.

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. Construction activities would include demolition, site preparation, grading and excavation, trenching, building (exterior), interior/architectural coating, and paving. Pile driving, which can cause excessive levels of vibration, is not anticipated as a method of construction. Other project construction activities, such as the use of jackhammers, rock drills, and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may potentially generate substantial vibration in the immediate vicinity. Erection of the building structure is not anticipated to be a source of substantial vibration with the exception of sporadic events such as dropping of heavy objects, which should be avoided to the extent possible.

The closest structures to the project site are the residences to the north across Agnew Road, the Omnivision Technologies corporate campus to the east, and the Varex Imaging manufacturing and office buildings to the southeast, all approximately 120 feet from site boundaries. The Mission City Center shared office building located at 2350 Mission College Boulevard is located approximately 150 feet from site boundaries. Table 4.13-8 presents typical vibration levels that could be expected from construction equipment at a reference distance of 25 feet and calculated levels at distances of 120 feet and 150 feet.

As indicated in Table 4.13-8, there are not predicted to be any times during construction when vibration levels will exceed the limit of 0.3 in/sec PPV at residences or 0.5 in/sec PPV at other buildings in the site vicinity. Vibration levels would be further below the threshold at more distant locations. This conclusion is consistent with the findings of the 2018 MND.

Table 4.13-8: Vibration Source Levels for Construction Equipment				
Equipment		**Reference PPV at 25 ft. (in/sec)**	**PPV at 120 ft. (in/sec)[1]**	**PPV at 150 ft. (in/sec)[1]**
Clam shovel drop		0.202	0.036	0.028
Hydromill (slurry wall)	in soil	0.008	0.001	0.001
	in rock	0.017	0.003	0.002
Vibratory Roller		0.210	0.037	0.029
Hoe Ram		0.089	0.016	0.012
Large bulldozer		0.089	0.016	0.012
Caisson drilling		0.089	0.016	0.012
Loaded trucks		0.076	0.014	0.011
Jackhammer		0.035	0.006	0.005
Small bulldozer		0.003	0.001	0.000

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, October 2018 as modified by Illingworth & Rodkin, Inc., November 2019.

[1]These levels calculated assuming normal propagation conditions, using a standard equation of *PPVeqmt-PPVref * (25/D) 1.5*, from FTA, May 2006.

Impact NOI-3: The project would not be located within the vicinity of a private airstrip or 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. The project would not expose people residing or working in the project area to excessive noise levels. **(Less than Significant Impact)**

Norman Y. Mineta International Airport is located approximately 1.6 miles southeast of the project site. Based on the 2027 noise contours shown in the Norman Y. Mineta International Airport Master Plan Update Project Report (2010), the project site has an airport noise exposure between 60 and 65 dBA CNEL. This noise level would be considered compatible with the proposed industrial use. This conclusion is consistent with the findings of the 2018 MND.

4.14 POPULATION

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.[56]

The City of Santa Clara Housing Element and related land use policies were last updated in December of 2014.

Regional and Local

Plan Bay Area 2040

Plan Bay Area 2040 is a long-range transportation, land-use, and housing plan intended to support a growing economy, provide more housing and transportation choices, and reduce transportation-related pollution and GHG emissions in the Bay Area.[57] 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).

[56] California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed April 27, 2018. http://hcd.ca.gov/community-development/housing-element/index.shtml.
[57] Association of Bay Area Governments. Plan *Bay Area 2040 Final.* July 2017.
[58] Association of Bay Area Governments and Metropolitan Transportation Commission. "Project Mapper." http://projectmapper.planbayarea.org/.

4.14.1.2 *Existing Conditions*

According to the California Department of Finance data, the City had a population of approximately 129,604 residents as of January 1, 2018.[59] The Association of Bay Area Governments projects the Santa Clara population to be 135,000 in 2025.[60]

The job/housing ratio quantifies the relationship between the number of housing units required as a result of local jobs and the number of residential units available in the City. When the ratio reaches 1.0, a balance is struck between the supply of local housing and local jobs. The jobs/housing ratio is determined by dividing the number of local jobs by the number of employed residents that can be housed in local housing. The City of Santa Clara has fewer employed residents than jobs with a ratio of approximately two jobs per employed resident.[61] Accordingly, most employees within the City are required to seek housing outside of the community. ABAG estimates that the City of Santa Clara had 112,460 jobs in 2010 and will have 145,560 jobs by 2040.[62]

The project site is developed with a 358,000-square foot office/R&D building. There are no residences on-site.

4.14.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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)?	☐	☐	☒	☐
2) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The modifications to the Approved Project do not affect population impacts as described in the 2018 MND.

[59] State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2017 and 2018. May 2018.
[60] Association of Bay Area Governments: Plan Bay Area Projections 2013. December 2013.
[61] Based on the ABAG-projected 106,750 jobs in 2010 and Santa Clara General Plan Housing Element.
[62] Association of Bay Area Governments. *2010-2040 Jobs Housing Connection Strategy.* Page 97. May 17, 2012.

Impact POP-1:	The project would not 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). **(Less than Significant Impact)**

The project would demolish the existing office/R&D building and associated parking lot on the site to construct a two data center buildings encompassing a total of 490,000 square feet. The MCDC is anticipated to require a total 30 full time employees and 27 part time employees. The MCBGF would not have any dedicated employees. The project would be a low employment-generating use, therefore approval of the project would not substantially increase jobs in the City. The proposed project would not induce substantial 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. This conclusion is consistent with the findings of the 2018 MND.

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

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. This conclusion is consistent with the findings of the 2018 MND.

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.[63]

[63] Santa Clara County. *Santa Clara County Countywide Trails Master Plan Update*. November 1995.

4.15.1.2 *Existing Conditions*

Fire Service

Fire protection services for the project site are provided by the City of Santa Clara Fire Department (SCFD). The SCFD consists of 10 stations consisting of eight engines, two trucks, one rescue/light unit, one hazardous materials unit and one command vehicle.[64] The closest fire station to the project site is Station 8, located at 2400 Agnew Road, which is approximately 0.2 miles west of the project site.

The SCFD responds to all emergencies within six minutes, 90 percent of the time.[65]

Police Service

Police protection services are provided by the City of Santa Clara Police Department (SCPD). The SCPD consists of 239 full-time employees and a varying number of part-time or per diem employees, community volunteers, Police Reserves and Chaplains.[66] Police headquarters are located at 601 El Camino Real, approximately four miles southeast of the project site.

The General Plan identifies a public service goal to maintain the SCPD response time average of three minutes for all areas of the City.[67]

Parks and Schools

The closest neighborhood park to the project site is Agnew Park, located approximately 0.7 miles northeast of the project site.

The nearest schools to the project site are Kathryn Hughes Elementary School, located at 4949 Calle de Escuela (approximately 1.8 miles northeast of the project site), Don Callejon K-8 school, located at 4176 Lick Mill Boulevard (approximately 1.9 miles east of the project site), and Santa Clara High School, located at 3000 Benton Street (approximately 4.3 miles south of the project site).

[64] City of Santa Clara Fire Department. "About Us." http://santaclaraca.gov/government/departments/fire/about-us. Accessed on July 24, 2018.
[65] City of Santa Clara. "Emergency Services." http://santaclaraca.gov/residents/emergency-services. Accessed June 2019.
[66] City of Santa Clara Police Department. "About Us." http://santaclaraca.gov/government/departments/police-department/about-us. Accessed on June 7, 2019.
[67] City of Santa Clara. *City of Santa Clara 2010-2035 General Plan*. Section 5.9.3. November 2010.

4.15.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1) Fire Protection?	☐	☐	☒	☐
2) Police Protection?	☐	☐	☒	☐
3) Schools?	☐	☐	☐	☒
4) Parks?	☐	☐	☒	☐
5) Other Public Facilities?	☐	☐	☐	☒

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The modifications to the Approved Project do not affect public services impacts as described in the 2018 MND.

Impact PS-1:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services. **(Less than Significant Impact)**

The project site is currently served by the SCFD. The proposed project may result in an incremental increase in the need for fire services associated with increased building area (though lower employment) 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 SCFD 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. This conclusion is consistent with the findings of the 2018 MND.

Impact PS-2:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services. **(Less than Significant Impact)**

The project site is currently served by the SCPD. The MCDC may result in an incremental increase in the need for police services associated with increased building area (though lower employment) 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 rations, response times or other performance objectives for police protection services. This conclusion is consistent with the findings of the 2018 MND.

Impact PS-3:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools. **(No Impact)**

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 facility, not a residential use, and would therefore not generate students. The project, therefore, would not require new or expanded school facilities, the construction of which could cause environmental impacts. This conclusion is consistent with the findings of the 2018 MND.

Impact PS-4:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks. **(Less than Significant Impact)**

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 MCDC 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. This conclusion is consistent with the findings of the 2018 MND.

Impact PS-5:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities. **(No Impact)**

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 MCDC employees at the project site may visit local parks; however, this would not create the need for any new facilities or adversely impact the physical condition of existing facilities. This conclusion is consistent with the findings of the 2018 MND.

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.

Local

The City of Santa Clara Parks & Recreation Department (Department) provides parks and recreational services in the City. The Department is responsible for maintaining and programming the various parks and recreation facilities, and works cooperatively with public agencies in coordinating all recreational activities within the City. Overall, as of June 2017, the Department maintains and operates Central Park (45.04-acre community park), 25 neighborhood parks (122.67 acres), four mini parks (2.59 acres), public open space (56.21 acres total: 16.13 acres improved and 40.08 acres unimproved), recreational facilities (23.8 acres total: 14.76 acres improved and 9.04 acres unimproved, excluding Santa Clara Golf and Tennis Club/BMX), recreational trails (7.59 acres), and joint use facilities (48.52 acres) throughout the City, totaling approximately 257.3 improved acres. In general, community parks total over 15 acres, neighborhood parks range between one to 15 acres, and mini parks are typically less than one acres in size.

The Department of Parks and Recreation also maintains a strong recreational program that supports a wide variety of activities. The Community Recreation Center is the hub of the City's recreational programs. The area in Central Park, west of Saratoga Creek, contains group and individual picnic facilities, playgrounds, restroom facilities, an amphitheater, two lighted tennis courts, basketball courts, and the Veterans Memorial. East of the creek is the world famous George F. Haines International Swim Center, open space, a lake, large group picnic areas, restroom facilities, a lawn bowling green, an exercise course, the Bob Fatjo Sports Center, which includes the Tony Sanchez Field as well as a lighted softball field, and the Santa Clara Tennis Center, which includes eight lighted tennis courts as well as a practice wall.[68]

In addition to the parklands and facilities within Central Park, the City currently has a gymnastics center, a bicycle track, a dog park, a golf and tennis club, a youth activity center, a teen center, a senior center, and a skate park. The City's recreational system is augmented by local school facilities, which are available to the general public after school hours.

[68] City of Santa Clara. Parks: Central Park. http://santaclaraca.gov/Home/Components/ServiceDirectory/ServiceDirectory/318/2654. Accessed on May 31, 2019.

The closest neighborhood park to the project site is Agnew Park, approximately 0.7 miles northeast of the project site.

4.16.2 Checklist and Discussion of Impacts

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☒	☐
2)	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?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The modifications to the Approved Project do not affect recreation impacts as described in the 2018 MND.

Impact REC-1:	The project would not 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. **(Less than Significant Impact)**

The proposed project would not increase employment substantially. Some MCDC employees may use nearby parks and recreational facilities; however, this would not have an impact on these facilities such that adverse physical effects would result. This conclusion is consistent with the findings of the 2018 MND.

Impact REC-2:	The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **(Less than Significant Impact)**

The proposed project would not include recreational facilities. Some MCDC employees may use nearby parks and recreational facilities; however, this would not require the construction or expansion of recreational facilities. This conclusion is consistent with the findings of the 2018 MND.

4.17 TRANSPORTATION/TRAFFIC

4.17.1 Environmental Setting

4.17.1.1 *Regulatory Framework*

State

Regional Transportation Plan

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, including Santa Clara County. MTC is charged with regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities in the region. MTC and ABAG adopted Plan Bay Area 2040 in July 2017, which includes a Regional Transportation Plan to guide regional transportation investment for revenues from federal, state, regional and local sources through 2040.

Senate Bill 743

SB 743 establishes criteria for determining the significance of transportation impacts using a vehicle miles traveled (VMT) metric intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. Specifically, SB 743 requires the replacement of automobile delay—described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion—with VMT as the recommended metric for determining the significance of transportation impacts. The Governor's Office of Planning and Research (OPR) approved the CEQA Guidelines implementing SB 743 on December 28, 2018. Local jurisdictions are required to implement a VMT policy by July 1, 2020.

Regional and Local

Congestion Management Program

VTA oversees the Congestion Management Program (CMP), which is aimed at reducing regional traffic congestion. The relevant state legislation requires that urbanized counties in California prepare a CMP in order to obtain each county's share of gas tax revenues. State legislation requires that each CMP define traffic LOS standards, transit service standards, a trip reduction and transportation demand management plan, a land use impact analysis program, and a capital improvement element. VTA has review responsibility for proposed development projects that are expected to affect CMP-designated intersections.

4.17.1.2 *Regional and Local Roadway Access*

Regional Access

Regional access to the project site is provided via State Route 237 (SR 237), Highway 101 (US 101), and Interstate 880 (I-880) as described below.

SR 237 provides access to the project site via Great America Parkway. SR 237 is a regional east/west freeway with two lanes in each direction, extending from I-680 in Milpitas to El Camino Real in Mountain View.

US 101 provides access to the project site via Montague Expressway and Great America Parkway. US 101 is a regional north/south freeway with six mixed-flow lanes and two high occupancy vehicle lanes in the project area. US 101 extends through the entire Bay Area north of San Francisco and south of San José.

I-880 provides access to the project site via a full interchange at Montague Expressway. I-880 is a regional north/south freeway with three mixed-flow lanes that extends from San José to Oakland.

Local Access

Local access to the project site is provided via Lafayette, Mission College Boulevard, and Agnew Road. These roadways are described below.

Lafayette Street is a four-lane roadway between SR 237 and Poplar Street and provides access to the project site via Mission College Boulevard and Agnew Road.

Mission College Boulevard is a four- to five-lane roadway between Great American Parkway and Montague Expressway that provides direct access to the project site.

Agnew Road is a two-lane roadway between Lafayette Street and Mission College Boulevard that provides direct access to the project site.

4.17.1.3 *Existing Transit Service*

Transit service in the area includes local bus service provided by the Santa Clara Valley Transportation Authority (VTA).

Bus Service

Local routes 60, 140, 321, 330, and 827 provide bus service to the Mission College Boulevard and Burton Drive bus stop, which is located on the site's southern frontage on Mission College Boulevard.[69]

Caltrain and ACE

The Santa Clara Caltrain station is located approximately 4.1 miles southeast of the project site, near Railroad Avenue and El Camino Real. Caltrain commuter rail service between San Francisco to Gilroy and the Altamont Commuter Express (ACE) rail service between Stockton and San Jose both stop at the Santa Clara Caltrain Station. Caltrain provides service with 15- to 30-minute headways during commute hours. The ACE rail service operates four trains during the morning and afternoon commute periods.

[69] Santa Clara Valley Transportation Authority. *Bus and Rail Map.* Available at: < http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001cwcWIAQ> Accessed on July 27, 2018.

4.17.1.4 *Existing Pedestrian and Bicycle Facilities*

Pedestrian access to the site is provided by sidewalks on the site's southern frontage on Mission College Boulevard. No sidewalk currently exists on the site's northern frontage on Agnew Road.

Bicycle facilities comprise paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are lanes on roadways designated for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only. There are Class II bicycle facilities along Agnew Road and Mission College Boulevard.

4.17.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian facilities?	☐	☐	☒	☐
2) For a land use project, conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
3) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☒	☐
4) Result in inadequate emergency access?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

The only modifications to the Approved Project that may affect transportation is the difference in construction schedule, number of construction workers anticipated and the number of permanent employees for the MCDC and MCBGF.

Impact TRN-1: The project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian facilities. **(Less than Significant Impact)**

The City of Santa Clara does not currently have an adopted Vehicle Miles Traveled (VMT) policy. The VTA Congestion Management Plan (CMP) guidelines state that a project's traffic impacts should be analyzed during the weekday AM and PM peak periods if it will add more than 100 peak hour trips to the roadway network. Based upon Trip Generation analysis below, the project would not

exceed the 100 peak hour trips threshold. As a result, no formal traffic impact analysis to evaluate changes in intersection level of service is required or proposed.

Construction Vehicle Trips

All construction-related trips would be temporary in nature and would cease at the completion of construction activities. Trip generation would vary by construction phase. The average construction workforce is estimated to be 52, with a peak estimated to be 100 for each phase. An accepted methodology to estimate construction worker trips is to use daily trip rates for employees at a general light industrial facility and apply those rates to the anticipated number of construction workers. The Institute of Transportation Engineers (ITE) Trip Generation Manual, Tenth Edition's trip generation rate for general light industrial land uses (land use code 110) is 3.05 daily one-way trips per employee. Applying that rate to the maximum 100 daily construction workers yields 305 daily one-way trips, or 152.5 daily round trips. Additional trips associated with hauling and delivery would occur during construction. Hauling and delivery activities are conservatively estimated to result in an average of roughly 50 one-way trips, or 25 round trips, per day. Vehicle trips generated during construction of the project would be less than vehicle trips currently generated by the existing use on the site, as described in further detail below.

Operational Vehicle Trips

The MCBGF would not generate regular vehicle trips other than occasional trips associated with maintenance activity and, therefore, would not result in impacts related to vehicle trips.

The MCDC is anticipated to require a total 30 full time employees and 27 part time employees, along with an estimated five visitors per day. This would be a decrease from the number of employees and visitors at the existing building on-site. As described in *Section 4.3 Air Quality*, MCDC employees and visitors are estimated to generate roughly 124 daily vehicle trips. This represents a conservative estimate as it does not account for the elimination of existing vehicle trips associated with the project site.

Another methodology for estimating vehicle trips for the project is utilization of the trip generation rates contained in the ITE Trip Generation Manual, although it would not reflect the specific number of anticipated employees and visitors at the MCDC. Based on ITE trip generation rates for data centers (land use code 160), which relies on actual survey data, a data center equivalent in size to the proposed MCDC could generate an estimated total of 491 daily trips, with 55 occurring during the AM peak hour and 45 occurring during the PM peak hour. Given the MCDC's anticipated number of employees and visitors described above, these ITE estimates do not represent an accurate estimate of the project's trip generation; however, they offer a useful point of comparison to the trip generation of the existing office/R&D use on the site. Based on ITE trip generation rates for general office (land use code 710), the existing development on the site could generate roughly 3,487 daily trips, with 415 occurring during the AM peak hour and 412 occurring during the PM peak hour. Even using the overly conservative ITE trip generation rates for data centers, the project would result in a net reduction in trip generation on the site and, therefore, would not significantly impact adjacent roadways or result in transportation level of service impacts to signalized intersections or freeway segments.

The City's Climate Action Plan includes VMT reduction requirements for projects located within one of four designated transportation districts. The project site is located within Transportation District 1 with a General Plan land use designation of Low Intensity Office/R&D and is therefore required to have a 25 percent VMT reduction, 10 percent coming from a transportation demand management program. The project would be required to implement a TDM program that would include measures such as: electric car charging stations, secure bicycle parking facilities, preferred carpool and vanpool parking, and facilitation of ride sharing services. With implementation of the TDM program, the project would reduce the number of trips generated by approximately 25 percent. Trips generated by the project would result in a less than significant impact. This conclusion is consistent with the findings of the 2018 MND.

Bicycle and Pedestrian Facilities

Pedestrian access to the site is provided by sidewalks on the site's southern frontage on Mission College Boulevard. No sidewalk currently exists on the site's northern frontage on Agnew Road. The project would install a new sidewalk on the project's frontage with Agnew Road and would improve the existing sidewalk on the project's frontage on Mission College Boulevard. The project, therefore, would not conflict with pedestrian circulation in the area. This conclusion is consistent with the findings of the 2018 MND.

Proposed modifications to site access along the project frontage would not conflict with bicyclists use of the existing Class II bike lanes on Mission College Boulevard. This conclusion is consistent with the findings of the 2018 MND.

Transit Facilities

VTA, Caltrain, and ACE provide transit service within the project vicinity. Local VTA routes 60, 140, 321, 330, and 827 provide access to the project site along Mission College Boulevard and Juliette Lane. There are adequate pedestrian pathways connecting the project site to the bus stops.

Due to the low number of employees and visitors expected at the proposed data center, the project would not adversely impact levels of service at nearby transit, pedestrian, or bicycle facilities. This conclusion is consistent with the findings of the 2018 MND.

Impact TRN-2:	The project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(Less than Significant Impact)**

The CEQA Guidelines Section 15064.3, Subdivision (b)(1) states that land use projects with vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. The City of Santa Clara does not, however, currently have an adopted VMT threshold. Based on Senate Bill 743, by July 1, 2020, all CEQA lead agencies must analyze transportation impacts using VMT (instead of level of service standards).[70] The City of Santa Clara is not currently required to have a VMT threshold, therefore, the proposed project is not in conflict with CEQA Guidelines Section 15064.3, Subdivision (b)(1).

[70] Santa Clara Valley Transportation Authority. *Level of Service (LOS) to Vehicle Miles Traveled (VMT) Transition*. http://www.vta.org/projects-and-programs/congestion-management-program/los-vmt. Accessed November 12, 2019.

The MCBGF would not regularly generate VMT other than occasional trips associated with maintenance activity. The operation of the MCDC will require relatively few VMT, and the project site is currently developed with an onsite workforce. Additionally, the project would be required to implement a TDM program to reduce vehicle trips. As a result, the MCDC is not expected to result in a net increase in VMT per capita on the site. The MCDC is not a growth-inducing project that will significantly increase VMT in the project area.

Impact TRN-3:	The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). **(Less than Significant Impact)**

Access to the site would be provided by a 50-foot wide driveway in the same location as the existing eastern-most driveway on Mission College Boulevard. The remaining existing driveway entrances off Mission College Boulevard will be closed. Two secondary driveway entrances, one for emergency access (30 feet wide) and one for access to the substation (21 feet wide), would be constructed on Agnew Road. Two existing driveway entrances off Agnew road would be closed.

One of the existing driveway entrances on Mission College Boulevard proposed to be closed by the project currently forms the northern leg of a four-way signalized intersection with Juliette Lane. Although the project would alter the existing intersection configuration, the project would not alter the shape of the road, nor would it create any sharp curves or dangerous intersections.

The project would not introduce a design feature or incompatible uses to the project area. Project construction and operation will occur entirely onsite. Therefore, the project will not increase hazards due to geometric design features of roadways or incompatible use. This conclusion is consistent with the findings of the 2018 MND.

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

Emergency access would be provided to the site via proposed driveways on Mission College Boulevard and Agnew Road. The driveways will provide access to an internal roadway looping around the perimeters of the data center buildings for site circulation and emergency vehicle access. The City of Santa Clara standards require two-way driveways providing access to all properties be a minimum width of 22 feet (20-foot pavement with one-foot clearance on each side). The two emergency access driveways would be 50 feet wide and 30 feet wide. The final site design would be required to be consistent with regulatory requirements for fire truck access. This conclusion is consistent with the findings of the 2018 MND.

4.18 TRIBAL CULTURAL RESOURCES

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 TCR, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a TCR 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*

No Native American tribes have contacted the City pursuant to AB 52 to be notified about projects within the City for the purposes of requesting consultation.

4.18.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:				
• 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)?	☐	☐	☒	☐

• 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.	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, 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 "MCBGF" or the "MCDC".

Since the MCDC and MCBGF are being developed on the same site as the Approved Project, the modifications do not affect the 2018 MND's evaluation and findings for tribal cultural resources.

Impact TCR-1:	The project would not 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). **(Less than Significant Impact)**

No tribes have requested consultation for projects in the area under AB 52 and there are no known TCRs on-site. A record search of the NAHC Sacred Lands File was completed for the site and the results were negative.[71] While there is the potential for unknown Native American resources or human remains to be present in the project area, impacts would be less than significant with implementation of the City's General Plan policies related to discovery of archaeological resources or human remains as well as implementation of mitigation incorporated into the project (described in detail in *Section 4.5 Cultural Resources*). This conclusion is consistent with the findings of the 2018 MND.

On November 20, 2019, letters were sent to the following Native American tribes based on the recommendation of the Native American Heritage Commission (NAHC): Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, North Valley Yokuts Tribe, the Ohlone Indian Tribe, Amah Mutsun Tribal Band, Indian Canyon Mutsun Band of Costanoan, and Amah Mutsun Tribal Band of Mission San Juan Bautista. The letters contained information about the MCDC and MCBGF; an inquiry for any unrecorded Native American cultural resources or other areas of concern within or adjacent to the MCBGF site; and a solicitation of comments, questions, or concerns with regard the MCDC or MCBGF. To date, no responses have been received.

[71] Nancy Gonzalez-Lopez, NAHC. Personal Communication. November 20, 2019.

Impact TCR-2:	The project would not 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. **(Less than Significant Impact)**

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. 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. This conclusion is consistent with the findings of the 2018 MND.

4.19 UTILITIES

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 Santa Clara adopted its most recent UWMP in November 2016.

A Water Supply Assessment (WSA) is required pursuant to State Water Code Section 10910 if the project meets certain requirements outline in Section 10912. A WSA is required for:

1. A residential development of more than 500 units;
2. A hotel or motel having more than 500 rooms;
3. A commercial office building employing 1,000 people or having more than 250,000 sq. feet of floor space;
4. An industrial, manufacturing or industrial park planned to house more than 1,000 employees or having more than 650,000 sq. feet of floor space;
5. A mixed use project that contains one or more of the criteria above; or
6. Any project that has a water demand equal to or greater than the amount of water required by a 500 dwelling unit development.

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.

4.19.1.2 *Existing Conditions*

Water Service

Potable Water

Water services to the site are provided by the City of Santa Clara Department of Water and Sewer Utilities. The water system consists of more than 335 miles of water mains, 27 active water wells and seven storage tanks with 28.8 million gallons of water storage capacity.[72] Drinking water is provided by an extensive underground aquifer (accessed by the City's wells) and by two wholesale water importers: Valley Water (imported from the Sacramento-San Joaquin Delta) and the San Francisco Hetch-Hetchy System (imported from the Sierra Nevada). About 30 percent of the City's water comes from these imported treated water supplies. The remaining 70 percent is pumped from the City's system of 26 active water wells.[73] The three sources are used interchangeably or are blended together. In 2015, the Water Utility had approximately 25,715 water service connections with an average potable water demand of 16.8 million gallons per day (MGD) potable water and an average demand of 3.2 MGD recycled water demand.[74]

Recycled Water

Tertiary treated (or 'recycled') water serves as a fourth source of water supply and comprises approximately 16 percent of the City's overall water supply.[75] Recycled water is supplied from South Bay Recycled Water, which provides advanced tertiary treated water from the San Jose—Santa Clara Regional Wastewater Facility (formerly known as the San Jose/Santa Clara Water Pollution Control Plant). The City of Santa Clara recycles approximately one percent of its water through non-potable uses by businesses, industries, parks, and schools along pipeline routes. The City's recycled water program delivers recycled water throughout the City for landscaping, parks, public services and businesses. The nearest recycled water lines are located in Mission College Boulevard.[76]

Wastewater

Wastewater from the City of Santa Clara is treated at the San José – Santa Clara Regional Wastewater Facility (RWF). The RWF is owned jointly by the two cities and is operated by the City

[72] City of Santa Clara. *2015 Urban Water Management Plan, City of Santa Clara Water Utility*. Page 12. Adopted November 2016. Accessed: July 31, 2018. Available at: http://santaclaraca.gov/index.aspx?page=1984.
[73] *Ibid.*
[74] *Ibid.*
[75] City of Santa Clara. *Water Utility*. Updated July 2012. Accessed: June 12, 2019. http://santaclaraca.gov/government/departments/water-sewer-utilities/water-utility.
[76] City of Santa Clara. *Recycled Water System Map. City of Santa Clara, California.* Updated July 2012. Accessed: March 23, 2017. Available at: http://santaclaraca.gov/home/showdocument?id=14883.

of San José's Department of Environmental Services. The facility is one of the largest advanced wastewater treatment facilities in California and serves over 1,400,000 people in San José, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno.[77] The Regional Wastewater Facility provides primary, secondary, and tertiary treatment of wastewater and has the capacity to treat 167 million gallons of wastewater a day.

The RWF is currently operating under a 120 MGD dry weather effluent flow constraint. This requirement is based upon the State Water Resources Control Board and the Regional Water Quality Control Board concerns over the effects of additional freshwater discharges from the RWF on the saltwater marsh habitat, and pollutant loading to the Bay. Approximately ten percent of the facility's effluent is recycled for non-potable uses and the remainder flows into San Francisco Bay. The NPDES permit for the RWF, which includes wastewater discharge requirements, was issued in 2014 and is valid through 2019, after which the RWD will need to refile for a new permit.

Wastewater from the existing building on the site currently discharges to a 12- and 18-inch sanitary sewer line that flows eastward along Agnew Road. The flow then turns north along Lafayette Street and continues north on the 33, 36, and 42-inch sewers to pump stations, where it is then conveyed to the San José/Santa Clara Regional Wastewater Facility. Sanitary sewer lines that serve the project site are maintained by the City of Santa Clara Sewer Utility.

Storm Drainage

The City of Santa Clara owns and maintains the municipal storm drainage system which serves the project site. Stormwater from the site is currently conveyed to a 24-inch storm drain pipe in Agnew Road.

Solid Waste

Solid waste collection in the City of Santa Clara is provided by Mission Trail Waste System through a contract with the City. The City has an arrangement with the owners of Newby Island Sanitary Landfill (NISL), located in San José, to provide disposal capacity for the City of Santa Clara through 2024. Recycling services are provided through Stevens Creek Disposal and Recycling.

Natural Gas and Electricity Services

Electric service is provided to the site by Silicon Valley Power and natural gas is provided by Pacific Gas and Electric (PG&E).

[77] City of Santa Clara. *San Jose-Santa Clara Regional Wastewater Facility.* Accessed July 31, 2018. Available at: m, .

4.19.2 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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?	☐	☐	☒	☐
2) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
3) 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?	☐	☐	☒	☐
4) 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?	☐	☐	☒	☐
5) Be noncompliant with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Note to reader: Where the following analysis applies to both the MCBGF and the MCDC, the word "project" is used to collectively refer to both facilities. There are no potential impacts associated with the MCBGF as all of the potential impacts are associated with the MCDC.

The modifications to the Approved Project that may affect the 2018 MND's evaluation of utilities include the MCDC's efficient cooling technology that uses approximately 10 percent of the water use of the Approved Project and the reduced sewer discharge.

Impact UTL-1:	The project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. **(Less than Significant Impact)**

The MCBGF would not require expansion of any utility facilities. The MCDC would connect to existing stormwater, electric, telecommunications, and waste systems adjacent to the site. The

MCDC would incrementally increase the demand on existing facilities in the City of Santa Clara. No relocation of existing or construction of new facilities for these systems are needed to serve the MCDC; therefore, there would not be a significant impact. This conclusion is consistent with the findings of the 2018 MND.

Sanitary sewer lines installed on-site would connect to an existing 12- and 18-inch sanitary sewer line that drains eastward along Agnew Road. The City prepared a Sanitary Sewer Capacity Evaluation for the 2018 MND which determined that the proposed data center facility would not require upsizing of sewer lines serving the site and would result in a less than significant impact on existing wastewater facilities.[78] As described in further detail below under Impact UTL-2, the MCDC would utilize far less water than the data center facility analyzed in the 2018 MND and, therefore, would result in less sanitary sewer discharge. As a result, the project would not require new or expanded wastewater facilities.

The project would also construct a new 99 megavolt amps (MVA) electrical substation in the northeastern portion of the site, adjacent to Agnew Road. The three-bay substation will include three 45 MVA 60 kV-34.5kV step-down transformers in a two plus one configuration. Only two transformers will run at a given time with the third transformer in reserve. The substation would connect to existing 60 kV overhead lines located on Agnew Road. Electrical power from the substation would be distributed to the data center through 12kV underground distribution lines. The substation will be constructed after completion of the Phase I building. The data center may begin operating prior to completion of the proposed electrical substation. To provide electricity to the data center during this interim period, the project would request an interim service from SVP capable of supporting 12 MW of electrical load. The 12kV feeder will be supplied from the existing Agnew substation and travel through underground conduit to the site. Where possible the feeders will reuse existing utility substructures (e.g. vaults, pull boxes, and conduit). The feeders will pass under Agnew and terminate at the MCDC property. The path under Agnew will be created by boring equipment that will be employed outside of the roadway. Once on the MCDC property, the feeder would continue underground to the Medium Voltage switchgear and transformers located in the northern portion of the site. The primary environmental impact will be boring to facilitate the underground feeder and digging to set vaults for utility MV equipment, pulling cables, and splicing cables together. The bridge power condition is equivalent to that approved for the previously approved data center. Physical impacts associated with construction and installation of both the proposed substation and the interim electricity facilities have been incorporated into the construction assumptions for the project, which are addressed throughout the 2018 MND and this application.

PG&E owns natural gas distribution facilities within the City of Santa Clara. The MCDC would not increase natural gas use, nor would it require the construction of any additional off-site facilities.

[78] RMC Water and Environment. Sanitary Sewer Capacity Evaluation for the Project at 2305 Mission College Boulevard (APN: 104-13-096). January 16, 2018.

Impact UTL-2:	The project would not have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. **(Less than Significant Impact)**

Demolition, grading and construction of the MDCD, including the MCBGF, is estimated to utilize 1.84 acre-feet of water over the 12-month construction period for Phase I and 0.61 acre-feet of water over the Phase II construction period of 10 months.

The MCBGF would not require water supply during project operation. The MCDC would have a water demand of roughly 24.4 acre-feet per year (AF/yr) during project operation. This is approximately 10 percent of the water demand of the data center facility analyzed in the 2018 MND, which had a water demand of 228.4 AF/yr. The City completed a Water Supply Assessment for the 2018 MND which concluded that the proposed development and the projected increase in water demand would be consistent with the growth projections and future water demand assumed in the preparation and analysis of the City's 2015 Urban Water Management Plan (UWMP).[79] The City's 2015 UWMP concluded that sufficient water supplies are available to meet the project demand. As such, there is a sufficient water supply to serve the project site under normal water year (non-drought) conditions. In addition to normal water years, the WSA and UWMP assessed the ability of Santa Clara to meet forecasted water demands (including the proposed project) during multiple dry weather (drought) years. The City concluded that with projected supply totals and implementation of conservation measures consistent with its Water Shortage Contingency Plan, the retailer would be able to meet the projected demand during multiple dry water years.

Since construction and operation of the MCDC would require far less water than the data center facility analyzed in the 2018 MND, for which the City determined there would be sufficient water supplies, the MCDC would result in a less than significant impact.

Impact UTL-3:	The project would not 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. **(Less than Significant Impact)**

The RWF has the capacity to treat 167 million gallons of wastewater per day.[80] Currently, the RWF is operating under a 120 million gallon per day dry weather effluent flow constraints. The 2018 MND concluded that with implementation of the proposed data center facility, 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. Since the MCDC would result in less wastewater discharge than the data center facility analyzed in the 2018 MND, the project would result in a less than significant impact.

[79] City of Santa Clara. 2305 Mission College Boulevard Development Application – Water Supply Assessment for Compliance with California Water Code Section 10910. October 2017.
[80] City of San José. San José-Santa Clara Regional Wastewater Facility. Accessed: May 22, 2017. Available at: http://sanjoseca.gov/index.aspx?nid=1663.

Impact UTL-4:	The project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. **(Less than Significant Impact)**

The City of Santa Clara has secured landfill disposal capacity for all the City's solid waste requirements until the year 2024 through an agreement with NISL in San José. NISL is currently in the process of seeking authorization from San José to expand the permitted capacity and accept an additional 15.12 million cubic yards and extend its closure date to 2041.[81] As of January 2017, NISL has approximately 18 million cubic yards of remaining capacity. There is existing capacity at local landfills, including NISL, to accommodate project generated waste post 2024. If the landfill is not available to accept waste, the City will prepare a contract with another landfill, such as Guadalupe Mines in San José, which is anticipated to close in 2049. In addition, the City is currently exceeding its waste diversion goal of 50 percent. For these reason, the project would be served by a landfill with sufficient permitted capacity. This conclusion is consistent with the findings of the 2018 MND.

Impact UTL-5:	The project would not be noncompliant with federal, state, and local management and reduction statutes and regulations related to solid waste. **(Less than Significant Impact)**

The construction and operation of the project would comply with federal, state, and local regulations related to diversion of materials from disposal and appropriate disposal of solid waste. This conclusion is consistent with the findings of the 2018 MND.

[81] Bauer, Ian. 2016. San José to Study Odors from Newby Island Landfill Before Considering Any Expansion. Mercury News, October 16, 2016.

4.20 WILDFIRE

4.20.1 Environmental Setting

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones.[82]

4.20.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
1) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
2) 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?	☐	☐	☐	☒
3) 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?	☐	☐	☐	☒
4) 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?	☐	☐	☐	☒

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)**

[82] State of California Department of Forestry and Fire Protection. Santa Clara County Fire Hazard Severity Zones in SRA. Adopted November 7, 2007.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	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?	☐	☒	☐	☐
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)?	☐	☒	☐	☐
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact MFS-1: The project does not 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. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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. This conclusion is consistent with the findings of the 2018 MND.

The project is located in an urban area and is 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. This conclusion is consistent with the findings of the 2018 MND.

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. This conclusion is consistent with the findings of the 2018 MND.

Impact MFS-2:	The project does not have impacts that are individually limited, but cumulatively considerable. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

A number of projects have been recently approved, reasonably foreseeable, or are under development in the City of Santa Clara in the vicinity of the project site. These include the development or redevelopment of residential, 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. With the proposed project's adherence to the Land Use, Air Quality, Energy, and Water Policies described in the City's General Plan, project impacts would not contribute to cumulatively considerable impacts. Given the project's location and proposed operation, areas of particular concern for cumulative impacts are energy, air quality, and GHG emission. These impact areas are discussed in further detail below.

Energy

Energy impacts are cumulative in nature in that they are tied to local and regional energy supplies. Electricity for the proposed MCDC would be provided by Silicon Valley Power (SVP) , which is the public electric utility of the City of Santa Clara. Santa Clara currently has ownership interest, or has purchase agreements for 1,268.45 MW of electricity.[83] In 2017, approximately 38 percent of that generation is eligible as renewable (as defined by the California Energy Commission) and an additional 34 percent is otherwise a non-GHG emitting resource (i.e. large-hydroelectric).[84] This capacity far exceeds City of Santa Clara's current peak electricity demand of approximately 526.2 MW. No new generation peak capacity is necessary to meet the capacity requirements of new construction, or redeveloped facilities within the City to meet the near or projected future demand. Additionally, the MCBGF would not have a significant adverse effect on local or regional diesel fuel supplies and will not create a significant adverse impact on California's energy resources. This conclusion is consistent with the findings of the 2018 MND.

Air Quality

Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single

[83] Silicon Valley Power, City of Santa Clara. *The Silicon Valley Power Resources Map* Available at: http://www.siliconvalleypower.com/home/showdocument?id=5763.
[84] Silicon Valley Power. "Power Content Label". Accessed: June 21, 2019. Available at: http://siliconvalleypower.com/svp-and-community/about-svp/power-content-label

project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. As described in *Section 4.3 Air Quality*, with the incorporation of measures into the project, the total increase in average daily emissions of criteria pollutants from operation of the project and cumulative air toxics health hazards are estimated to be below the significance thresholds used by BAAQMD and the CEC. Therefore, with implementation of measures included in the project, the project would not result in a cumulative air quality impact. This conclusion is consistent with the findings of the 2018 MND.

Greenhouse Gas Emissions

Similar to regulated air pollutants, GHG emissions and global climate change also represent cumulative impacts. The project's contribution to global climate change is discussed in *Section 4.7 Greenhouse Gas Emissions* in terms of the project's GHG emissions. With implementation of the efficiency measures included in the project in combination with the power mix utilized by SVP, the project would not conflict with plans, policies or regulation adopted for the purpose of reducing the emissions of GHGs. This conclusion is consistent with the findings of the 2018 MND.

Impact MFS-3:	The project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. **(Less than Significant Impact with Mitigation Incorporated into the Project Design)**

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 report, the proposed project would not result in substantial adverse effects on human beings, individually or cumulatively. This conclusion is consistent with the findings of the 2018 MND.

4.22 ENVIRONMENTAL JUSTICE

4.22.1 Environmental Setting

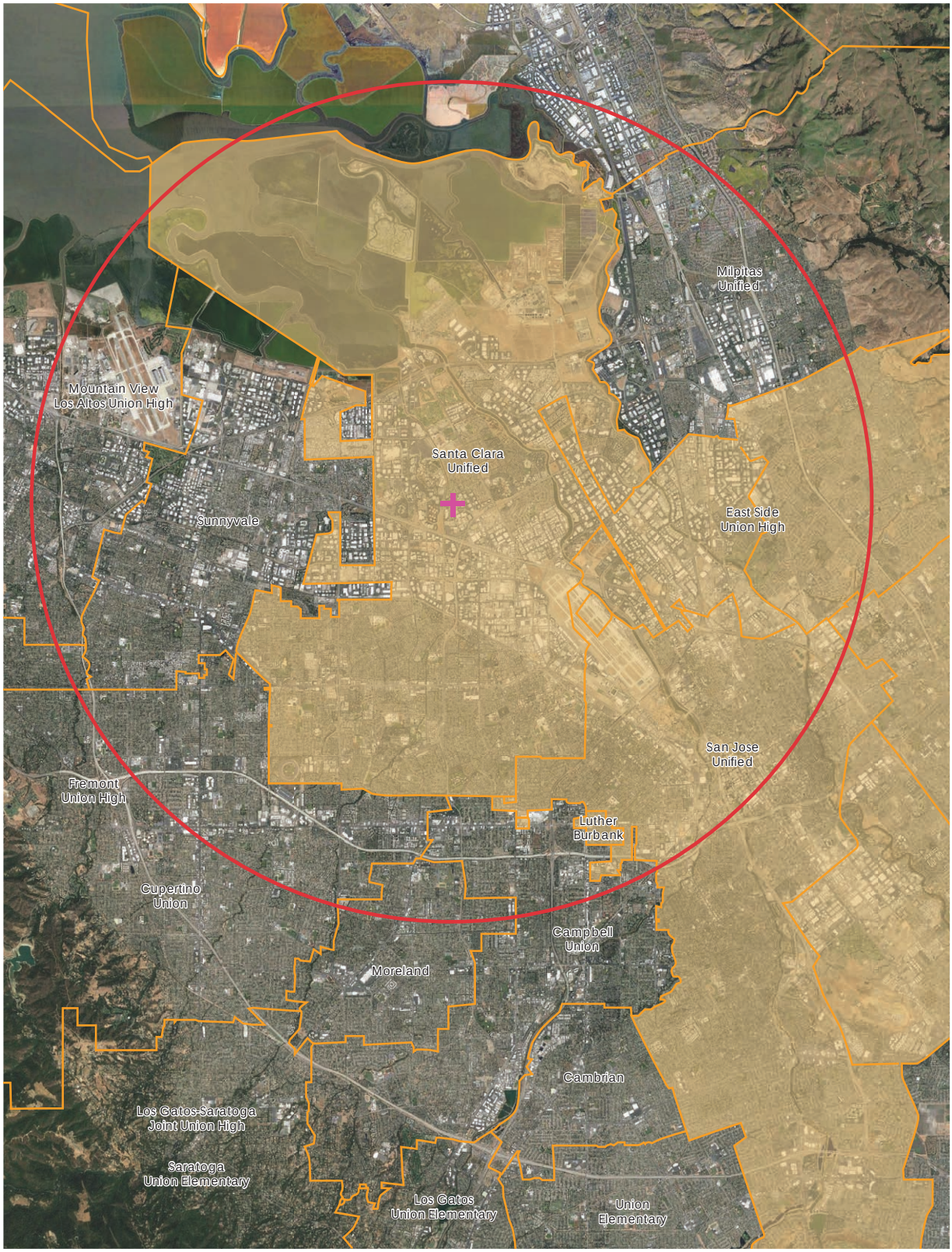
Based on California Department of Education data shown in Table 4.22-1 and depicted in Figure 4.22-1, the percentage of those living in the school districts of Campbell Union, San Jose Unified, and Luther Burbank (in a six-mile radius of the project site) and enrolled in the free or reduced price meal program is larger than those in the reference geography, and thus are considered an EJ population based on a low income population as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

Table 4.22-1: Low Income Data within the Project Area

School Districts in Six Mile Radius	Enrollment Used for Meals	Free or Reduced Price Meals	
Berryessa Union Elementary	7,102	2,459	34.6%
Cambrian	3,591	595	16.6%
Campbell Union	7,298	3,192	43.7%
Cupertino Union	18,017	1,170	6.5%
Luther Burbank	517	198	38.3%
Milpitas Unified	10,318	3,452	33.5%
Moreland	4,805	1,463	30.4%
San Jose Unified	33,713	14,479	45.7%
Santa Clara Unified	11,668	6,520	55.9%
Sunnyvale	6,575	2,282	34.7%
Reference Geography			
Santa Clara County	272,155	102,647	37.7%

Source: California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2017-2018, http://dq.cde.ca.gov/dataquest/

Figure 4.22-2 shows 2010 census blocks in a six-mile radius of MCDC and MCBGF (together, project) with a minority population greater than or equal to 50 percent (US Census 2010). The population in these census 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).



LEGEND

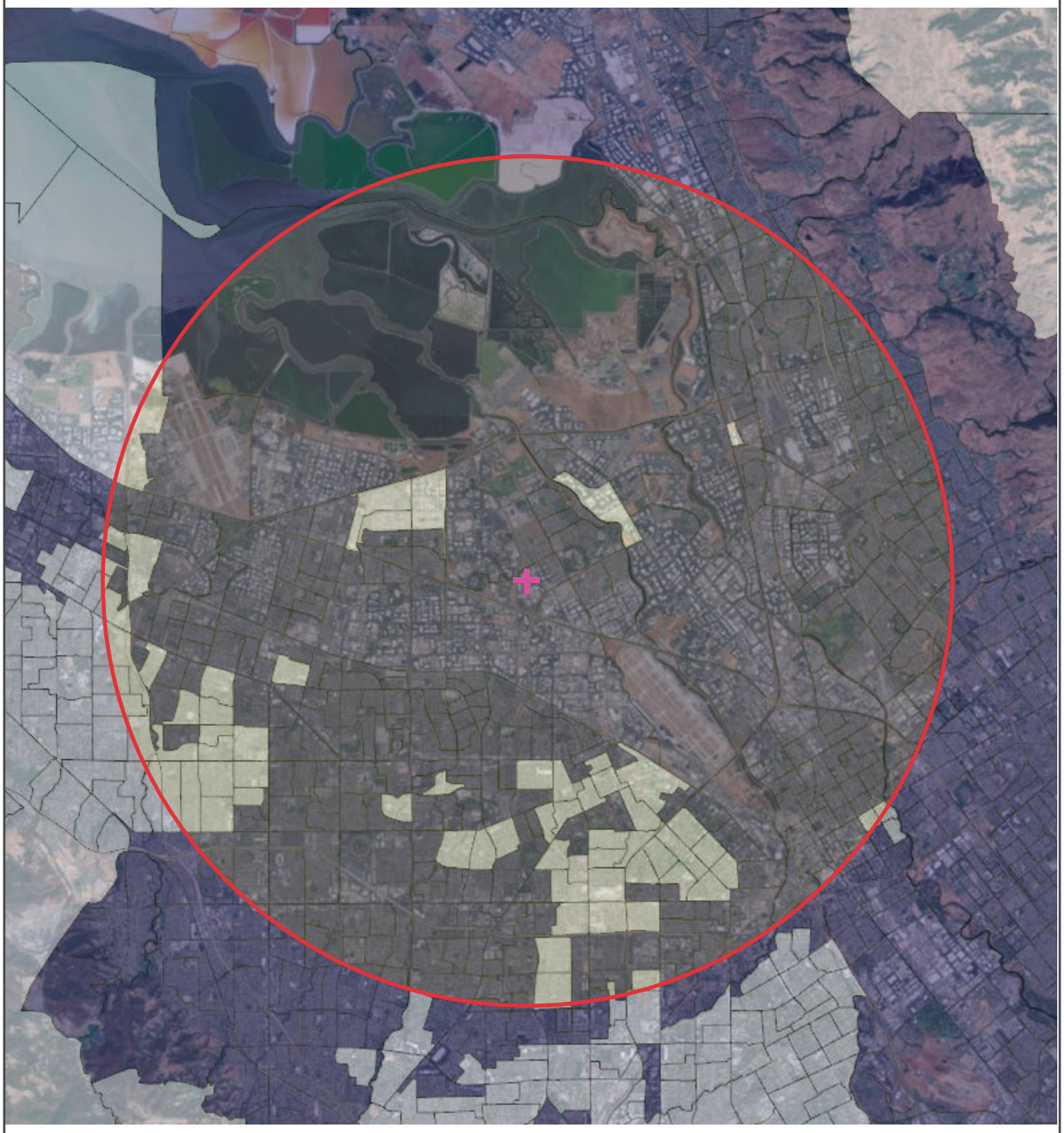
- MCBGF
- 6 Mile Radius from Project
- School Districts
- School Districts With Free or Reduced Lunch Populations Greater Than the County as a Whole

N

0 .5 1 3 6 Miles

Source: EPA Environmental Justice Screening and Mapping Tool.

LOW INCOME POPULATION DISTRIBUTION BY CENSUS BLOCKS WITHIN 6 MILES OF PROPOSED PROJECT | FIGURE 4.22-1



Source: EPA Environmental Justice Screening and Mapping Tool.

MINORITY POPULATION DISTRIBUTION BY CENSUS BLOCKS WITHIN 6 MILES OF PROPOSED PROJECT | FIGURE 4.22-2

4.22.2 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, Noise, Population and Housing, Transportation and Traffic, Tribal Cultural Resources, Utilities and Service Systems, and Mandatory Findings of Significance.

Aesthetics. *NO IMPACT*. 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 Figures 4.22-1 and 4.22, the project site is located within an area with a low-income population a high minority population. However, as stated in the aesthetics section, the proposed buildings would be visually similar to the surrounding land uses which primarily include heavy industrial and commercial and would be compatible with the mixed visual character and quality of the surrounding area. In addition, the proposed buildings and site improvements would be subject to the City of Santa Clara's design review process to ensure that the project would not adversely affect the visual quality of the project area and would conform to current architectural and landscaping standards. Implementation of the proposed project would not substantially degrade the existing visual quality or character of the site or its surroundings and, therefore, would not have the potential to adversely affect the high minority population in which the project site is located.

Air Quality. *LESS THAN SIGNIFICANT IMPACT*. 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 4.22-1 and 4.22-2. 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 4.22-1 and 4.22-2.

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 both the MCDC and MCBGF would be less than significant. Both construction and operational emissions from the project 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 4.22-1 and 4.22-2.

Hazards and Hazardous Materials. *LESS THAN SIGNIFICANT IMPACT*. 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. A disproportionate impact upon the EJ population resulting from the planned storage and use of hazardous materials on the site is extremely low. Diesel fuel to run the emergency generators is the hazardous material that the project site would have in greatest quantity. The total quantity would be divided up and stored in many separate double-walled containers with proper spill controls. 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.

Hydrology and Water Quality. *LESS THAN SIGNIFICANT IMPACT.* 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 determined in the Hydrology and Water Quality section, the project would not require substantial groundwater resources. The project is not expected to contribute significantly to surface water or groundwater degradation. 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. The project would implement modern operational phase storm water controls that would improve upon the site's existing storm water discharge controls. The project is therefore expected to provide a long-term water quality benefit and would not result in a disproportionate impact to the local EJ population. 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.

Land Use and Planning. *NO IMPACT*. 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.

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 would be consistent with the city of Santa Clara General Plan land use designation and with approval of the zoning administrator minor modification to allow a building height increase up to 25 percent; the project would be consistent with the zoning district. No conflicts with plans, policies, or related land use regulations would occur.

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.

Noise. *LESS THAN SIGNIFICANT IMPACT*. EJ populations may experience disproportionate noise impacts if the siting of unmitigated industrial facilities occurs within or near EJ communities to a greater extent than within the community at large. As depicted in Figures 4.22-1 and 4.22-2, the project site is within an area having an EJ population.

Demolition and construction activities would increase existing noise levels at the adjacent commercial and industrial land uses, but they would be temporary and intermittent. In addition, demolition and construction would not occur on weekends and holidays in compliance with the Santa Clara City Code, Section 9.10.040. Therefore, potential noise effects related to demolition and construction would not result in a significant noise impact on the area's population, including the EJ population.

The noise from operating the facility (MCDC and MCBGF combined) would not exceed the City of Santa Clara's noise limits at the nearest land uses. Therefore, project noise would comply with the city's noise limits, and thus, its noise impacts would be reduced to less than significant for all the area's population, including the EJ population.

Population and Housing. *LESS THAN SIGNIFICANT IMPACT*. Because the study area used in this analysis for impacts related to population influx and housing supply includes Campbell, Cupertino, Milpitas, San Jose, Sunnyvale, Santa Clara, and Santa Clara County, this analysis considers the project's population and housing impacts on the EJ population living in these geographic areas.

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 the project would not displace any residents or remove any housing, there would be no disproportionate impact to EJ populations from this project.

Transportation and Traffic. *LESS THAN SIGNIFICANT IMPACT*. Significant reductions in levels may significantly impact EJ populations. In particular, an impact to bus transit, pedestrian facilities, or bicycle facilities could cause disproportionate impacts to low-income communities, as low-income residents more often use these modes of transportation. However, all transportation and traffic impacts, including impacts to alternative transportation, would be less than significant, and therefore would cause less than significant impacts to EJ populations. Likewise, transportation and traffic impacts would not be disproportionate.

Tribal Cultural Resources. *NO IMPACT*. The analysis did not identify any Native American environmental justice populations that either reside within six miles of the project or that rely on any subsistence resources that could be impacted by the proposed project.

Utilities and Service Systems. *LESS THAN SIGNIFICANT IMPACT*. 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 the Utilities and Service Systems section, adequate water supply is available to serve the project. The project, therefore, would 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.

Mandatory Findings of Significance. *LESS THAN SIGNIFICANT IMPACT*. The analysis determined that cumulative project impacts would be less than significant. Cumulative impacts would be less than significant for both the general population and the EJ population.

SECTION 5.0 ALTERNATIVES

5.1 EVALUATION CRITERIA

The overall objective of the MCBGF was to provide the most reliable and flexible backup generating system to support MCDC clients. Central to Oppidan's mission is to provide data centers that provide the highest quality uninterruptible power supply. With this overall objective, Oppidan conducted an alternative analysis and used the following criteria as a means of evaluating and ranking alternatives:

- **Commercial Availability and Feasibility.** The selected alternative must currently be in use and proven as an accepted industry standard for technology. It must be operational within a reasonable timeframe where permits and approvals are required.
- **Technical Feasibility.** The selected alternative must utilize technology systems that are compatible with one another.
- **Reliability.** The selected alternative must utilize technology that is reliable in the case of an emergency.
- **Industry Standard.** The selected alternative must be considered industry standard or best practice. The customers of Oppidan are informed consumers and will request Oppidan to provide a detailed description of the type of backup generation that it provides as part of the customer's due diligence. If the alternative does not meet the customer's requirements, they will not put their servers in the MCDC.

As part of the development of the MCDC and the MCBGF, Oppidan considered alternatives to the backup generators as proposed. As discussed more fully below, Oppidan considered a smaller capacity system as well as alternative generating technologies. For completeness purposes, a discussion of the No Project Alternative is also included.

5.2 ALTERNATIVE 1: REDUCED CAPACITY SYSTEM

Oppidan considered a backup generating system with fewer emergency generators. However, any generating capacity less than the total demand of the MCDC at maximum occupancy, with redundancy, would not allow Oppidan to provide the critical and reliable electricity needed during an emergency power outage. It is important to note that in addition to electricity that would be directly consumed by the servers themselves, the next largest electrical demand of the data center building would be related to cooling the server rooms. For the servers to reliably function, they must be kept within temperature tolerance ranges. The industry standard is to design and operate a building that can meet those ranges even during a loss of utility electric power. Therefore, for Oppidan to provide the reliability required by its clients, it is necessary to provide a backup generating system that could meet the maximum load during full occupancy on the hottest design day and include redundancy as described in Section 2.2.4.1. A reduced capacity system would not fulfill the basic objectives of the MCBGF.

5.3 ALTERNATIVE 2: ALTERNATIVE GENERATING TECHNOLOGIES

Oppidan considering using three alternative technologies: gas-fired turbines; flywheels; and batteries. None of the three technologies considered could meet the overall project objective 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.

Oppidan has concluded that flywheel technology would not be a viable option for the following reasons:

- Flywheel technology does not perform within the required reliability levels of Oppidan and is prone to system failure.
- Flywheel technology requires an extensive amount of maintenance to keep each energy storage system functioning.
- Flywheel systems still require backup generation to maintain the electrical load.

5.3.2 Gas-Fired Engines

Oppidan considered using natural gas-fired engines instead of diesel generators to supply backup power for the MCDC. This technology option was rejected because it is not technically feasible. The UPS systems described in Section 2.2.4.2 require backup generation that starts very quickly, and natural gas engines are too slow to start. Loss of natural gas delivery, such as broken pipe or loss of supply, would render the natural gas engines inoperable and unable to reliably provide backup electrical power in an emergency. Further, emergency conditions resulting in loss of power from SVP may also result in temporary loss of gas utility service. Therefore, natural gas engines are not considered reliable enough to meet the industry standard or needs of the MCDC. Storage of sufficient natural gas on site to maintain emergency electricity to the MCDC during an outage would not be tenable given the volume of natural gas that would be required. Finally, natural gas-fired engines are not considered industry standard for data centers.

5.3.3 Battery Storage

Oppidan considered using batteries alone as a source of emergency backup power. The primary reason batteries alone were rejected by Oppidan was the limited duration of battery power. Batteries can provide power quickly, which is the reason Oppidan has incorporated them into the overall backup electrical system design. As described in Section 2.2.4.2, batteries 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 MCDC. 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, and clients and their insurance companies would not consider batteries to provide the redundancy necessary. 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.

5.4 NO PROJECT ALTERNATIVE

Consumer demand for data storage has grown substantially in recent years. The MCDC, including the MCBGF, is proposed in response to this heightened demand. The "No Project" Alternative would leave the MCDC exposed to electricity outages. Simply put, Oppidan's clients would not locate their servers in the MCDC without a highly reliable backup generating facility to support it. Therefore, the No Project Alternative is rejected as commercially infeasible and not consistent with industry standards.

SECTION 6.0 REFERENCES

The analysis in this Application is based on the professional judgement and expertise of the environmental specialists preparing this document, based upon review of the site, surrounding conditions, site plans, and the following references:

Association of Bay Area Governments and Metropolitan Transportation Commission. "Project Mapper." http://projectmapper.planbayarea.org/.

---. *2010-2040 Jobs Housing Connection Strategy.* Page 97. May 17, 2012.

---. Plan *Bay Area 2040 Final.* July 2017.

---. *San Francisco Bay Area Hazards*. August 25, 2015.

---. Plan Bay Area Projections 2013. December 2013.

BAAQMD. *CEQA Air Quality Guidelines*. Updated May 2017.

---. *Final 2017 Clean Air Plan.* April 19, 2017.

CA Department of Conservation. *CGS Seismic Hazard Zone and Liquefaction Map. Santa Clara County*. 2012

CalEPA. "Cortese List Data Resources." Accessed October 10, 2019. https://calepa.ca.gov/sitecleanup/corteselist.

California Air Resources Board. "The Advanced Clean Cars Program." Accessed November 4, 2019. https://www.arb.ca.gov/msprog/acc/acc.htm.

California Building Standards Commission. "Welcome to the California Building Standards Commission." Accessed November 4, 2019. http://www.bsc.ca.gov/.

California Department of Conservation, *Santa Clara County Important Farmland Map 2016.* Map. September 2018.

California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed November 4, 2019. http://hcd.ca.gov/communitydevelopment/housing-element/index.shtml.

California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed November 4, 2019. http://www.cdtfa.ca.gov/taxes-and-fees/MVF_10_Year_Report.pdf.

California Energy Commission (CEC). "2016 Building Energy Efficiency Standards." Accessed November 4, 2019. http://www.energy.ca.gov/title24/2016standards/index.html.

---. "Natural Gas Consumption by County." Accessed October 21, 2019. http://ecdms.energy.ca.gov/gasbycounty.aspx.

---. "Electricity Consumption by County." Accessed October 15, 2019. http://ecdms.energy.ca.gov/elecbycounty.aspx.

California Gas and Electric Utilities. 2018 *California Gas Report.* Accessed October 15, 2019.

California Public Resources Code (PRC).

California Regional Water Quality Control Board. *San Francisco Bay Region Municipal Regional Stormwater NPDES Permit.* November 2015.

California State Water Resources Control Board. "Total Maximum Daily Load Program." Accessed November 4, 2019. http://www.swrcb.ca.gov/water_issues/programs/tmdl/303d_lists2006_approved.shtml

City of San José. "San José-Santa Clara Regional Wastewater Facility." Accessed November 4, 2019. http://sanjoseca.gov/index.aspx?nid=1663.

City of Santa Clara. *Recycled Water System Map.* Map. July 2012.

City of Santa Clara. *City Code*.

---. *2010-2035 General Plan*.

---. *2015 Urban Water Management Plan, City of Santa Clara Water Utility*. Page 12. Adopted November 2016. Accessed November 4, 2019. http://santaclaraca.gov/index.aspx?page=1984

---. *2305 Mission College Boulevard Data Center Project – Initial Study/Mitigated Negative Declaration*. March 2018.

---. *2305 Mission College Boulevard Development Application – Water Supply Assessment for Compliance with California Water Code Section 10910*. October 2017.

---. "Emergency Services." Accessed June 2019. http://santaclaraca.gov/residents/emergency-services.

---. "Parks: Central Park." Accessed on October 31, 2019. http://santaclaraca.gov/Home/Components/ServiceDirectory/ServiceDirectory/318/2654.

---. *Recycled Water System Map.* Map. July 2012.

---. *Water Utility.* Updated July 2012. Accessed: November 12, 2019. http://santaclaraca.gov/government/departments/water-sewer-utilities/water-utility.

City of Santa Clara Fire Department. "About Us." Accessed November 4, 2019. http://santaclaraca.gov/government/departments/fire/about-us.

City of Santa Clara Police Department. "About Us." Accessed on November 7, 2019. http://santaclaraca.gov/government/departments/police-department/about-us.

Cornerstone Earth Group. *Geotechnical Investigation. 2305 Mission College Boulevard Data Center*. January 18, 2016.

Holman & Associates, Inc. *Cultural Resources Literature Search for the Aligned Data Systems Project at 2305 Mission College Boulevard, City and County of Santa Clara*. March 1, 2017.

Ian Bauer. The Mercury News. *San José to Study Odors from Newby Island Landfill Before Considering Any Expansion.* October 16, 2016.

Illingworth & Rodkin, Inc. *2305 Mission College Boulevard Data Center Environmental Noise and Vibration Assessment.* November 21, 2019.

Illingworth & Rodkin, Inc. *Aligned Data Center 2305 Mission College Boulevard, Santa Clara California*. April 20, 2017.

Kathleen Hughes, City of Santa Clara. Personal Communication. February 6, 2019.

Langan Engineering and Environmental Services, Inc. *Phase I Environmental Site Assessment 2305 Mission College Boulevard Santa Clara, California.* September 20, 2019.

Public Law 110–140—December 19, 2007. *Energy Independence & Security Act of 2007.* Accessed November 4, 2019. http://www.gpo.gov/fdsys/pkg/PLAW110publ140/pdf/PLAW110publ140.pdf.

Reyff, James. Illingworth & Rodkin, Inc. Personal Communication. November 10, 2019.

RMC Water and Environment. *Sanitary Sewer Capacity Evaluation for the Project at 2305 Mission College Boulevard (APN: 104-13-096).* January 16, 2018.

San Francisco Bay RWQCB. *Municipal Regional Stormwater Permit, Provision C.12.* November 19, 2015.

Santa Clara County Airport Land Use Commission. *Comprehensive Land Use Plan.* Amended November 16, 2016.

Santa Clara County. *Santa Clara County Geologic Hazard Zones.* October 26, 2012.

---. *Santa Clara County Countywide Trails Master Plan Update*. November 1995.

Santa Clara Valley Transportation Authority. *Bus and Rail Map.* Accessed November 4, 2019. http://www.vta.org/sfc/servlet.shepherd/document/download/069A0000001cwcWIAQ

---. *Level of Service (LOS) to Vehicle Miles Traveled (VMT) Transition*. Accessed November 12, 2019. http://www.vta.org/projects-and-programs/congestion-management-program/los-vmt.

Schaaf & Wheeler. *San Tomas Aquino 500-year and 1000-year Floodplain Analysis.* September 30, 2016.

Silicon Valley Power, City of Santa Clara. The Silicon Valley Power Resources Map. Accessed: November 4, 2019. http://www.siliconvalleypower.com/home/showdocument?id=5763.

---. "Did you Know." Accessed November 4, 2019. http://www.siliconvalleypower.com/.

---. “Power Content Label”. Accessed: November 5, 2019. http://siliconvalleypower.com/svp-and-community/about-svp/power-content-label

---. 2018 Integrated Resource Plan. November 12, 2018. http://www.siliconvalleypower.com/home/showdocument?id=62481.

State of California Department of Forestry and Fire Protection. *Santa Clara County Fire Hazard Severity Zones in SRA.* Adopted November 7, 2007.

--- *Santa Clara County Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE.* Adopted October 8, 2008.

State of California, Department of Finance. *E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2017 and 2018*. May 2018.

Trinity Consultants. *Mission College Backup Generating Facility Air Quality Impact Assessment for the Small Power Plant Exemption Application*. November 2019.

U.S. EPA. *California 303(d) Listed Waters for Reporting Year 2010.* December 2010. Accessed November 4, 2019. http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml

United States Department of Energy. “Energy Independence & Security Act of 2007.” Accessed February 8, 2018. http://www.afdc.energy.gov/laws/eisa.

United States Energy Information Administration. “State Profile and Energy Estimates, 2016.” Accessed November 4, 2019. https://www.eia.gov/state/?sid=CA#tabs-2.

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

Uptime Institute. “Annual Data Center Survey Results - 2019.” https://datacenter.com/wp-content/uploads/2019/06/data-center-survey-2019.pdf

Valley Water. *Anderson Dam EAP 2009 Flood Inundation Maps*. 2009. Accessed November 4, 2019. http://www.valleywater.org/uploadedFiles/Services/CleanReliableWater/WhereDoesYourWaterComeFrom/Reservoirs/Anderson_Dam/Anderson%20Inundation%20Maps%202009.pdf?n=6912.

WASP Group. *Phase I Environmental Site Assessment – Final. 2305 Mission College Boulevard – Santa Clara, California*. October 13, 2014.

SECTION 7.0 AGENCY CONTACTS AND LIST OF CONSULTANTS

7.1 AGENCY CONTACTS

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7.2 CONSULTANTS

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Desiree Dei Rossi, Assistant Project Manager
Zach Dill, Graphic Artist

Illingworth & Rodkin, Inc.
Noise Consultants

Dana Lodico, Senior Consultant
Steve Deines, Staff Consultant

Trinity Consultants
Air Quality Consultants

Elizabeth Geller, Senior Consultant

SECTION 8.0 NOTIFICATION LIST

The following list of addresses of properties within 1,000 feet of the project site was provided by the City of Santa Clara for noticing purposes.

Address	City	State	Zip Code
2400 Agnew Road	Santa Clara	CA	95054
4211 Burton Drive	Santa Clara	CA	95054
4201 Burton Drive	Santa Clara	CA	95054
2175 Mission College Boulevard	Santa Clara	CA	95054
2179 Mission College Boulevard	Santa Clara	CA	95054
4250 Burton Drive	Santa Clara	CA	95054
4255 Burton Drive	Santa Clara	CA	95054
4251 Burton Drive	Santa Clara	CA	95054
2151 Mission College Boulevard	Santa Clara	CA	95054
4008 Burton Drive	Santa Clara	CA	95054
4000 Burton Drive	Santa Clara	CA	95054
4275 Burton Drive	Santa Clara	CA	95054
4295 Burton Drive	Santa Clara	CA	95054
2240 Agnew Road	Santa Clara	CA	95054
2270 Agnew Road	Santa Clara	CA	95054
2250 Agnew Road	Santa Clara	CA	95054
2260 Agnew Road	Santa Clara	CA	95054
2242 Agnew Road	Santa Clara	CA	95054
2305 Mission College Boulevard	Santa Clara	CA	95054
2325 Mission College Boulevard	Santa Clara	CA	95054
2350 Mission College Boulevard	Santa Clara	CA	95054
2350 Mission College Boulevard	Santa Clara	CA	95054
2360 Mission College Boulevard	Santa Clara	CA	95054
2352 Mission College Boulevard	Santa Clara	CA	95054
2350 Mission College Boulevard	Santa Clara	CA	95054
2390 Mission College Boulevard	Santa Clara	CA	95054
2315 Blue Lagoon Drive	Santa Clara	CA	95054
4207 Lake Santa Clara Drive	Santa Clara	CA	95054
4217 Lake Santa Clara Drive	Santa Clara	CA	95054
4227 Lake Santa Clara Drive	Santa Clara	CA	95054
4237 Lake Santa Clara Drive	Santa Clara	CA	95054

Address	City	State	Zip Code
4256 Atlantic Court	Santa Clara	CA	95054
4252 Atlantic Court	Santa Clara	CA	95054
4246 Atlantic Court	Santa Clara	CA	95054
4242 Atlantic Court	Santa Clara	CA	95054
4236 Atlantic Court	Santa Clara	CA	95054
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4254 Erie Court	Santa Clara	CA	95054
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4276 Dry Bed Court	Santa Clara	CA	95054
4272 Dry Bed Court	Santa Clara	CA	95054
4266 Dry Bed Court	Santa Clara	CA	95054
4262 Dry Bed Court	Santa Clara	CA	95054
2361 Blue Lagoon Drive	Santa Clara	CA	95054
2371 Blue Lagoon Drive	Santa Clara	CA	95054

Address	City	State	Zip Code
2381 Blue Lagoon Drive	Santa Clara	CA	95054
2391 Blue Lagoon Drive	Santa Clara	CA	95054
4267 Lake Santa Clara Drive	Santa Clara	CA	95054
4277 Lake Santa Clara Drive	Santa Clara	CA	95054
4287 Lake Santa Clara Drive	Santa Clara	CA	95054
4248 Lake Santa Clara Drive	Santa Clara	CA	95054
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4258 Lake Santa Clara Drive	Santa Clara	CA	95054
4260 Lake Santa Clara Drive	Santa Clara	CA	95054
2375 Agnew Road	Santa Clara	CA	95054
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Address	City	State	Zip Code
4249 Erie Court	Santa Clara	CA	95054
4253 Erie Court	Santa Clara	CA	95054
2317 Running Water Court	Santa Clara	CA	95054
2323 Running Water Court	Santa Clara	CA	95054
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2333 Running Water Court	Santa Clara	CA	95054
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2310 Falling Water Court	Santa Clara	CA	95054

Address	City	State	Zip Code
2304 Falling Water Court	Santa Clara	CA	95054
2300 Falling Water Court	Santa Clara	CA	95054
4343 Lakeshore Drive	Santa Clara	CA	95054
2200 Saint Claire Court	Santa Clara	CA	95054
2284 River Bed Court	Santa Clara	CA	95054
2280 River Bed Court	Santa Clara	CA	95054
2274 River Bed Court	Santa Clara	CA	95054
2270 River Bed Court	Santa Clara	CA	95054
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2246 Creek Bed Court	Santa Clara	CA	95054
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2257 Creek Bed Court	Santa Clara	CA	95054
2263 Creek Bed Court	Santa Clara	CA	95054

Address	City	State	Zip Code
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2273 Creek Bed Court	Santa Clara	CA	95054
2277 Creek Bed Court	Santa Clara	CA	95054
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2293 Creek Bed Court	Santa Clara	CA	95054
2315 Running Water Court	Santa Clara	CA	95054
2398 Shoreside Court	Santa Clara	CA	95054
2396 Shoreside Court	Santa Clara	CA	95054
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2387 Shoreside Court	Santa Clara	CA	95054
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2393 Shoreside Court	Santa Clara	CA	95054
4327 Lake Santa Clara Drive	Santa Clara	CA	95054
4337 Lake Santa Clara Drive	Santa Clara	CA	95054

Address	City	State	Zip Code
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4357 Lake Santa Clara Drive	Santa Clara	CA	95054
4366 Lakeshore Drive	Santa Clara	CA	95054
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2051 Mission College Boulevard	Santa Clara	CA	95054
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3605 Juliette Lane	Santa Clara	CA	95054
3750 Juliette Lane	Santa Clara	CA	95054
3601 Juliette Lane	Santa Clara	CA	95054
3606 Juliette Lane	Santa Clara	CA	95054
3940 Freedom Circle	Santa Clara	CA	95054
3900 Freedom Circle	Santa Clara	CA	95054
3920 Freedom Circle	Santa Clara	CA	95054
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3990 Freedom Circle	Santa Clara	CA	95054
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3960 Freedom Circle	Santa Clara	CA	95054
3925 Freedom Circle	Santa Clara	CA	95054
3921 Freedom Circle	Santa Clara	CA	95054
3905 Freedom Circle	Santa Clara	CA	95054
2431 Mission College Boulevard	Santa Clara	CA	95054
2435 Mission College Boulevard	Santa Clara	CA	95054
2421 Mission College Boulevard	Santa Clara	CA	95054
2405 Agnew Road	Santa Clara	CA	95054
2461 Mission College Boulevard	Santa Clara	CA	95054
2441 Mission College Boulevard	Santa Clara	CA	95054
2451 Mission College Boulevard	Santa Clara	CA	95054
2445 Mission College Boulevard	Santa Clara	CA	95054

Address	City	State	Zip Code
2465 Mission College Boulevard	Santa Clara	CA	95054
1 Great America Parkway	Santa Clara	CA	95054
2401 Agnew Road	Santa Clara	CA	95054
2285 Second Street	Santa Clara	CA	95054
2295 Second Street	Santa Clara	CA	95054
3595 Juliette Lane	Santa Clara	CA	95054
2200 Mission College Boulevard	Santa Clara	CA	95054
2191 Laurelwood Road	Santa Clara	CA	95054
2250 Mission College Boulevard	Santa Clara	CA	95054
2150 Mission College Boulevard	Santa Clara	CA	95054
2310 Mission College Boulevard	Santa Clara	CA	95054
3621 Juliette Lane	Santa Clara	CA	95054
2200 Agnew Road 104	Santa Clara	CA	95054
2200 Agnew Road 105	Santa Clara	CA	95054
2200 Agnew Road 106	Santa Clara	CA	95054
2200 Agnew Road 107	Santa Clara	CA	95054
2200 Agnew Road 108	Santa Clara	CA	95054
2200 Agnew Road 109	Santa Clara	CA	95054
2200 Agnew Road 110	Santa Clara	CA	95054
2200 Agnew Road 111	Santa Clara	CA	95054
2200 Agnew Road 112	Santa Clara	CA	95054
2200 Agnew Road 116	Santa Clara	CA	95054
2200 Agnew Road 117	Santa Clara	CA	95054
2200 Agnew Road 118	Santa Clara	CA	95054
2200 Agnew Road 119	Santa Clara	CA	95054
2200 Agnew Road 120	Santa Clara	CA	95054
2200 Agnew Road 121	Santa Clara	CA	95054
2200 Agnew Road 122	Santa Clara	CA	95054
2200 Agnew Road 123	Santa Clara	CA	95054
2200 Agnew Road 204	Santa Clara	CA	95054
2200 Agnew Road 205	Santa Clara	CA	95054
2200 Agnew Road 206	Santa Clara	CA	95054
2200 Agnew Road 207	Santa Clara	CA	95054
2200 Agnew Road 208	Santa Clara	CA	95054
2200 Agnew Road 209	Santa Clara	CA	95054

Address	City	State	Zip Code
2200 Agnew Road 210	Santa Clara	CA	95054
2200 Agnew Road 211	Santa Clara	CA	95054
2200 Agnew Road 212	Santa Clara	CA	95054
2200 Agnew Road 216	Santa Clara	CA	95054
2200 Agnew Road 217	Santa Clara	CA	95054
2200 Agnew Road 218	Santa Clara	CA	95054
2200 Agnew Road 219	Santa Clara	CA	95054
2200 Agnew Road 220	Santa Clara	CA	95054
2200 Agnew Road 221	Santa Clara	CA	95054
2200 Agnew Road 222	Santa Clara	CA	95054
2200 Agnew Road 223	Santa Clara	CA	95054
2200 Agnew Road 304	Santa Clara	CA	95054
2200 Agnew Road 305	Santa Clara	CA	95054
2200 Agnew Road 306	Santa Clara	CA	95054
2200 Agnew Road 307	Santa Clara	CA	95054
2200 Agnew Road 308	Santa Clara	CA	95054
2200 Agnew Road 309	Santa Clara	CA	95054
2200 Agnew Road 310	Santa Clara	CA	95054
2200 Agnew Road 311	Santa Clara	CA	95054
2200 Agnew Road 312	Santa Clara	CA	95054
2200 Agnew Road 316	Santa Clara	CA	95054
2200 Agnew Road 317	Santa Clara	CA	95054
2200 Agnew Road 318	Santa Clara	CA	95054
2200 Agnew Road 319	Santa Clara	CA	95054
2200 Agnew Road 320	Santa Clara	CA	95054
2200 Agnew Road 321	Santa Clara	CA	95054
2200 Agnew Road 322	Santa Clara	CA	95054
2200 Agnew Road 323	Santa Clara	CA	95054